



City of Kerman 2040 General Plan

Draft Environmental Impact Report

SCH#2019049018

prepared by

City of Kerman

Planning Department

850 South Madera Avenue

Kerman, California 93630

Contact: Olivia Pimental, Assistant Planner

prepared with the assistance of

Rincon Consultants, Inc.

7080 North Whitney Avenue, Suite 101

Fresno, California 93720

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Executive Summary

This section summarizes the characteristics of the City of Kerman 2040 General Plan, as well as the 2040 General Plan's environmental impacts and recommended mitigation measures.

Project Synopsis

Project Applicant

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Lead Agency Contact Person

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Project Location

The City of Kerman is in the northwest portion of Fresno County in the central San Joaquin Valley. The city is at the junction of State Route (SR) 180 (Whitesbridge Avenue) and SR 145 (South Madera Avenue), approximately 15 miles west of the city of Fresno and 20 miles south of the city of Madera. West Jensen Avenue is located just to the south of Kerman, South Modoc Avenue to the west, and South Goldenrod Avenue to the east. SR 180 runs across the north edge and SR 145 bisects the city. The city is bordered by unincorporated areas of Fresno County. The nearest cities are Fresno to the east, San Joaquin to the southwest, and Madera to the north.

The addresses all lands within the Kerman Planning Area, which includes land within the city limits and the SOI, as well as unincorporated land outside the SOI. The SOI is a boundary defining the probable future physical boundaries and service areas of the City. The Planning Area for the proposed project in this EIR extends beyond the proposed expansion of the City's SOI in addition to the existing city limits and current (2019) SOI. The planning area extends to an area generally bounded by Belmont Avenue to the north, Howard Avenue to the east, Jensen Avenue to the south, and Lassen Avenue to the west.

It is important to note that the planning area in the 2007 General Plan differs from the 2040 General Plan planning area. The City expanded the planning area for the 2040 General Plan Update to include approximately 1,540 additional acres. Existing uses in this area between city limits and the planning area boundary are agriculture and detached dwelling units on large parcels in agricultural areas. The City designated land in the 2007 General Plan planning area that is not included in the new planning area (i.e., land south of Jensen Avenue), of which 446 acres are Undesignated and 11

acres are Ponding Basins. The 2007 planning area is identical to the 2027 Urban Growth Boundary as is identified in the 2007 General Plan.

Project Description

The 2040 General Plan is a comprehensive update of the City's 2007 General Plan which is made up of two parts. Part 1 is the policy document, which includes five elements: Land Use; Circulation; Conservation, Open Space, Parks and Recreation; Safety; and Noise. The 2007 General specifies 16 separate land use designations. These land use designations define the basic categories of land use allowed in the city and are implemented through the City's Zoning Ordinance and Zoning Map, which contain more specific regulations and standards governing development on individual parcels. Under State law, a property's zoning is required to be consistent with its General Plan land use designation (Government Code §65860). Section 65860(c) of the Government Code requires that when a General Plan is amended in a way that makes the Zoning Ordinance inconsistent with the General Plan, "the zoning ordinance shall be amended within a reasonable time so that it is consistent with the general plan as amended" but it does not define a specific time period that would constitute a reasonable time.

The 2040 General Plan is comprised of seven elements: Economic Development; Land Use; Circulation; Housing; Conservation, Open Space, Parks and Recreation; Public Health and Safety; and Public Facilities and Services. The Land Use chapter describes the general distribution, location, and extent of various land uses. It contains a statement of the purpose of the designation, standards for dwelling units' density and non-residential building square footage intensity, types of typical uses, and special development and permit review requirements. Eighteen separate land use designations have been established to provide a mixture of land uses for the city. If the 2040 General Plan is adopted, the City will subsequently need to review the Zoning Ordinance, including its Zoning Map, to make sure it is consistent with the new General Plan.

Project Characteristics

The 2040 General Plan provides a blueprint for the City through 2040 guiding future growth and development. This long-range plan would guide decision-making and establishes rules and standards for new development and city improvements. It reflects the city's vision for the future and is intended to provide direction through the year 2040.

The 2040 General Plan consists of seven elements:

- Economic Development Element
- Land Use Element
- Circulation Element
- Housing Element
- Conservation, Open Space, Parks and Recreation Element
- Public Health and Safety Element
- Public Facilities and Services Element

Project Objectives

California State Law requires that every city prepare and maintain a general plan "for the physical development of the city and any land outside its boundaries that bears relation to its planning." A general plan serves as the jurisdiction's "constitution" or "blueprint" for future decisions concerning

a variety of issues including land use, health and safety, and resource conservation. All specific plans, subdivisions, public works projects, and zoning decisions must be consistent with the local jurisdiction's general plan. The Kerman General Plan contains the goals and policies upon which the City Council and Planning Commission shall base their decisions. Typically, a general plan is designed to address the issues facing the city for the next 15-20 years. The horizon year for Kerman's General Plan Update is 2040.

A general plan has four defining features:

- **General.** As the name implies, a general plan provides general guidance for future land use, transportation, environmental, and resource decisions.
- **Comprehensive.** A general plan addresses a wide range of social, economic, infrastructure, and natural resource topics. These topics include land use, urban development, housing, transportation, public facilities and services, recreation, agriculture, biological resources, and many other issues that impact the community.
- **Long-Range.** A general plan provides guidance on achieving a long-range vision of the future for a city or county. To reach this envisioned future, the general plan includes goals, policies, and implementation programs that address both near-term and long-term needs.
- **Integrated and Coherent.** The goals, policies, and implementation programs in a general plan present a comprehensive, unified program for development, resource conservation, and other issues that impact the community. A general plan uses a consistent set of assumptions and projections to assess future demands for housing, employment, and public services (e.g., infrastructure). A general plan has a coherent set of policies and implementation programs that enables citizens to understand the vision of the general plan, and enables landowners, businesses, and industries to be more certain about how policies will be implemented.

Required Discretionary Approvals

With recommendations from the City's Planning Commission, the Kerman City Council will need to take the following discretionary actions in conjunction with the proposed project:

- Certify the Final EIR,
- Approve the proposed 2040 General Plan, and
- Apply for update/revision of the City's Sphere of Influence (SOI) with Fresno LAFCo.

Kerman adopted its current Multi-Jurisdictional Housing Element in April 2016, covering the 2015-2023 planning period. This Housing Element was submitted to the California Department of Housing and Community Development (HCD) for review and comment and was certified by HCD in July 2016. No updates to the Housing Element are necessary or proposed at this time. The City's SOI is proposed to expand east and west to include South Lassen and Howard Avenues for potential future alignment of SR 145, and north to Belmont Avenue to square off and balance the city growth area around the city center.

Alternatives

As required by the California Environmental Quality Act (CEQA), this EIR examines alternatives to General Plan 2035. Studied alternatives include the following two alternatives. Based on the alternative's analysis, Alternative 2 was determined to be the environmentally superior alternative.

- Alternative 1: No Project Alternative/Build-out of Current 2007 General Plan
- Alternative 2: 2040 General Plan with a Reduction in Residential Growth and Increased Transportation Alternatives

Alternative 1

The No Project Alternative involves continued implementation of the 2007 General Plan. Under this alternative, the 2040 General Plan would not be adopted and the existing General Plan, including the land use map, SOI boundaries, and all of the General Plan goals and policies, would remain in place through the horizon year of 2040. Thus, any new development in Kerman would occur consistent with the existing land use designations and the allowed uses within each designation. Similarly, any new infrastructure would occur as envisioned in the 2007 General Plan without the new 2040 General Plan Circulation Element policies that would address VMT impacts. The 2040 General Plan proposes to expand the 2007 SOI; this new area would remain designated as Agriculture and would not be developed. Growth patterns between the 2007 General Plan and 2040 General Plan would be similar within the City under the No Project Alternative.

Based on the projections for growth in the 2007 General Plan, the overall growth would be greater with implementation of the No Project Alternative as compared to the proposed project due to the population projections of 83,384 and approximately 15,183 dwelling units at buildout. This would be an increase in overall development and growth compared to the 2040 General Plan which anticipates approximately 720 dwelling units and a population of approximately 19,650. However, the growth projections at the time were significantly higher than the actual growth rate for Kerman that occurred. Therefore, growth from the No Project Alternative compared to the proposed project is similar as both land use scenarios are similar. The land use patterns and density allowances within the development areas do not substantially differ and therefore, physical environmental impacts are assumed to be relatively similar for the No Project Alternative compared to the project.

Alternative 2

Alternative 2 would involve re-designating parcels currently designated Medium Density Residential near the northern City limits to either Urban Reserve or Agriculture land use designations. The goal of this re-designation would be to reduce growth by approximately 30 percent. This alternative would also add additional transit incentives and opportunities in the City to reduce the existing single occupancy vehicle commute pattern to Fresno from Kerman by approximately 20 percent.

REDUCTION TO RESIDENTIAL GROWTH

Under the 2040 General Plan, an estimated 4,170 new residents and 720 new dwelling units would be added to the City of Kerman through 2040. This alternative proposes to add 2,919 new residents and 504 new dwelling units to the City of Kerman through 2040, a 30 percent reduction in planned growth compared to the 2040 General Plan. This alternative would result in a reduction of 1,251 new residents and 216 new dwelling units when compared to the 2040 General Plan.

In order to facilitate this reduction, under Alternative 2 land uses on the northern side of the City that are currently designated as Medium Density Residential would change to Urban Reserve or

Agriculture. This reduction in residential growth would increase the jobs/housing balance under the assumption that the 780 new jobs would be added between 2018 and 2040, the same as the 2040 General Plan. A reduction in population growth for Kerman proposed under this alternative may have the unintended consequence of increasing growth in other rural areas of the county.

TRANSPORTATION OPPORTUNITIES

The 2040 General Plan's Circulation Element includes goals and policies that would provide a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel. These proposed transportation improvements within the City limits would be near existing and proposed active transportation facilities that would incentivize the use of active transportation for internal trips. With Kerman's proximity to the City of Fresno 15 miles to the east, a major employment center for the region, addressing the consistent commute pattern would provide the best way to reduce VMTs.

Under Alternative 2, the City would work with Fresno Council of Governments (FCOG) to increase public transportation service to and from the City by providing more times for fixed-route service to major metropolitan and job centers including Fresno, increase van pooling and carpooling, and collaborate to work with large employers in Fresno to provide incentives for employees to take public transit services for their commutes instead of single occupancy vehicles, in addition to other incentives. To encourage and increase active transportation usage within the City, Alternative 2 proposes to implement a bike share or scooter share program along with associated safety and education for these alternatives to further reduce internal trips. It is anticipated that a combination of effective marketing and increased public transportation options and funds, including incentives such as reduced ridership fees, could potentially increase ridership by approximately 20 percent by 2040.

Under Alternative 2, the reduction in residential housing and population, plus an increase in transit/rideshare options would have the potential to reduce VMT and impacts to GHG and the amount of solid waste generated in Kerman compared to the 2040 General Plan.

The California Environmental Quality Act (CEQA) requires that an environmentally superior alternative be identified among those analyzed. It further states that if the No Project Alternative is identified as environmentally superior, the next most environmentally superior alternative must also be identified. When considering the environmental impact areas, Alternative 2 is the environmentally superior alternative followed by Alternative 1.

Summary of Impacts and Mitigation Measures

Table ES-1 lists the environmental impacts of the proposed 2040 General Plan, significance of each impact, the General Plan policies included to mitigate those impacts where necessary and feasible, and residual impacts or significance after mitigation. Impacts defined as significant, unavoidable adverse impacts that require a statement of overriding consideration pursuant to Section 15093 of the CEQA Guidelines are also identified. If the proposed 2040 General Plan is approved; significant, adverse impacts that cannot be feasibly mitigated to less than significant levels will require findings to be made under Section 15091 of the CEQA Guidelines; adverse impacts that are less than those allowed by adopted significance thresholds.

Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure(s)	Residual Impact
Aesthetics		
Impact AES-3. Development facilitated by proposed 2040 General Plan would incrementally increase the amount of light and glare in Kerman, through the introduction of new development and increased number of vehicles. The effects of this gradual increase would be reduced by the policies in the 2040 General Plan as well as the Kerman Municipal Code. Therefore, the project would have a less than significant impact associated with light and glare that would adversely affect daytime or nighttime views.	None required.	Less than significant.
Air Quality		
Impact AQ-2. Construction of new development under the 2040 General Plan would potentially generate significant impacts to air pollutant emissions of ozone precursors, CO, SO ₂ , PM ₁₀ , and PM _{2.5} . However, implementation of 2040 General Plan policies would result in compliance with SJVAPCD Guidelines and reduce these impacts to a less than significant level.	None required.	Less than significant.
Impact AQ-3. Buildout of the 2040 General Plan may expose sensitive receptors to substantial pollutant concentrations. Construction-related emissions associated with the 2040 General Plan would generate short-term emissions of carbon monoxide and toxic air contaminants, which can contribute to human health hazards. However, implementation of 2040 General Plan policies would reduce sensitive receptors exposure to pollutant concentrations. Impacts would be less than significant (Class II).	None required.	Less than significant.
Cultural Resources		
Impact CUL-1. Development facilitated by the 2040 General Plan has the potential to impact historical and unique archaeological resources. However, implementation of 2040 General Plan policies would reduce impacts to a less than significant level.	None required.	Less than significant.
Greenhouse Gas		
Impact GHG-1. Implementation of the 2040 General Plan would substantially increase GHG emissions at buildout compared to existing conditions. Implementation of 2040 General Plan policies would not reduce GHG emission impacts to below the projected locally appropriate threshold. Impacts would be significant and unavoidable.	None required. It is highly unlikely implementation of the 2040 General Plan policies specifically for GHG reduction emissions and impacts related to short-term GHG emissions would be capable of a 20 MT CO ₂ e/SP/year reduction to below the locally-appropriate threshold.	Significant and unavoidable.

Impact	Mitigation Measure(s)	Residual Impact
Noise		
Impact N-1. Construction-related, operational, and transportation noise generated by development facilitated under the 2040 General Plan would potentially expose sensitive receivers to substantial temporary and permanent increases in ambient noise levels. Implementation of 2040 General Plan policies would be required to reduce impacts to a less than significant level.	None required.	Less than significant.
Transportation		
Impact T-2. The 2040 Kerman General Plan sets forth VMT as the standard for the evaluating impacts under CEQA (CIRC-2.1) and a VMT significance threshold of 15 percent below baseline conditions based on the FCOG Regional Transportation Model for addressing transportation impacts (CIRC-2.5) for projects within expansion areas. Even with the incorporation of policies to reduce VMT and promoting alternative transportation (Goal CIRC-5). Impacts would remain significant and unavoidable.	None required. Implementation and adherence to 2040 General Plan policies would not reduce VMT impacts to a less than significant level.	Significant and unavoidable.
Tribal Cultural Resources		
Impact TCR-2. The 2040 Kerman General Plan sets forth VMT as the standard for the evaluating impacts under CEQA (CIRC-2.1) and a VMT significance threshold of 15 percent below baseline conditions based on the FCOG Regional Transportation Model for addressing transportation impacts (CIRC-2.5) for projects within expansion areas. Even with the incorporation of policies to reduce VMT and promoting alternative transportation (Goal CIRC-5). Impacts would remain significant and unavoidable.	None required.	Less than significant.
Utilities		
Impact UTL-4. Development facilitated by the 2040 General Plan would increase demand for solid waste went to landfills. Landfills serving Kerman have adequate capacity to accept additional waste until August 2036. The City has met the target disposal rate under SB 1016 in 2017. It is anticipated that any additional growth would increase the population disposal rate to above allowable levels. This impact would be significant and unavoidable as the City does not have jurisdiction over County landfill operations and therefore cannot mitigate this impact.	No mitigation measures are available as Kerman does not jurisdiction or control over County landfills.	Significant and unavoidable.

1 Introduction

This document is an Environmental Impact Report (EIR) that examines the potential environmental effects associated with implementation of the proposed City of Kerman 2040 General Plan, referred to as the “2040 General Plan” throughout this EIR. This section:

1. Provides an overview of the background behind the proposed project
2. Summarizes the process involved in developing the proposed project
3. Describes the purpose of and legal authority for the adoption of the EIR
4. Summarizes the scope and content of the EIR
5. Lists lead, responsible, and trustee agencies for the EIR
6. Describes the intended uses of the EIR
7. Provides a synopsis of the environmental review process required under CEQA

The contents of other EIR sections are as follows:

- Section 2, *Project Description*, provides a detailed discussion of the proposed project
- Section 3, *Environmental Setting*, describes the existing environmental and geographic conditions within the City of Kerman, Sphere of Influence (SOI), and Planning Area
- Section 4, *Environmental Impact Analysis*, describes the potential environmental effects associated with development facilitated by the 2040 General Plan, and provides mitigation measures when significant effects are identified
- Section 5, *Other CEQA Required Sections*, discusses issues such as growth inducement and significant irreversible environmental effects
- Section 6, *Alternatives*, discusses alternatives to the proposed project, including the CEQA-required “no project” alternative
- Section 7, *References and Report Preparers*, lists informational sources for the EIR and persons involved in the preparation of the document

1.1 Environmental Impact Report Background

State law (Government Code Section 65300) requires that each city and county adopt a comprehensive general plan. The City Council adopted the current City of Kerman General Plan in 2007. The City of Kerman 2040 General Plan is a comprehensive effort to update the existing 2007 General Plan and respond to current local and regional conditions, as well as new changes in State law since 2007. The 2040 General Plan has been organized into seven “elements,” or chapters: Economic Development, Land Use; Circulation; Housing; Conservation, Open Space, Parks and Recreation; Public Health and Safety; and Public Facilities and Services. These seven elements cover all the topics that are required to be included in a General Plan under State law (land use, open space, conservation, housing, circulation, safety, noise, air quality, environmental justice).

The General Plan defines the framework by which Kerman's physical and economic resources are to be managed and used through the General Plan horizon year of 2040. City decision-makers will use the 2040 General Plan as a blueprint for:

- Choices about the use of land
- Choices on transportation
- Conservation of environmental resources
- Development of housing
- Provision of supporting infrastructure and public and human services
- Protection of people and property from natural and man-made hazards

The 2040 General Plan clarifies and articulates the City's intentions with respect to the rights and expectations of the various Kerman communities, including residents, property owners, and businesses. Through the General Plan, the City informs these groups of its goals, policies, and programs, thereby communicating expectations of the public and private sectors for meeting community objectives.

Because the 2040 General Plan is the constitution for all future development in Kerman, any decision by the City affecting land use and development must be consistent with the respective plan. This includes any development projects proposed in the future. An action, program, policy, or project would be considered consistent with the General Plan if, considering all its characteristics, it will advance achievement of the applicable goals and policies of the General Plan, or not obstruct their attainment.

Each of the 2040 General Plan elements contain goals, policies, and implementation programs. Goals are statements that provide direction and express the desired end condition. Policies establish basic courses of action to achieve these goals, and directly guide the response of elected and appointed officials to development proposals and related community actions. Implementation programs direct the City to take specific actions to help achieve a specified goal or implement an adopted policy.

The City of Kerman distributed a Notice of Preparation (NOP) of the EIR for a 30-day agency and public review period from April 5, 2019 to May 6, 2019. In addition, the City held a joint EIR Scoping Meeting and Community Workshop on April 23, 2019. The meeting was held from 6:00 PM to 8:00 PM and aimed at providing information about the proposed project to members of public agencies, interested stakeholders, and residents/community members. In addition, the meeting gave residents and stakeholders the chance to share ideas about their general vision and future of the city through the 2040 General Plan. The meeting was held at Kerman Community/Teen Center at 15101 W. Kearney Blvd. The City received letters from seven agencies in response to the NOP during the public review period, as well as various verbal comments during the EIR Scoping/Community Meeting. The agencies include: The Department of Justice, Department of Conservation, Fresno Local Agency Formation Commission, County of Fresno Department of Public Works and Planning, Native American Heritage Commission, San Joaquin Valley Air Pollution Control District, and the State Water Resources Control Board. The NOP is in Appendix A of this EIR, along with copies of the NOP responses. Table 1-1 on the following page summarizes the content of the NOP and Scoping/Community comments and where the issues are addressed in the EIR. Responses are addressed in the analysis contained in the topical subsections of Section 4, *Environmental Impact Analysis*.

Table 1-1 NOP Comments and EIR Response

Comment/Request	Agency	How and Where it was Addressed
Agriculture		
The commenter recommends the City address and adopt mitigation measures to reduce impacts to the direct conversion of agricultural land.	Department of Conservation-Division of Land Resource Protection	Section 4.2, <i>Agricultural Resources</i>
Air Quality		
The commenter recommends that the General Plan include, or incorporate by reference, policies that would reduce or mitigate VMT impacts to the extent feasible.	San Joaquin Valley Air Pollution Control District	Section 4.3, <i>Air Quality</i> Section 4.15, <i>Transportation and Traffic</i>
Cultural Resources/Tribal Cultural Resources		
The commenter states that CEQA requires consultation as part of the AB 52 process and the EIR should include a discussion and analysis of cultural resources.	Native American Heritage Commission	Section 4.5, <i>Cultural Resources</i> and Section 4.15, <i>Tribal Cultural Resources</i>
Utilities		
The commenter recommends the City consider connecting and providing water service to nearby small disadvantaged public water systems and small water systems with water quality issues or insufficient water supplies.	California Water Boards-State Water Resources Control Board	Section 4.10, <i>Hydrology and Water Quality</i>
Land Use and Planning		
The commenter requests a copy of the Draft EIR and Draft General Plan Update when the documents become available.	County of Fresno-Department of Public Works and Planning	N/A
The commenter states LAFCo should be identified as the Responsible Agency under CEQA and Commission action on the annexation request should be noted in the EIR.	Fresno Local Agency Formation Commission (LAFCo)	Section 1, <i>Introduction</i>
The commenter states General Plans adopted after January 1, 2018 are required to adhere to SB 1000 which requires the City to identify any “disadvantaged communities” in its jurisdiction and include an “environmental justice element” in the General Plan document.	State of California-Department of Justice	Section 4.11, <i>Land Use and Planning</i>

1.2 Purpose and Legal Authority

The proposed project is the adoption and implementation of the 2040 General Plan, which requires the discretionary approval by the Kerman City Council; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the *CEQA Guidelines* (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

“...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.”

This EIR has been prepared as a Program EIR pursuant to Section 15168 of the *CEQA Guidelines*. A Program EIR is appropriate for a series of actions that can be characterized as one large project and, as stated in the *CEQA Guidelines*, are related either:

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

This EIR fulfills the requirements for a Program EIR. Although the legally-required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are necessarily more general and may contain a broader discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the *State CEQA Guidelines*, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides the City (as the Lead Agency) with the opportunity to consider broad policy alternatives and program-wide mitigation measures, as well as greater flexibility to address environmental issues and/or cumulative impacts on a comprehensive basis. By its nature, a Program EIR considers the large-scale effects associated with implementing a program (such as a General Plan or Specific Plan) and does not, and is not intended to, examine the specific environmental effects associated with individual actions that may be undertaken under the guise of the larger program.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine what, if any, additional CEQA documentation needs to be prepared. If the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required (*CEQA Guidelines* Section 15168(c)). When a Program EIR is relied on for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (*CEQA Guidelines* Section 15168(c)(3)). If a subsequent activity would have effects not within the scope of the Program EIR, the Lead Agency must prepare a new Initial Study leading to a Negative Declaration (ND), Mitigated Negative Declaration (MND), or a project level EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The *State CEQA Guidelines* (Section 15168(h)) encourage the use of Program EIRs, citing five advantages:

1. Provision of a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR
2. Focus on cumulative impacts that might be overlooked in a case-by-case analysis
3. Avoidance of continual reconsideration of recurring policy issues
4. Consideration of broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them
5. Reduction of paperwork by encouraging the reuse of data (through tiering)

As a wide-ranging environmental document, the Program EIR uses macro-level thresholds as compared to the project-level thresholds that might be used for an EIR on a specific development project. It should not be assumed that impacts determined not to be significant at a macro level

would not be significant at a project level. In other words, determination that implementation of the proposed project as a broad program would not have a significant environmental effect does not necessarily mean that an individual project would not have significant effects based on project-level CEQA thresholds, even if the project is consistent with the 2040 General Plan.

This EIR has been prepared to analyze potentially significant environmental impacts associated with future development resulting from implementation of the 2040 General Plan and its associated action with direction to review the project description section for details, and also addresses appropriate and feasible mitigation measures or project alternatives that would minimize or eliminate these impacts. In a practical sense, this document functions as a tool for fact-finding, allowing citizens, decision makers, and agency staff an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure.

1.3 Scope and Content

In accordance with the *CEQA Guidelines*, and as mentioned in Section 1.1, *Environmental Impact Report Background*, a Notice of Preparation (NOP) of a Draft EIR was circulated on April 5, 2019 to the State Clearinghouse, responsible and trustee agencies, and persons requesting notice. The NOP, included in Appendix A, indicated that all issues on the City's environmental checklist would be discussed in the EIR. These include:

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

This EIR evaluates potential impacts in each of these areas. In preparing the EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is in Section 7.0, *References and Preparers*.

The alternatives section of the EIR (Section 6.0) was prepared in accordance with Section 15126.6 of the *CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and three alternative development scenarios for the project area.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the *CEQA Guidelines* provides the standard of adequacy on which this document is based. The *Guidelines* state:

“An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.”

1.4 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible, and trustee agencies.

1.4.1 Lead Agency

The City of Kerman is the lead agency under CEQA for this EIR because it has primary discretionary authority to determine whether or how to approve the proposed project.

1.4.2 Responsible Agencies

CEQA Guidelines Section 15381 defines responsible agencies as other public agencies that are responsible for carrying out/implementing a specific component of a proposed project or for approving a project (such as an annexation) that implements the goals and policies of a General Plan. There are no responsible agencies for the proposed project.

Although there are no responsible agencies under CEQA with respect to adoption of the 2040 General Plan, several other agencies may have review or approval authority over aspects of projects that could potentially be implemented in accordance with various goals, policies, and programs in the 2040 General Plan. These agencies and their roles are listed below.

- Fresno Local Agency Formation Commission (LAFCo) has responsibility to review proposals for the formation of new local governmental agencies and for changes in the organization of existing agencies. Fresno LAFCo will be responsible for review and approval of Kerman’s proposed changes to its SOL. The California Department of Transportation (Caltrans) has responsibility for approving future improvements to the state highway system, including Highways 145 and 180.
- The California Department of Fish and Wildlife (CDFW) has responsibility for issuing incidental take permits and streambed alteration agreements for any project with the potential to affect plant or animal species listed by the State of California as rare, threatened, or endangered, or that would disturb waters of the state.
- Any other public agencies, such as: Fresno County, Fresno Council of Governments (FCOG), San Joaquin Valley Air Pollution Control District, North Central Fire Protection District, and California Department of Housing and Community Development.

1.4.3 Trustee Agencies

Trustee agencies have jurisdiction over certain resources held in trust for the people of California but do not have a legal authority over approving or carrying out the project. Potential trustee agencies for the 2040 General Plan may include CDFW .

1.5 Intended Uses of the EIR

This EIR is an informational document for use in the City's review and consideration of the proposed 2040 General Plan. It is to be used to facilitate creation of a General Plan that incorporates environmental considerations and planning principals into a cohesive policy document. The 2040 General Plan will guide subsequent actions taken by the City in its review of new development projects. This EIR discloses the possible environmental consequences associated with the proposed project. The information in this EIR will be used by the Kerman City Council, the general public, and potentially the trustee and responsible agencies.

The focus of this EIR is to:

- Provide information about the 2040 General Plan for consideration by the City Council in its selection of the proposed project, an alternative to the proposed project, or a combination of various chapters from the proposed project and its alternatives, for approval
- Review and evaluate the potentially significant environmental impacts that could occur as a result of the growth and development envisioned in the 2040 General Plan
- Identify feasible mitigation measures that may be incorporated into the proposed project to reduce or eliminate potentially significant effects
- Disclose any potential growth-inducing and/or cumulative impacts associated with the proposed project
- Examine a reasonable range of alternative growth scenarios that could feasibly attain the basic objectives of the proposed project, while eliminating and/or reducing some or all its potentially significant adverse environmental effects

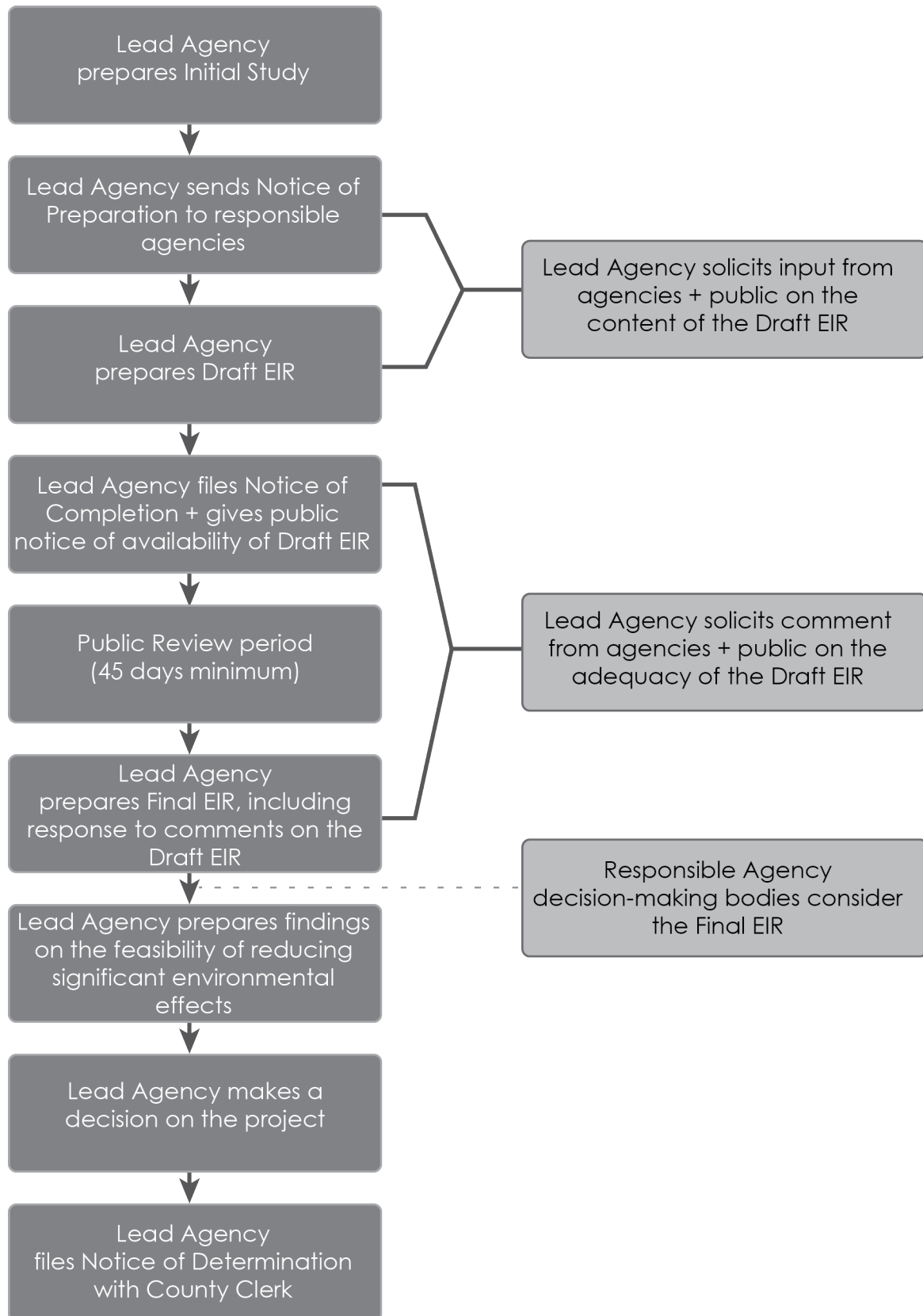
1.6 Environmental Review Process

The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency (City of Kerman) must file a NOP soliciting input on the EIR scope from "responsible," "trustee," and involved Federal agencies; to the State Clearinghouse, if one or more state agencies is a responsible or trustee agency; and to parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing, and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC).** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOC in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The

lead agency must solicit input from other agencies and the public, and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091). Distribution of the Draft EIR may be required through the State Clearinghouse.

4. **Notice of Completion.** A lead agency must file a Notice of Completion with the State Clearinghouse as soon as it completes a Draft EIR.
5. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
6. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
7. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
8. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
9. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
10. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167(c)).

Figure 1-1 Environmental Review Process

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2 Project Description

The proposed project is the City of Kerman 2040 General Plan, referred to throughout this EIR as the “2040 General Plan.” This section of the EIR describes the key characteristics of the 2040 General Plan, including the project proponent/lead agency, the geographic extent of the planning area, project objectives, required approvals and types and extent of development planned for under the 2040 General Plan.

2.1 Kerman 2040 General Plan

The 2040 General Plan is a comprehensive update of the City’s 2007 General Plan and establishes the community’s vision for the future development through 2040. The elements of the 2040 General Plan contain updated goals, policies, and implementation programs that reflect the community’s vision for Kerman. The City’s General Plan Land Use Map and Circulation Map have also been updated to reflect the city’s planned growth through 2040 and anticipated and proposed changes to State Routes 180 and 145. The City is proposing the expansion of the Sphere of Influence (SOI) to Nielsen Avenue to the north, Goldenrod Avenue to the east, Jensen Avenue to the south, and Modoc Avenue to the west. The current (2019) SOI, which Fresno LAFCo established in 1974 and last updated it in 2007, spans beyond city limits to Nielsen Avenue to the north and Jensen Avenue to the south. The planning area extends to Belmont Avenue to the north, Howard Avenue to the east, Jensen Avenue to the south, and Lassen Avenue to the west. It spans from Howard Avenue to the east and Lassen Avenue to the west because these corridors are identified as potential route realignments for SR 145, which passes through the heart of the city along Madera Avenue.

2.2 Project Proponent

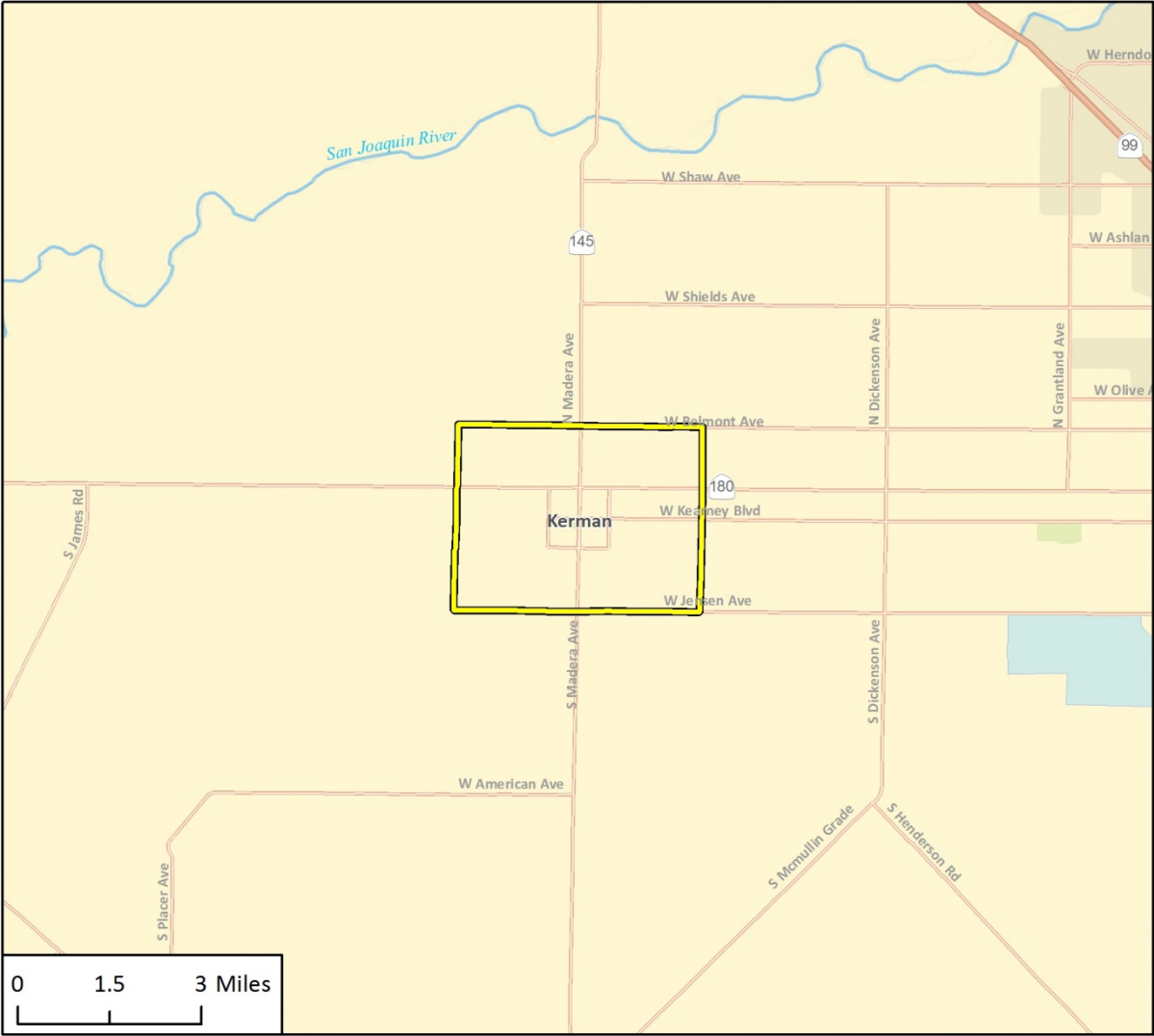
The City of Kerman is both the project proponent and the lead agency for the proposed 2040 General Plan. The City’s Planning and Development Services Department, located at 850 S. Madera Avenue, Kerman, CA 93630, directed preparation of this EIR with the assistance of Rincon Consultants, Inc.

2.3 Project Location

The City of Kerman is in the northwest portion of Fresno County in the central San Joaquin Valley. The city is at the junction of State Route (SR) 180 (Whitesbridge Avenue) and SR 145 (South Madera Avenue), approximately 15 miles west of the city of Fresno and 20 miles south of the city of Madera. West Jensen Avenue is located just to the south of Kerman, South Modoc Avenue to the west, and South Goldenrod Avenue to the east. SR 180 runs across the north edge and SR 145 bisects the city. The city is bordered by unincorporated areas of Fresno County. The nearest cities are Fresno to the east, San Joaquin to the southwest, and Madera to the north. Figure 2-1 shows the city’s relationship to nearby cities, communities, and the regional transportation system.

The addresses all lands within the Kerman Planning Area, which includes land within the city limits and the SOI, as well as unincorporated land outside the SOI. The SOI is a boundary defining the

Figure 2-1 Regional Location



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 Planning Area

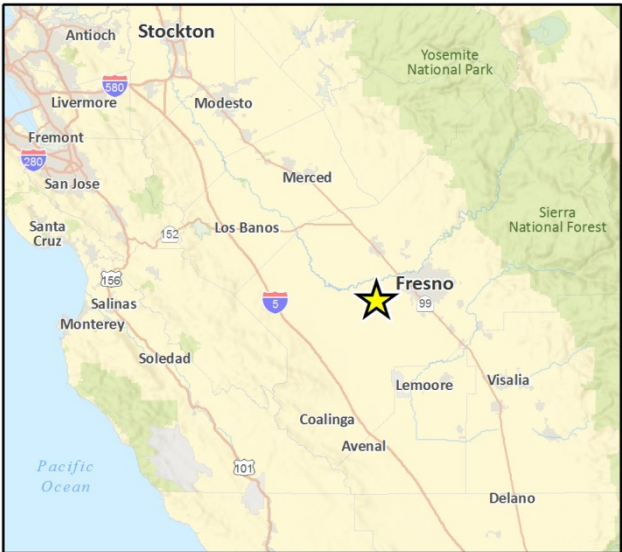


Fig 2-1 Regional Location

probable future physical boundaries and service areas of the City. The Planning Area for the proposed project in this EIR extends beyond the proposed expansion of the City's SOI in addition to the existing city limits and current (2019) SOI. The planning area extends to an area generally bounded by Belmont Avenue to the north, Howard Avenue to the east, Jensen Avenue to the south, and Lassen Avenue to the west, as shown in Figure 2-2.

It is important to note that the planning area in the 2007 General Plan differs from the 2040 General Plan planning area. The City expanded the planning area for the 2040 General Plan Update to include approximately 1,540 additional acres. Existing uses in this area between city limits and the planning area boundary are agriculture and detached dwelling units on large parcels in agricultural areas. The City designated land in the 2007 General Plan planning area that is not included in the new planning area (i.e., land south of Jensen Avenue), of which 446 acres are Undesignated and 11 acres are Ponding Basins. The 2007 planning area is identical to the 2027 Urban Growth Boundary as is identified in the 2007 General Plan.

2.4 Land Use and Regulatory Setting

The 2040 General Plan is a comprehensive update of the City's 2007 General Plan. The 2007 General Plan is made up of two parts. Part 1 is the policy document, which includes five elements: Land Use; Circulation; Conservation, Open Space, Parks and Recreation; Safety; and Noise. The 2007 General Plan specifies 16 separate land use designations, as shown in Figure 2-3. These land use designations define the basic categories of land use allowed in the city, and are implemented through the City's Zoning Ordinance and Zoning Map, which contain more specific regulations and standards governing development on individual parcels. Under State law, a property's zoning is required to be consistent with its General Plan land use designation (Government Code §65860). Section 65860(c) of the Government Code requires that when a General Plan is amended in a way that makes the Zoning Ordinance inconsistent with the General Plan, "the zoning ordinance shall be amended within a reasonable time so that it is consistent with the general plan as amended" but it does not define a specific time period that would constitute a reasonable time.

The 2040 General Plan is comprised of seven elements: Economic Development; Land Use; Circulation; Housing; Conservation, Open Space, Parks and Recreation; Public Health and Safety; and Public Facilities and Services. The Land Use chapter describes the general distribution, location, and extent of various land uses. It contains a statement of the purpose of the designation, standards for dwelling units density and non-residential building square footage intensity, types of typical uses, and special development and permit review requirements. Eighteen separate land use designations have been established to provide a mixture of land uses for the city, as shown on the General Plan Land Use Map (Figure 2-4). If the 2040 General Plan is adopted, the City will subsequently need to review the Zoning Ordinance, including its Zoning Map, to make sure it is consistent with the new General Plan.

2.5 Project Characteristics

The 2040 General Plan provides a blueprint for the City through 2040 guiding future growth and development. General Plan buildout and the seven elements included in the 2040 General Plan are further described below.

Figure 2-2 Planning Area

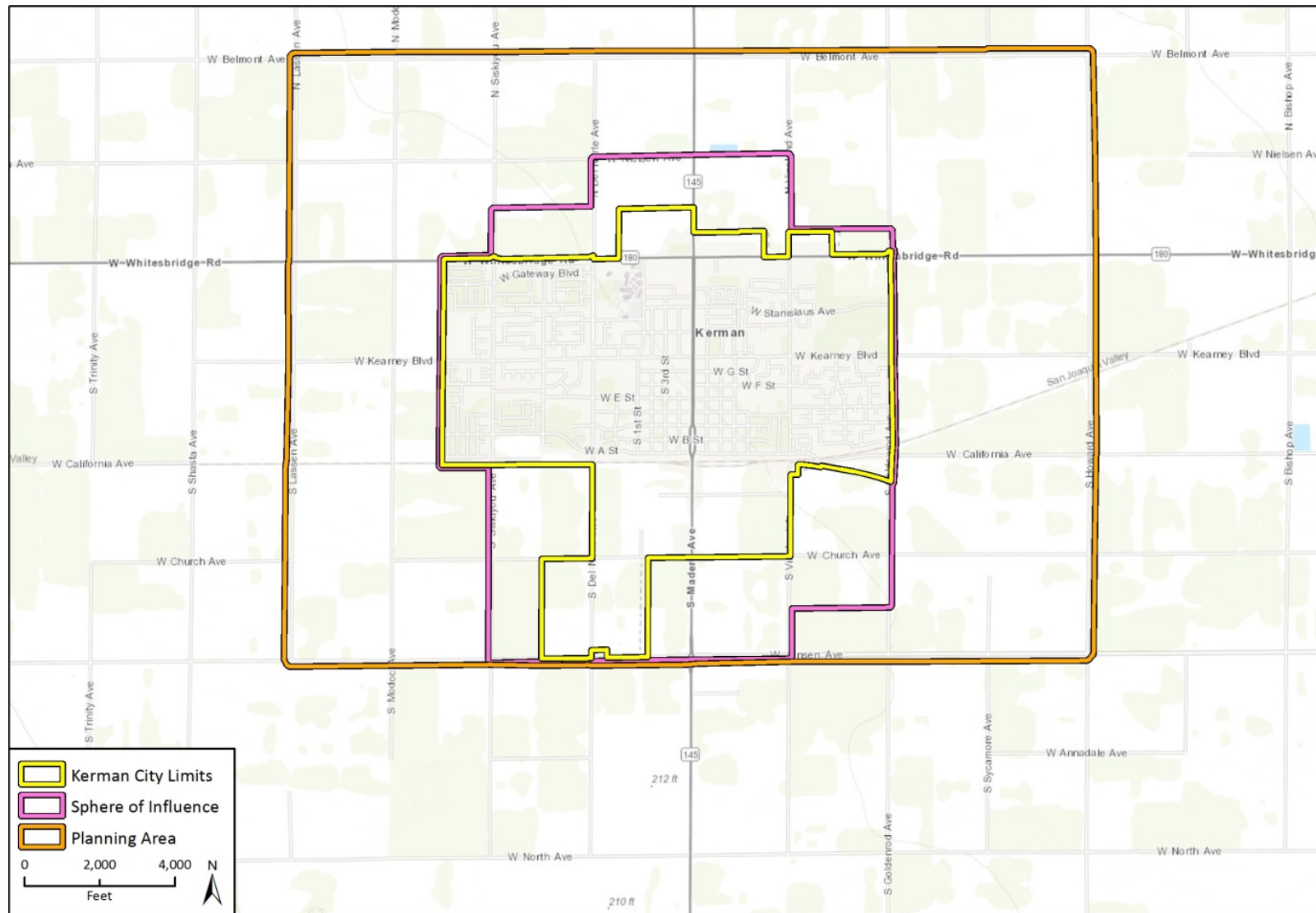


Fig 2-2 Planning Area

Figure 2-3 Existing 2007 General Plan Land Use Map

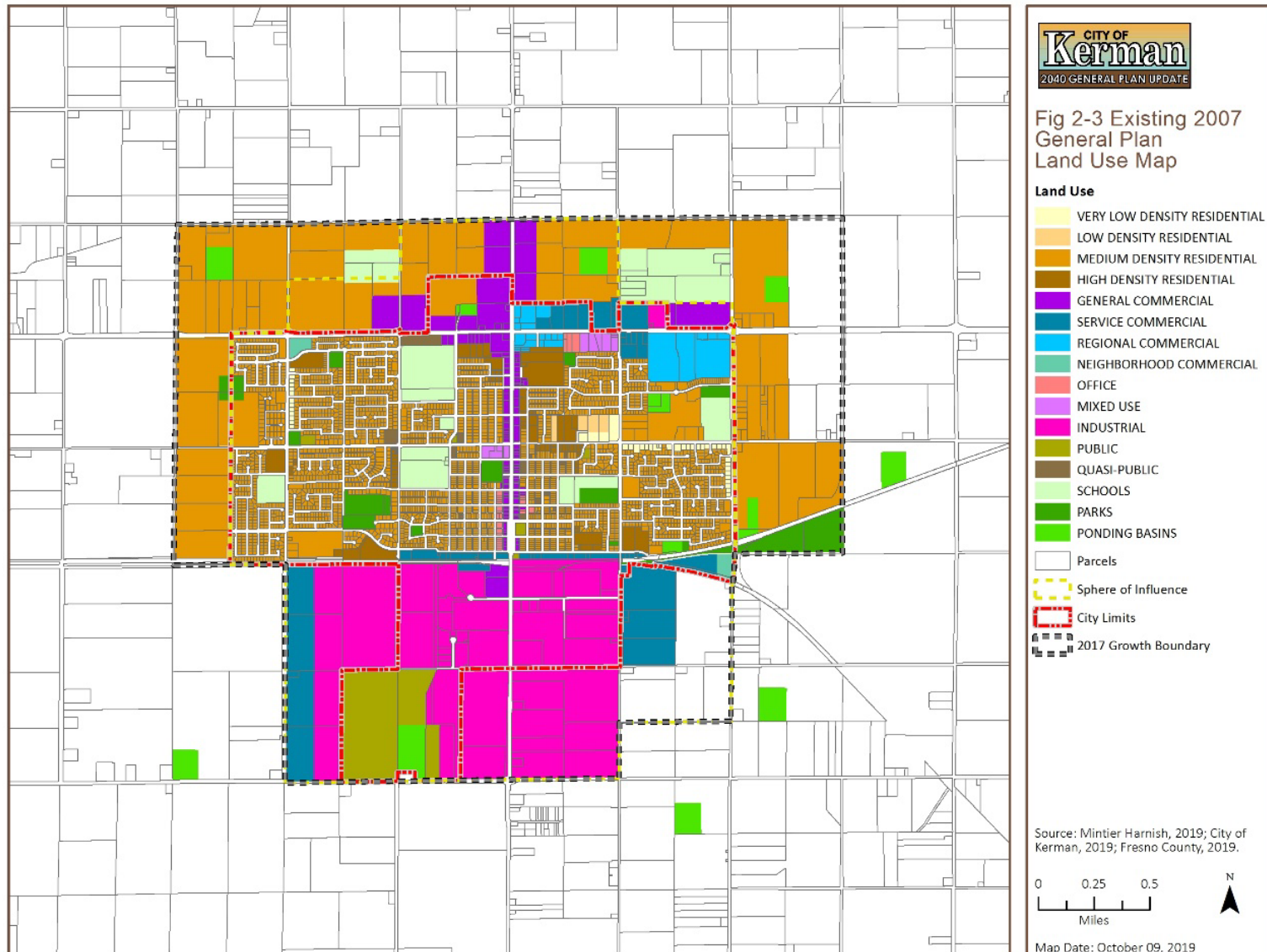
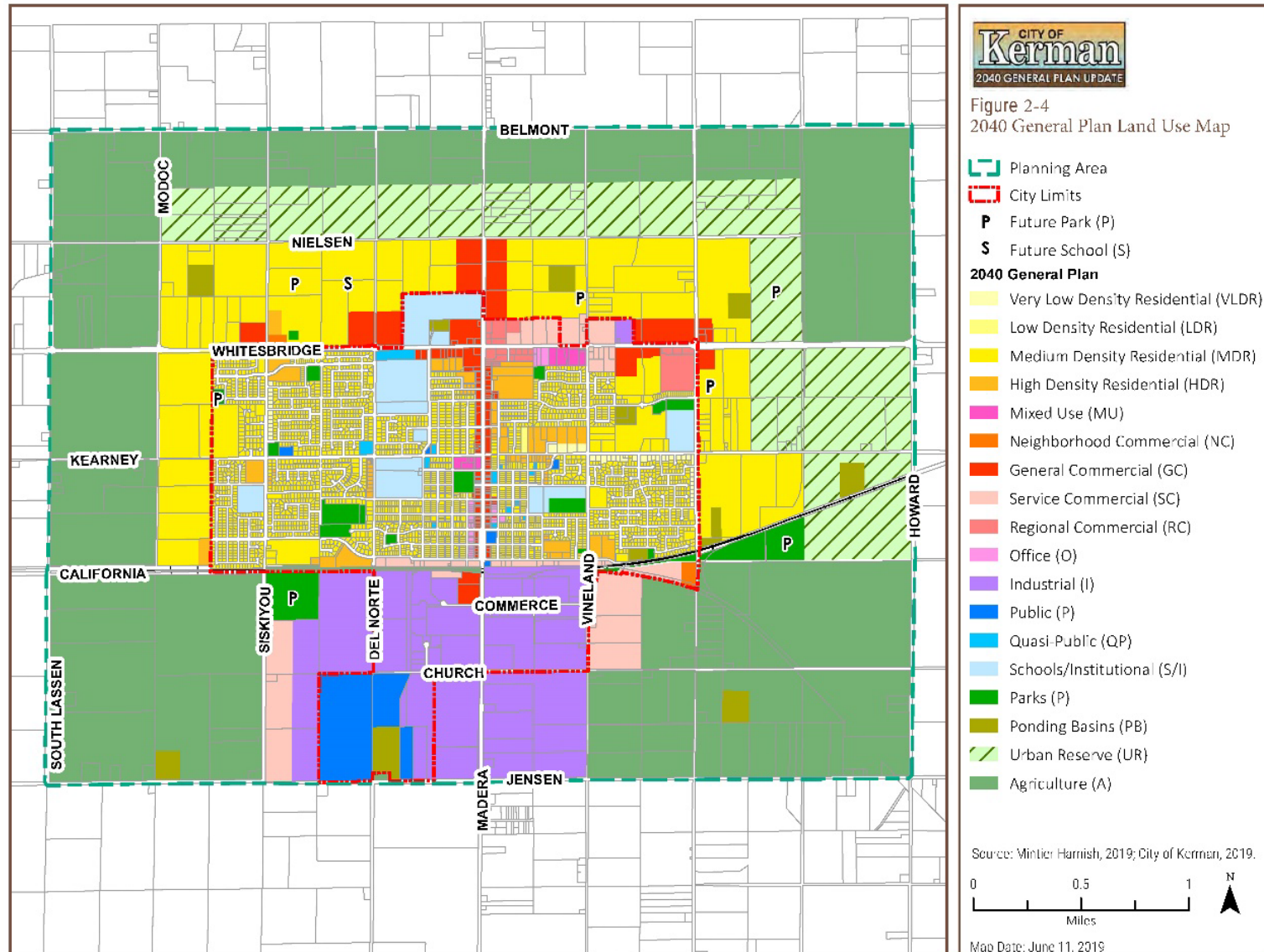


Figure 2-4 Kerman 2040 General Plan Land Use Map



2.6 General Plan Buildout

The 2040 General Plan designates land uses defining the type of development planned to occur throughout the city through the planning horizon year of 2040 (approximately 20 years). Development projections for the General Plan were determined by analyzing vacant and underutilized parcels within the city and the realistic level of development potential based on what is allowed under the applicable land use designation factoring for known physical constraints and/or regulatory requirements, such as provisions in Title 17 - Zoning of the Kerman Municipal Code. The development projections include the development potential of the General Plan focus areas, as well as the housing development potential in the available land inventory of the City's Housing Element. The 2040 General Plan development projections are shown in Table 2-1.

For comparison, the 2007 General Plan identified theoretical buildout capacities for residential, commercial/office, industrial/service commercial, park, and school land uses as shown in Table 2-1 for both high and low population estimates. The table demonstrates actual development exceeded the projected high estimates from the 2007 General Plan buildout scenario for residential, industrial, and school land use categories. The 2040 General Plan uses a 20-year planning horizon for development projections.

Table 2-1 Kerman 2040 General Plan Development Projections

Land Use	2007 General Plan Estimated Buildout		Existing Built and Under Construction 2018	Additional Development Projected through 2040	Total Development Projected through 2040
	Low	High			
Residential (units)	3,719	2,978	4,215	1,500	5,715
Commercial / Office ¹ (acres)	113	225	129.5	30.9	160.9
Industrial / Service Commercial (acres)	91	181	331.7	9.18	340.9
Parks (acres)	65	121	41.9	N/A	N/A
Schools (acres)	80	80	204.7	N/A	N/A

Source: Kerman 2007 General Plan; City of Kerman, 2018

2.6.1 Economic Development Element

The Economic Development Element focuses on supporting traditional employment sectors including agriculture, manufacturing, construction, transportation, and warehousing, as well as encouraging new types of businesses that reflect current technological and market opportunities. This Element includes goals, policies, and programs related to retention and expansion of existing business sectors as well as diversifying the economy to develop new kinds of businesses in the city.

2.6.2 Land Use Element

The Land Use Element provides the framework for future land use decisions to guide context-appropriate and desirable development patterns that maintain and enhance the character of Kerman. This chapter aims to effectively manage growth and provide needed housing, jobs, and services while preserving open space and agricultural land. It designates each parcel of land for a specified use or combination of uses, as well as permitted density or intensity of allowed

development. The land use designations on the Land Use Diagram may be subject to change through a General Plan Amendment at the initiation of a landowner or the City, depending on development interest, City needs, environmental conditions, and changes in surrounding land uses. The Land Use Element also focuses on environmental justice pursuant to SB 1000, which requires general plans to address unique or compounded health risks in disadvantaged communities and increase access to the public decision-making process.

The General Plan Land Use Diagram is largely implemented through the City's zoning regulations. Each land use designation has a corresponding set of compatible zoning districts. The Land Use Diagram includes 18 land use designations, as shown in Figure 2-4. Each land use designation specifies allowed uses and development standards (e.g., density, intensity) which are described below and summarized in Table 2-2.

Table 2-2 Description of 2040 General Plan Land Uses

Designation	Description	Density/ Intensity
Residential Designations		
Very Low Density Residential (VLDR)	<p>Purpose and Application</p> <p>This designation allows for single-family residential development at a density of up to two units per gross acre. This designation shall be reserved for those lands that are on the fringe of the community, have already been divided into lot sizes that are one-half acre or larger, or are required to "buffer" an industrial, agricultural, or public use. Development in this category is required to connect to the City's wastewater collection system and water system. The City may also require new projects to install infrastructure, such as sidewalks, curbs/gutters, or street lights.</p>	<p>Typical Uses</p> <p>Single family detached dwellings; Accessory dwelling units; Compatible public and quasi-public uses (e.g., churches, day-care centers, community centers, parks, and schools)</p> <p>Maximum Density: 2 du/ac</p>
Low Density Residential (LDR)	<p>Purpose and Application</p> <p>This designation allows for single-family residential development at a density of up to nine units per gross acre. This designation shall be reserved for those areas with single-family dwellings units and uses that are typically associated with single family neighborhoods, such as churches, day-care centers, community centers, parks, and schools. Development in this category is required to connect to the City's wastewater collection system and water system. The City may also require new projects to install infrastructure, such as sidewalks, curbs/gutters, or street lights.</p>	<p>Typical Uses</p> <p>Single family detached dwellings; Accessory dwelling units; Compatible public and quasi-public uses (e.g., churches, day-care centers, community centers, parks, and schools)</p> <p>Maximum Density: 9 du/ac</p>
Medium Density Residential (MDR)	<p>Purpose and Application</p> <p>This designation allows for residential development at a density of up to 12 units per gross acre. Development in this category could include a mix of single-family and multifamily residences, including duplexes, triplexes, fourplexes, and mobile homes. Each quadrant of the community will contain land that is designated for this type of residential development to provide a mix of housing types.</p>	<p>Typical Uses</p> <p>Single family detached dwellings; Small-lot multifamily dwellings, including duplexes, triplexes, fourplexes, and mobile homes; Accessory dwelling units Compatible public and quasi-</p> <p>Maximum Density: 12 du/ac</p>

Designation	Description		Density/ Intensity
		public uses (e.g., churches, day-care centers, community centers, parks, and schools)	
High Density Residential (HDR)	Purpose and Application This designation allows for residential development at a density of up to 20 units per gross acre. Development in this category could encompass apartment complexes, senior housing, and condominiums. This designation is applied to lands near, but not directly on, Madera and Whitesbridge Avenues.	Typical Uses Large-lot multifamily dwellings, including apartment complexes, senior housing, and condominiums; Accessory dwelling units; Compatible public and quasi-public uses (e.g., churches, day-care centers, community centers, parks, and schools)	Maximum Density: 20 du/ac
Mixed Use			
Mixed Use (MU)	Purpose and Application This designation allows for a combination of residential, office, and commercial uses. This designation shall generally be reserved for sites that are centrally located and where mixed-use development would not conflict with neighboring existing land uses. Projects in these areas are required to comply with the design standards of the Kerman Zoning Ordinance's design districts.	Typical Uses Single- and multifamily dwellings; Major retail stores and restaurants; Personal service/repair, medical, and office uses; Administrative and professional offices; Central gathering places	Maximum Density: 20 du/ac Floor Area Ratio: 1.0
Commercial / Office / Industrial			
Neighborhood Commercial (NC)	Purpose and Application This designation is reserved for two areas in Kerman. Site one shall be located near the intersection of Gateway Boulevard and Siskiyou Avenue, and site two near the intersection of Kearney Boulevard and Vineland or Goldenrod Avenue. These sites shall not exceed five acres in size. Permitted uses will include grocery stores, video stores, laundromats, and food service establishments. Development with this designation will have the following distinguishing features: the building site will have extensive landscaping, parking shall be off-street and shall be landscaped, signs shall be regulated, the architectural design of the building will be compatible with adjacent residential dwellings, and new uses shall undergo site plan review.	Typical Uses Retail sales and restaurants; Personal service/repair, medical, and office uses	Floor Area Ratio: 0.50
General Commercial (GC)	Purpose and Application This designation identifies areas generally located along Madera and Whitesbridge Avenues that are appropriate for shopping centers, retail uses, and offices. Development with this designation will have the following distinguishing features: landscaping, construction of off-street parking, regulated signs, and site plan review of new uses or extensive expansion of existing uses. Projects in these areas are required to comply with the design standards of the Kerman Zoning Ordinance's design districts.	Typical Uses Large retail stores and restaurants; Personal service/repair, medical, and office uses	Floor Area Ratio: 0.30

Designation	Description	Density/ Intensity
Service Commercial (SC)	<p>Purpose and Application</p> <p>This designation identifies areas generally located south of California Street (A Street), and some properties north of Whitesbridge Avenue and east of Madera and the Southern Pacific Railroad, that are appropriate to provide a mix of light industrial and heavy commercial uses. Development with this designation will have the following distinguishing features: front yard landscaping, off-street parking, all visible equipment and storage areas shall be fenced and screened from public view, lighting shall not be allowed to illuminate surrounding properties, regulated signs, and site plan review of new uses or extensive expansion of existing uses. Lands designated service commercial shall be required to comply with the design standards of the Kerman Zoning Ordinance's design districts.</p>	<p>Typical Uses</p> <p>Light manufacturing, warehousing, distribution, and corporation yards; Wholesale uses and accessory business offices; Industrial and employee supporting retail and service uses</p> <p>Floor Area Ratio:</p> <p>0.30</p>
Regional Commercial (RC)	<p>Purpose and Application</p> <p>This designation reserves land along Madera and Whitesbridge Avenues for a regional shopping center that could include regional shopping or “big box” facilities. Development within this designation will have the following distinguishing features: landscaping, construction of off-street parking, regulated signs, and site plan review of new uses or extensive expansion of existing uses. Lands designated regional commercial shall be required to comply with the design standards of the Kerman Zoning Ordinance's design districts.</p>	<p>Typical Uses</p> <p>Major retail stores and restaurants; Personal service/repair, medical, and office uses</p> <p>Floor Area Ratio:</p> <p>0.30</p>
Office (O)	<p>Purpose and Application</p> <p>This designation identifies areas for office uses and areas that contain single family dwellings that could be converted to office uses in the future. For this designation to be applied to parcels with single family dwelling units, these should have the following qualities: be adjacent to commercial uses, have alley access, and located in a neighborhood that is in transition. Lands designated for office shall be required to comply with the design standards of Kerman Zoning Ordinance's design districts.</p>	<p>Typical Uses</p> <p>Attached or detached single-family dwellings; Administrative and professional offices</p> <p>Floor Area Ratio:</p> <p>1.0</p>
Industrial (I)	<p>Purpose and Application</p> <p>This designation identifies areas that are appropriate for industrial development that are generally located south of the Southern Pacific Railroad and north of Jensen Avenue. This designation provides for uses that are involved in manufacturing, processing, warehousing, and certain service commercial uses. Development within this designation will have the following distinguishing features: landscaping, off-street parking lots with landscaping, fenced and screened storage areas, and regulated signs. The City shall require site plan review for new uses in this designation.</p>	<p>Typical Uses</p> <p>Manufacturing, processing, and warehousing; Compatible service commercial uses</p> <p>Floor Area Ratio:</p> <p>0.30</p>

Designation	Description		Density/ Intensity
Public/Quasi-Public			
Public (PUB)	Purpose and Application This designation provides space for facilities that are public-serving in nature, such as the post office, City Hall, and County offices. Development within this designation will have the following distinguishing features: landscaping, off-street parking lots with landscaping, fenced and screened storage areas, and regulated signs. The City shall require site plan review for new uses in this designation.	Typical Uses Government buildings; Libraries; Water, wastewater, and drainage facilities; Transportation and utility facilities; Compatible public buildings	Floor Area Ratio: n/a
Quasi-Public (QP)	Purpose and Application This designation provides space for facilities that are public-serving in nature that focus on religious and spiritual worship. Quasi-public uses are mostly in residential areas along major roadways.	Typical Uses Churches and other places of worship	Floor Area Ratio: n/a
Schools (S)	Purpose and Application This designation provides space for publicly- and privately-owned educational facilities.	Typical Uses Public and private schools	Floor Area Ratio: n/a
Parks (P)	Purpose and Application This designation provides for open space areas and outdoor recreational facilities that serve Kerman residents. Recreational facilities include athletic fields, playgrounds, picnic areas, sitting areas, trails, and open turf and natural areas.	Typical Uses Parks (neighborhood and regional parks); Greenways and trails	Floor Area Ratio: n/a
Other			
Ponding Basins (PB)	Purpose and Application This designation identifies areas that are designated ponding basins, which hold stormwater during the rainy season to prevent flooding.	Typical Uses Ponding basins; Natural open space areas	Floor Area Ratio: n/a
Urban Reserve (UR)	Purpose and Application This designation identifies areas that are outside of City limits but within the SOI. These are undeveloped, open space areas.	Typical Uses Natural open space areas	Floor Area Ratio: n/a
Agriculture (AG)	Purpose and Application This designation applies to lands that currently used for agricultural production, or have the capacity to support farming, as well as associated and supportive uses, such as packing houses, dairies, and other livestock operations. The purpose of this designation is to protect agriculture from urban encroachment, maintain land in agriculture until the time is appropriate for conversion to urban uses, and to ensure that conflicts do not arise between agriculture and urban uses.	Typical Uses Crop production, grazing, livestock raising facilities, dairies; Packing houses, feed/grain storage; Farmworker employee housing; Natural open space areas	Floor Area Ratio: n/a

2.6.3 Circulation Element

The Circulation Element provides the framework for transportation and mobility related decision-making in Kerman. Key challenges addressed in the Circulation Element include traffic and noise from SR 145 and SR 180, providing an effective and efficient transportation network, and supporting a complete streets network. Policies address balancing transportation modes, supporting realignment of the two State highways to circumvent the urbanized area of Kerman, and improving the efficiency of the transportation network.

2.6.4 Housing Element

The Housing Element describes the housing needs for Kerman and outlines the method for ensuring adequate housing to accommodate future population projections. The County of Fresno and 12 of its 15 cities, including the City of Kerman, adopted the Fresno Multi-Jurisdictional 2013-2023 Housing Element for the planning period of December 31, 2015 through December 31, 2023. Appendix 2F contains the action plan for the City of Kerman. The 2040 General Plan does not propose any changes to the housing element.

2.6.5 Conservation, Open Space, Parks and Recreation Element

This chapter of the General Plan describes the provision of open space, parks, and recreation facilities in Kerman, as well as measures for preserving cultural and natural resources. It also provides policies on water and energy resource conservation.

2.6.6 Public Health and Safety Element

The Public Health and Safety Element sets goals, policies, and implementation programs that will protect people and property from manmade and natural disasters. The primary natural disasters affecting Kerman are seismic and fire related, although localized flooding may occur during large storms. Fresno County has adopted a Local Hazard Mitigation Plan (LHMP) that includes the City of Kerman. The LHMP identifies mitigation measures to reduce the risks posed by potential hazards and strengthen community resilience. The policies in the Public Health and Safety Element are reflective of the LHMP, ensuring a coordinated approach to public safety and qualifying the City for additional funding opportunities (consistent with California Government Code Section 65302.6). Policies and implementation programs focus on public safety, emergency response and preparedness, and exposure to air quality. This element also contains the goals and policies for excessive noise management, a required component of the general plan.

2.6.7 Public Facilities and Services Element

The Public Facilities and Services Element sets goals, policies, and implementation programs for infrastructure, utilities, and services. These include essential public facilities, educational facilities and infrastructure funding. This element also addresses wastewater collection and treatment, storm drainage, water supply, and public utility delivery.

2.7 Project Objectives

California State Law requires that every city prepare and maintain a general plan “for the physical development of the city and any land outside its boundaries that bears relation to its planning.” A general plan serves as the jurisdiction’s “constitution” or “blueprint” for future decisions concerning a variety of issues including land use, health and safety, and resource conservation. All specific plans, subdivisions, public works projects, and zoning decisions must be consistent with the local jurisdiction’s general plan. The Kerman General Plan contains the goals and policies upon which the City Council and Planning Commission shall base their decisions. Typically, a general plan is designed to address the issues facing the city for the next 15-20 years. The horizon year for Kerman’s General Plan Update is 2040.

A general plan has four defining features:

- **General.** As the name implies, a general plan provides general guidance for future land use, transportation, environmental, and resource decisions.
- **Comprehensive.** A general plan addresses a wide range of social, economic, infrastructure, and natural resource topics. These topics include land use, urban development, housing, transportation, public facilities and services, recreation, agriculture, biological resources, and many other issues that impact the community.
- **Long-Range.** A general plan provides guidance on achieving a long-range vision of the future for a city or county. To reach this envisioned future, the general plan includes goals, policies, and implementation programs that address both near-term and long-term needs.
- **Integrated and Coherent.** The goals, policies, and implementation programs in a general plan present a comprehensive, unified program for development, resource conservation, and other issues that impact the community. A general plan uses a consistent set of assumptions and projections to assess future demands for housing, employment, and public services (e.g., infrastructure). A general plan has a coherent set of policies and implementation programs that enables citizens to understand the vision of the general plan, and enables landowners, businesses, and industries to be more certain about how policies will be implemented.

The general plan is not to be confused with zoning. Although both the general plan and the zoning ordinance designate how land may be developed, they do so in different ways. The general plan has a long-term outlook. It identifies the types of development that will be allowed, the spatial relationships among land uses, and the general pattern of future development. Zoning regulates development through specific standards such as lot size, building setback, and allowable uses. However, the land uses shown on the general plan diagrams will typically be reflected in the local zoning maps as well, as they are both required to be consistent per State law. Development must not only meet the specific requirements of the zoning ordinance but also the broader policies set forth in the general plan.

2.8 Required Discretionary Approvals

With recommendations from the City's Planning Commission, the Kerman City Council will need to take the following discretionary actions in conjunction with the proposed project:

- Certify the Final EIR,
- Approve the proposed 2040 General Plan, and
- Apply for update/revision of the City's Sphere of Influence (SOI) with Fresno LAFCo.

Kerman adopted its current Multi-Jurisdictional Housing Element in April 2016, covering the 2015-2023 planning period. This Housing Element was submitted to the California Department of Housing and Community Development (HCD) for review and comment and was certified by HCD in July 2016. No updates to the Housing Element are necessary or proposed at this time. The City's SOI is proposed to expand east and west to include South Lassen and Howard Avenues for potential future alignment of SR 145, and north to Belmont Avenue to square off and balance the city growth area around the city center.

3 Environmental Setting

According to Section 15125 of the State CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of a project to provide the baseline condition against which project-related impacts are compared. To fulfill this requirement and to provide context for the physical setting in which the 2040 General Plan would be carried out, this section describes current environmental conditions in the Planning Area for the City of Kerman. More detailed setting information regarding each environmental issue area is included within the impact analysis, discussed in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

Kerman is in the northwest portion of Fresno County in the central San Joaquin Valley. The city is at the junction of State Route (SR) 180 (Whitesbridge Avenue) and SR 145 (South Madera Avenue), approximately 15 miles west of the city of Fresno and 20 miles south of the City of Madera. The city is located on relatively level land near the center of the San Joaquin Valley region. The Planning Area is surrounded by agricultural working lands and very low-density residential development. While the region is not in high risk zones for most natural hazards, extreme heat and drought are common risks, and groundshaking could occur in the event of an earthquake.

3.2 Physical Setting

3.2.1 Geographic Setting

Kerman is a suburban community surrounded by agricultural land in the heart of the San Joaquin Valley. The city limits encompass approximately 3.26 square miles and is located 15 miles west of the city of Fresno. The city of Madera is approximately 17 miles to the north of Kerman; the city of San Joaquin is approximately 30 miles to the south; I-5 is to the west; and SR 99 is to the east. The City of Kerman is one of 15 incorporated cities in Fresno County.

The urbanized portion of the city extends from Church Avenue to the south to past Whitesbridge Avenue to the north, and from Goldenrod Avenue to the east and Kenneth Avenue to the west. In 2018, the urban area in the city of Kerman is centered roughly on Kearney Boulevard and Madera Avenue (SR 145). The intersection of these two streets divides the city into four quadrants. Commercial and office uses are clustered along Madera and Whitesbridge (SR 180) Avenues. There are large shopping centers on the northwest and southwest corners of the Madera and Whitesbridge Avenues intersection, as well as southwest of the Goldenrod and Whitesbridge Avenues intersection. Single family and multifamily residential developments are in all four quadrants of the city. Industrial uses are located primarily in the southern portion of the city to the south of California Avenue. Public uses are scattered throughout the community, including schools, parks, City Hall, other City buildings, a community center, and a wastewater treatment plant.

Regarding the existing use of land within the 2040 General Plan planning area, agricultural land makes up the majority at 68.6 percent. Single family homes, including detached dwelling units on large parcels, are 13.5 percent, with 0.9 percent of the land used for multifamily housing. Over 8

percent of land is industrial, 1.6 percent is commercial, and 3.9 percent is public, quasi-public, or utility owned land. Parks and open space, mixed use, and office uses are each less than one percent of existing land use in the planning area. As a note, the existing land use of a property does not carry any regulatory significance and may or may not be consistent with the current General Plan land use designation or zoning for the parcel. In many cases the existing land uses were established prior to the adoption of the current General Plan land use designation or zoning district.

3.2.2 Hydrology

The city of Kerman is in the San Joaquin Valley groundwater basin and the Kings Subbasin. The Kings Subbasin is bound by the San Joaquin River to the north, the Delta-Mendota and Westside-Subbasins to the west, the Empire West Side Irrigation District to the south, and the eastern boundary of the subbasin is the alluvium-granitic rock interface of the Sierra Nevada foothills.

The two principal rivers within and bordering the subbasin are the San Joaquin and Kings Rivers. Average annual precipitation in the Kings Subbasin ranges from 7-10 inches per year. The San Joaquin River is located 5.5 miles to the north of the city of Kerman and the Kings River runs from east to northwest from the Sierra Nevada Range to the Sacramento-San Joaquin Delta. The Kings River runs from the Sierra Nevada Range to the east toward the community of Hanford before turning abruptly north and converging with the San Joaquin River near the City of Mendota. At its closest point, the Kings River is located nine miles from the city. The city is served by a system of municipal storm drains, maintained by the City's Public Works Department. The City has no other formal flood management system or ordinances related to flood prevention or control.

3.2.3 Climate

Kerman has a semi-arid Central Valley desert climate characterized by hot, dry summers and cold, wet winters with frequent fog conditions. Kerman has an annual average of 10.97 inches of rainfall almost exclusively during the months of November through April. The average annual temperature is 62.1 degrees Fahrenheit, but the temperature can frequently top 100 degrees Fahrenheit during the summer months and drop below 20 degrees Fahrenheit during the winter.

3.2.4 Demographics

Kerman incorporated in 1946 with a population of approximately 1,050. Since the 2010 Census, the city has increased in population by slightly over 1,500 persons to a total of 15,083 persons in 2018. Over the eight-year period (2010-2018), Kerman grew faster than the region, growing annually by an annual growth rate of 1.4 percent versus 1.0 percent countywide and 0.8 percent statewide. According to the State Department of Finance (DOF) compounded annual growth rate (CAGR) data, 81 percent of Kerman residents in 2016 identified as Latino, 13 percent were non-Latino White, and 5 percent were Asian.

Similar to population growth, Kerman had a relatively large increase in new housing development. Total housing units grew by almost one percent per year during this period, which exceeded annual growth rates for the county (0.6 percent) and state (0.4 percent). It is worth noting that between 2000 and 2010, Kerman's housing stock increased by almost 5 percent per year. Despite increased housing stock and Kerman's advantage in lower-priced housing, the city experiences persistent overcrowding. Approximately 8.7 percent of Kerman's owner-occupied homes exhibit overcrowded conditions, which is more than double the county rate of 4.2 percent.

3.3 Cumulative Development

CEQA defines cumulative impacts as two or more individual actions that, when considered together, are considerable or will compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development facilitated by the 2040 General Plan and other nearby projects. For example, traffic impacts of two nearby projects may be less than significant when analyzed separately, but could have a significant impact when analyzed together. Cumulative impact analysis allows an EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects. CEQA does not require an analysis of incremental effects that are not cumulatively considerable nor is there a requirement to discuss impacts which do not result in part from the project evaluated in the EIR.

Because the proposed project is the General Plan, cumulative impacts are treated somewhat differently than would be the case for a project-specific development. Section 15130 of the State *CEQA Guidelines* provides the following direction relative to cumulative impact analysis:

“Impacts should be based on a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact.”

By its nature, a general plan considers cumulative impacts insofar as it considers cumulative development that could occur within a city’s planning area over a defined timeframe.

The cumulative analysis presented in this EIR uses a projections-based approach (see CEQA Guidelines Section 15130B(1)). Land use and growth projections for the city, which are the subject of analysis throughout this EIR, are combined with the growth projections for the adjoining region. Cumulatively, development in the 2040 General Plan area may combine to result in specific impacts as growth also occurs in Fresno County over the lifespan of this 2040 General Plan. Therefore, each impact discussion in this EIR addresses the potential cumulative impact for that impact category from the allowed development under the General Plan combined with anticipated county growth. The area that includes the city of Kerman and the adjoining areas of Fresno County is referred to in this analysis as the “cumulative impact analysis area.” The population for the cumulative impact analysis area (i.e., Fresno County) is projected to grow from 1,047,440 people to 1,323,070 by 2040. However, the region immediately surrounding the city of Kerman is primarily zoned for agriculture, and no major development is anticipated. The only major project anticipated in the area is the potential realignment of SR 180 north of its current alignment on Whitesbridge Avenue. The new alignment has been adopted by Caltrans but there is no current timeline or programmed project to design and construct it at this time. The 2040 General Plan anticipates this realignment by 2040.

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4 Environmental Impact Analysis

This section discusses the possible environmental effects of the 2040 General Plan for the specific issue areas that were identified by the City, expert consultation, and NOP responses as having the potential to experience significant impacts. CEQA Guidelines §15382 define a significant effect as:

“...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.”

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the significance thresholds, which are those criteria adopted by the City and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less Than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact.

As discussed in Section 3, *Environmental Setting*, because the proposed project is a General Plan, cumulative impacts are treated somewhat differently than would be the case for a project-specific development. By its nature, a general plan considers cumulative impacts insofar as it considers cumulative development that could occur within a city's plan area. Therefore, the analysis of project impacts also constitutes the cumulative analysis. In addition to cumulative development within the

General Plan Planning Area, each impact category also considers the cumulative effects with growth and development occurring outside the General Plan Area.

Section 15065 of the *CEQA Guidelines* also requires the following specific issues be addressed as part of the environmental review for the project:

- The potential for the project to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory;
- Project impacts that are individually limited, but cumulatively considerable;¹ and
- Environmental effects of the project which will cause substantial adverse effects on human beings, either directly or indirectly.

Section 4.4, *Biological Resources*, describes the potential effects of the project on plant and animal species populations, habitats, communities, and migratory patterns. Section 4.5, *Cultural Resources*, describes The General Plan's potential effects on important historical and prehistorical cultural resources, and Section 4.15, *Tribal Cultural Resources*, describes the General Plan's potential effects on tribal cultural resources in project vicinity. As discussed in these sections, the General Plan would not result in significant and unavoidable impacts to biological, cultural, or tribal cultural resources. Potential adverse environmental effects to human beings are discussed in Section 4.3, *Air Quality*, Section 4.9, *Hazards and Hazardous Materials*, Section 4.11, *Land Use and Planning*, Section 4.12, *Noise*, Section 4.14, *Transportation*, and Section 4.18, *Less than Significant Effects*. As discussed above, each environmental analysis section of this EIR concludes with a discussion of the project's contribution to cumulative effects.

The Executive Summary of this EIR also summarizes all impacts and mitigation measures that apply to the General Plan.

¹ Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

4.1 Aesthetics

This section evaluates the proposed 2040 General Plan's potential impacts on aesthetics, including scenic vistas, scenic resources, visual character and quality, and light and glare.

4.1.1 Setting

a. Definitions

Most communities identify scenic resources as important assets that form community identity. Although the perception of what is considered "scenic" may vary based on the environmental setting, scenic resources typically include natural open spaces, unique topographic formations, natural landscapes, and aspects of the built environment such as parks, trails, cultural resources, and architecturally-significant buildings.

Viewsheds also contribute to aesthetic value because they establish the context in which scenic resources may be observed. They are typically defined by physical features that frame one or more scenic resources. For example, an area's topography can contribute to aesthetic value through the creation of view corridors and/or scenic vistas consisting of ridgelines and mountains, which can form a community's visual backdrop. Viewsheds can also include a range of resources (including natural and/or man-made elements) and thus natural and man-made environments can be considered important scenic resources worthy of preservation.

b. Existing Visual Conditions

The City of Kerman is in the central San Joaquin Valley on flat terrain. The closest significant topographical features are the bluffs along the San Joaquin River, approximately 10 miles north of Kerman. The mountains of the Coastal Range and the Sierra Nevada begin about 30 miles west and 35 miles northeast of Kerman, respectively. The city is entirely surrounded by agricultural land, farmhouses, and small ranches. The surrounding agricultural land lends the effect of a greenbelt around Kerman by promoting a strong community edge that separates urban and agricultural uses.

The built environment in the Kerman planning area is concentrated in the city limits. The city is generally characterized by medium- and low-density housing, with park facilities occurring throughout the city, and commercial corridors located mostly along State Route (SR) 180, SR 145, and West A Street. More specifically, residential development in the City is bordered by West A Street to the south, SR 180 to the north, South Goldenrod Avenue to the east, and South Kenneth Road to the west; industrial development is mostly concentrated south of West A Street; commercial development surrounds the SR 180 and SR 145 intersection, follows SR 145 south, and continues east and west along West A Street; and agricultural lands begin in the outskirts of the city limits and extend outward to fully surround the city.

c. Scenic Corridors

Scenic corridors provide an opportunity for the public to take advantage of the natural environment's aesthetic value. Scenic corridors typically pertain to roadways and visible lands outside the roadway right-of-way. There are no designated scenic corridors near or in the city of Kerman. Therefore, this issue is discussed in Section 4.18, *Effects Found Not to be Significant*.

d. Light and Glare

Existing development and motor vehicles in Kerman produce light and glare. Primary sources of light are streetlights, parking lot lighting, and automotive headlights. Glare is a visual sensation caused by excessive and uncontrolled brightness, and it can be disabling or simply uncomfortable. General sources of glare in the city include reflected sunlight from the windows of buildings, automobiles, and glass building facades.

e. Regulatory Setting

Federal

No existing federal regulations pertain to the visual resources within the Planning Area.

State

State Scenic Highway Program

Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way, that traverses an area of exceptional scenic quality. Suitability for designation as a State scenic highway is based on vividness, intactness, and unity, as described in Caltrans Scenic Highway Guidelines (2008):

- Vividness is the extent to which the landscape is memorable. This is associated with the distinctiveness, diversity, and contrast of visual elements. A vivid landscape makes an immediate and lasting impression on the viewer.
- Intactness is the integrity of visual order in the landscape and the extent to which the natural landscape is free from visual intrusions (e.g., buildings, structures, equipment, grading).
- Unity is the extent to which development is sensitive to and visually harmonious with the natural landscape.

Portions of SR 180 are designated as a Scenic Highway. However, the portion of SR 180 that borders the city of Kerman is not designated as a State Scenic Highway (Caltrans 2014). SR 145 is not listed as a Scenic Highway within the city of Kerman or the proposed SOI.

Local

City of Kerman Zoning Ordinance

The primary purpose of the Kerman Zoning Ordinance is to classify and regulate land uses to achieve the goals and vision of the community. In addition to requirements for each zone, the Zoning Ordinance includes sections that determine the physical form of development (Kerman 1990).

Select descriptions provided by the Zoning Ordinance as follows:

- **17.56 Planned Development (PD) Combining District.** The purpose of this combining district is to promote cluster development, provide for design flexibility, encourage the creation of open space areas, meet the changes in development technology and be responsive to changes in market demand. The PD combining district is designed to produce a comprehensive development that is equal to or better than that resulting from traditional lot-by-lot development.

- **17.58 Smart Development (SD) Combining District.** The purpose of the district is to promote development designs that respond to significant planning-related issues facing the San Joaquin Valley, including urbanization of agricultural land, air pollution, housing affordability, traffic, aesthetics and neighborhood deterioration. This new approach to development design has been popularized by the term "smart growth" and its purpose is to achieve the average density goals set forth by each district.
- **17.60 Industrial Corridor Combining District.** The purpose of this combining district is to provide special land development standards for property located along that portion of Madera Avenue, south of California Street that is zoned for industrial uses. All regulations contained in this combining district are deemed to be necessary for the protection of the health, safety and general welfare of the city and of owners and users of property along this corridor.
- **17.62 Accessory Structures.** The purpose of this chapter is to regulate the types and location of accessory structures within each zone district.
- **17.76 Signs.** The purpose of this chapter is to regulate the size, height, design, location, number and quality of signs in the city in order to protect the character of neighborhoods; provide a form of communication for businesses without undesirable clutter; and protect public safety and welfare by precluding signs that are visual obstructions to motorists and/or pedestrians. This chapter also encourages signs that are well designed in terms of appearance, spacing, and location.
- **17.78 Development Standards.** The purpose of this chapter is to establish reasonable and necessary standards for development in Kerman. These improvements, dedications and requirements are to assure that Kerman develops in a manner that promotes efficient and orderly community growth.

City of Kerman Sign Design Guidelines

The City of Kerman Sign Design Guidelines provide guidance on how signs are to be designed, constructed, and placed to maintain a uniform character around the city. The Sign Design Guidelines are applicable to all new signs and the modification or reconstruction of existing signs throughout the city. The Sign Design Guidelines are used during the City's review of Sign Permit applications and through the review of other permit applications when signs are a part of a larger project. Some items that the Sign Design Guidelines focus on are typefaces, placement and spacing of words, sign text, use of contrast, use of symbols and logos, color, and illumination (Kerman 2008).

City of Kerman Residential Design Guidelines

The City of Kerman Residential Design Guidelines provide guidance for orderly development and promote high-quality and diverse residential development. The Residential Design Guidelines provide property owners, project designers, and developers with a clear understanding of the City's expectations for new single-family and multifamily residential development. These guidelines are a framework for evaluation and approval of residential projects during the City's development review process. The Residential Design Guidelines focus on basic design principles, site planning, connectivity, building layout, project entry and character, building orientation, and landscaping (Kerman 2014).

City of Kerman Madera Avenue Streetscape Master Plan

The City of Kerman Madera Avenue Streetscape Master Plan is the outcome of a community-based planning process for the Madera Avenue Corridor in Kerman. The Madera Avenue Corridor includes an approximately one-mile stretch of South Madera Avenue (SR 145) between Whitesbridge Avenue (SR 180) to the north and California Street/West A Street to the south. The Madera Avenue Streetscape Master Plan highlights landscaping as a key component of urban form by adding color, texture, and vibrancy to public spaces such as medians, along sidewalks, planters, and other areas. The Streetscape Master Plan provides solutions for improving landscaping and frontage along the Madera Avenue Corridor, such as replacing large turf areas with shade trees, shrubs, and ground cover; improving street tree planting; and working with private landowners to improve vacant and underutilized land fronting the roadway. The Streetscape Master Plan also identifies gateways and wayfinding as city amenities that provide a “first impression” of the community for visitors, and provides opportunities for improving these general visual “first impressions” of the corridor (Kerman 2012).

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds

The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Reactions to the same aesthetic conditions vary based on the viewer. This section evaluates the anticipated changes in the city’s visual environment from existing conditions to buildout of the proposed 2040 General Plan. It is important to underscore that the proposed project is a General Plan and does not contain specific development proposals. This analysis therefore focuses on land use and infrastructure changes envisioned under the proposed 2040 General Plan, and their aesthetic impacts on the community in terms of arrangement of development to open space, and density and intensity of development according to the thresholds of significance discussed below.

Based on Appendix G of the *CEQA Guidelines*, the proposed 2040 General Plan would have a significant impact if it would:

1. Have a substantial adverse effect on a scenic vista;
2. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
3. Substantially degrade the existing visual character or quality of public views of the site and its surroundings in non-urbanized areas. Or, if the project is in an urbanized area, would conflict with applicable zoning and other regulations governing scenic quality;
4. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

See Section 4.18, *Effects Found Not to be Significant*, for discussion of threshold 2, as there are no state scenic highways in the city. In addition to the checklist questions above, this section also addresses potential land use conflicts between urban and agricultural uses.

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan have a substantial adverse effect on a scenic vista?

Impact AES-1 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD FACILITATE DEVELOPMENT THAT WOULD ADVERSELY AFFECT SCENIC VISTAS AND/OR VIEWS OF SCENIC NATURAL OR ARCHITECTURAL RESOURCES. WITH IMPLEMENTATION OF PROPOSED GENERAL PLAN POLICIES THAT PROTECT SCENIC VIEWS, THE IMPACT ON SCENIC VISTAS AND RESOURCES WOULD BE LESS THAN SIGNIFICANT.

The closest significant topographical features to the city are the bluffs of the San Joaquin River, approximately 10 miles north. The mountains of the Coastal Range and the Sierra Nevada begin approximately 35 miles southwest and northwest of Kerman, respectively (Kerman 2007). Kerman's city limits are surrounded entirely by agricultural land, farmhouses, and small ranches, which give the City a greenbelt effect. The rural agricultural character surrounding the city provides scenic views. There are no officially designated scenic viewsheds, corridors, or State-designated scenic highways within the Planning Area. According to the 2040 General Plan, preservation of the long-distance vistas of the Sierra Nevada and the Coast Ranges, agriculture fields, or other local view-points are important to the community. Therefore, loss of open space and significant urbanization would be considered a significant impact to the city's scenic vistas.

Implementation of the 2040 General Plan could have significant adverse impacts on scenic views of the above-described natural and man-made features within the 2040 General Planning Area. As residential, commercial, and industrial urbanization occurs, the amount of man-made improvements could replace the existing open space, agricultural fields, and/or open land.

The proposed 2040 General Plan land use map is consistent with the existing 2007 General Plan land use map, which indicated substantial urbanization of open space would occur primarily on parcels north of California Avenue, between Whitesbridge Road and Nielsen Avenue, directly east of Goldenrod, and between Siskiyou and Modoc Avenues.

The proposed 2040 General Plan contains several policies that demonstrate no potential adverse effects to the city's scenic vistas would occur as a result of new development and urbanization of existing open space. Implementation of and adherence to the following policies of the Land Use Element and the Conservation, Open Space, Parks and Recreation Element of the 2040 General Plan would reduce significant impacts to the city's scenic vistas and resources.

Land Use Element Goals and Policies

- **Goal LU-2:** To enhance the design, character, and vibrancy of Kerman as a family-friendly hometown community representative of the Central Valley.
 - **Policy LU-2.1: Attractive Community.** The City shall continue to promote a clean, well-maintained community.
 - **Policy LU-2.2: Natural and Rural Features.** The City shall emphasize its natural and rural features, such as mature trees and agricultural crops, as the community's visual framework.
 - **Policy LU-2.3: Neighborhood Atmosphere.** The City shall continue to actively preserve Kerman's single-family residential neighborhood atmosphere.
 - **Policy LU-2.4: Architectural Character.** During the development review process, the City shall review new projects and major renovations to ensure that the project design and architectural character complements the character of the surrounding neighborhood.

- **Policy LU-2.5: High-Quality Design.** During the development review process, the City shall encourage new projects to incorporate high-quality site, architectural, and landscape design.
- **Policy LU-2.6: Gateway Features.** The City shall develop gateway features at Kerman's four major entryways to boost city identity. Gateway features may include special architectural elements such as signage, enhanced lighting, corner towers, and/or unique landscaping treatments.
- **Policy LU-2.7: Streetscape Improvements in the Historic Townsite.** The City shall continue to improve the public realm, particularly in Kerman's historic townsite along Madera Avenue from Kearney to California Avenues, through streetscape improvements to enhance its visual appearance. Improvements shall include installing attractive street light posts, implementing branding features, constructing a continuous sidewalk network, removing barriers from sidewalks that obstruct access, installing street furniture and landscaping, placing decorative trash receptacles and other decorative features, and supporting facade improvements.
- **Policy LU-2.8: Utility Service Line Placement.** During the development review process, the City shall require that new development projects place utility service lines underground or parallel to existing utility rights-of-way, wherever feasible, to minimize their visual impact.
- **Goal LU-3:** To create a land use pattern that protects agricultural and open space lands by promoting compact and centralized urban growth around the historical Kerman townsite.
 - **Policy LU-3.1: Strong Community Edge.** The City shall develop and maintain a strong community edge that clearly separates urban and agricultural uses, including through the use of man-made or natural barriers such as streets, railroads, and canals.
 - **Policy LU-3.2: Sphere of Influence Maintenance.** The City shall maintain the Sphere of Influence to proactively plan and logically provide for growth of the community (see Figure 3-2.)
 - **Policy LU-3.3: Prevent Sprawl Development.** The City shall direct new development to areas that are contiguous to existing or approved development and prevent sprawl development.
 - **Policy LU-3.4: Leapfrog Development.** The City shall require the Planning Commission and City Council to make a finding before approving new subdivisions that are more than 1/8 mile from existing urban development.
 - **Policy LU-3.5: Increase Density and Intensity within City Limits.** The City shall prioritize increase overall residential densities and building intensities within current City limits to prevent development on surrounding agricultural lands.
 - **Policy LU-3.6: Infill and Renovation.** The City shall encourage infill of vacant commercial properties and renovation of existing commercial structures to reduce the rate at which surrounding agricultural land is urbanized and to provide for a more efficient use of existing infrastructure.

Conservation, Open Space, Parks and Recreation Element Goals and Policies

- **Goal COS-1:** To preserve and expand undeveloped open space areas in Kerman to meet the current and future needs of the community and support natural habitats.
 - **Policy COS-1.1: Access to Open Space.** The City shall strive to improve and provide community access to open space, while environmentally responsible and economically viable.

- **Policy COS-1.2: Visual Resources Protection.** The City shall reserve the existing scenic qualities of the community by regulating entryways, view preservation, and landscaping.
- **Policy COS-1.3: Landscaping Buffers.** The City shall integrate landscaping buffers that contribute to neighborhood character to increase safety at the park, and to reduce negative impacts on adjacent residences.
- **Policy COS-1.4: Landscape and Lighting Districts.** The City shall require proposed subdivisions to establish landscape and lighting districts to fund maintenance of open space areas.

Policies LU-2.1 through LU-2.8 set requirements to analyze and reduce impacts to the community character and aesthetics to maintain the existing low-density residential appearance. Policies LU-3.1 through LU-3.6 would prevent sprawl and leapfrog development by prioritizing infill and increased density and intensity within the city limits, thereby preserving the surrounding agricultural areas and preserving scenic views. Policy COS-1.2 in the Conservation, Open Space, Parks and Recreation Element specifically requires reserving “the existing scenic qualities by regulating entryways, view preservation, and landscaping.”

While increasing density and intensity can change the appearance of the area within the city, implementation to the above policies during the design and development of new buildings would maintain the existing scenic character of the built environment of Kerman. Therefore, development within the 2040 General Plan would not adversely affect the existing rural setting and visual resources. No impacts on scenic vistas and resources would occur because new development projected by General Plan 2040 would not have a substantially adverse effect on scenic views of the city’s rural setting, San Joaquin River bluffs, or Sierra Nevada Mountains.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

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

Impact AES-2 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD PROTECT KERMAN’S SMALL TOWN, RURAL CHARACTER BY DIRECTING URBAN DEVELOPMENT TO EXISTING URBANIZED AREAS AND PRESERVING AGRICULTURAL LANDS WITHIN THE NEW 2040 GENERAL PLAN BOUNDARIES. COMPLIANCE WITH EXISTING STANDARDS AND PROPOSED GENERAL PLAN POLICIES WOULD ENSURE THAT NEW DEVELOPMENT COMPLEMENTS AND ENHANCES THE CITY’S EXISTING VISUAL CHARACTER AND QUALITY. THEREFORE, THE PROJECT WOULD HAVE A LESS THAN SIGNIFICANT IMPACT ON VISUAL CHARACTER AND QUALITY.

As discussed, 4.1.1, *Setting*, Kerman is a small town with a rural atmosphere owing to its relatively compact development pattern and the prominence of natural resources like open space, agricultural land, and surrounding mountain ranges. The 2040 General Plan’s overall land use vision would preserve the city’s existing development pattern through targeted infill development.

The proposed 2040 General Plan would extend the Planning Area boundaries to Howard Avenue to the east, Belmont Avenue to the North, Lassen Avenue to the west, and Jenson Avenue to the south. Based on the land use designations shown on the 2040 General Plan land use diagram, the Planning Area boundary would effectively create a greenbelt that reinforces a strong community edge that clearly separates urban and agricultural uses surrounding the city. The 2040 General Plan land use diagram keeps the expanded areas designated for agriculture consistent with the current Fresno County General Plan agricultural designation and encourages future growth to occur within or adjacent to city limits and not extend outside the SOI. This greenbelt would provide a buffer between the residential, commercial, and industrial development within the city limits and preserve the existing agricultural land adjacent to and beyond the SOI to maintain agricultural lands and rural character of the city.

The following 2040 General Plan proposed policies would ensure new developments would preserve the existing visual character and quality of the City.

Land Use Element Goals and Policies

- **Goal LU-2:** To enhance the design, character, and vibrancy of Kerman as a family-friendly hometown community representative of the Central Valley.
 - **Policy LU-2.2: Natural and Rural Features.** The City shall emphasize its natural and rural features, such as mature trees and agricultural crops, as the community's visual framework.
 - **Policy LU-2.4: Architectural Character.** During the development review process, the City shall review new projects and major renovations to ensure that the project design and architectural character complements the character of the surrounding neighborhood.
 - **Policy LU-2.5: High-Quality Design.** During the development review process, the City shall encourage new projects to incorporate high-quality site, architectural, and landscape design.
 - **Policy LU-2.6: Gateway Features.** The City shall develop gateway features at Kerman's four major entryways to boost city identity. Gateway features may include special architectural elements such as signage, enhanced lighting, corner towers, and/or unique landscaping treatments.
 - **Policy LU-2.8: Utility Service Line Placement.** During the development review process, the City shall require that new development projects place utility service lines underground or parallel to existing utility rights-of-way, wherever feasible, to minimize their visual impact.

Housing Element Goals and Policies

- **Policy HE-1.3: Direct Growth to Urban Areas.** The City shall continue to direct new growth to urban areas in order to protect natural resources.

Conservation, Open Space, Parks and Recreation Element Goals and Policies

- **Policy COS-1.2: Visual Resources Protection.** The City shall reserve the existing scenic qualities of the community by regulating entryways, view preservation, and landscaping.

Proposed policies in the 2040 General Plan would promote the preservation of scenic natural resources and the development of visual transitions to the city. Implementation of the policies LU-2.2, LU-2.4, LU-2.5, LU-2.6, LU-2.8, HE-1.3, and COS-1.2 would provide a sense of transition between

active farmland within the planning area and development within the city, as well as visually attractive gateways into Kerman.

As discussed above, the 2040 General Plan would protect the city of Kerman's small town, rural community character by maintaining residential development scale and densities, enhancing the four major entryways into the city, and providing regulations to preserve the existing scenic qualities of the community. All new development and modification to existing structures would also be subject to existing design, density, and height standards applicable to specific land use and zoning designations. Compliance with established standards and the above policies proposed in the 2040 General Plan would ensure that new development complements and enhances the City's existing visual character and quality. Therefore, the project would have a less than significant impact on visual character and quality.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 4: Would the General Plan create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Impact AES-3 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD INCREMENTALLY INCREASE THE AMOUNT OF LIGHT AND GLARE IN THE CITY, THROUGH THE INTRODUCTION OF NEW DEVELOPMENT AND INCREASED NUMBER OF VEHICLES. THE EFFECTS OF THIS GRADUAL INCREASE WOULD BE REDUCED BY POLICIES IN THE 2040 GENERAL PLAN, AS WELL AS THE CITY MUNICIPAL CODE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The 2040 General Plan would facilitate new development that could introduce new sources of light and glare within the city, resulting in increased ambient nighttime lighting. New sources of light and glare could be installed for infill development, new development in currently vacant or undeveloped lots, or modification of existing buildings. Specific sources would include streetlights, light fixtures in parking lots, signage on businesses, exterior building illumination, interior lighting passing through building design, and outdoor lighting at recreational facilities. Reflective building and vehicles surfaces, and the headlights of motor vehicles could generate additional glare.

Adherence to proposed 2040 General Plan policies and existing Municipal Code regulations would minimize adverse effects from light spillover to nearby properties and glare. Lighting requirements vary based on development type and zoning district, which need to be consistent with 2040 General Plan land use designations as outlined in the Land Use Element. There are no proposed 2040 General Plan policies that would specifically minimize sky glow (i.e., the brightness of the sky at nighttime from the emission of upward light). However, policies LU-1.4 and LU-1.5 would retain single family residential neighborhoods and encourage future development near commercial, parks and schools; this would concentrate new sources of potential light and glare to areas of the city with existing light pollution and reduce impacts to daytime or nighttime views in the area. Additionally, existing performance standards for light and glare are in the Kerman Municipal Code Chapter 17.14. During site plan review, according to these standards, "The site plan shall clearly indicate the following information: Exterior lighting indicating direction of illumination, type of luminaire, and hooding or shielding devices." This chapter indicates regulation of lighting is subject to review by the

city planner during the site plan review process or when conditions of approval are deemed necessary to protect the public health, safety, and welfare (Kerman 1990).

The following 2040 General Plan proposed policies would ensure new developments would address impacts due to new sources of light and glare within the city.

Conservation, Open Space, Parks and Recreation Element Goals and Policies

- **Policy COS 1.3: Night Skies Protection.** The City shall protect dark/night skies by encouraging measures that direct outdoor lighting downward and away from open space areas, without compromising the safety and security of the community.
- **Program COS-A: Dark Skies Ordinance.** The City shall adopt a Dark Skies Ordinance to establish lighting standards. The City shall prepare the ordinance through guidance from the Model Lighting Ordinance approved by the International Dark-Sky Association and the Illuminating Engineering Society of North America.

Individual projects facilitated by the proposed 2040 General Plan would be subject to CEQA review. New lighting associated with these projects would be reviewed on an individual basis and would be regulated by the City's Municipal Code. Adherence to existing City lighting requirements, the 2040 General Plan policies would reduce impacts to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Cumulative development in the 2040 General Plan planning area would intensify urban development within the City limits. This new development would incrementally contribute to regional urbanization in Fresno County. However, the overall land use vision and policies in 2040 General Plan would ensure the visual compatibility of new development with the existing community and would minimize degradation of scenic resources. Therefore, the 2040 General Plan would not have a considerable contribution to a significant cumulative impact on aesthetics.

4.2 Agricultural Resources

This section evaluates impacts on agricultural resources from implementation of the 2040 General Plan. The discussion and analysis in this section include direct impacts associated with the conversion of agricultural land to non-agricultural use in the Planning Area and potential indirect impacts to adjacent agricultural operations.

4.2.1 Setting

a. California Agriculture

California agriculture ranks first in the nation in productivity and its 77,100 farms and ranches earned \$50.13 billion for their products in 2017, which is slightly more than the previous year. California produces over 400 commodities and nearly half of all U.S. grown fruits, nuts, and vegetables on its 25.3 million acres of farmland (USDA 2018).

b. Regional Agriculture

Agriculture consisting of crop farming is the largest industry in Fresno County and contributes a substantial amount of activity to the Fresno County's economy. Similar to the city of Kerman, almonds and grapes are some of the most important crops in Fresno County. Almonds represented 19.4 percent of the total crop and livestock value in Fresno County in 2016 with a value of \$1,201,052,000 while grapes held the number two spot valued at \$715,428,000 in 2016 (Fresno County 2016). Fresno County is 1 of 11 California counties with a billion dollars or more in annual crop value. According to the 2016 Fresno County Annual Crop & Livestock Report, the gross value of agricultural production in 2016 for the County was \$6,183,960,100 (Fresno County 2016).

c. Local Agriculture

The economy of the Kerman area depends primarily upon agriculture and agriculture-related industries. About three-quarters (5,940 acres) of the 7,793 acres in the Planning Area is currently (2018) used for agricultural purposes (i.e., permanent crops and irrigated field crops). The primary crops grown in the Kerman area include raisin grapes, almonds, cotton, and alfalfa. Vineyards and orchards are the principal crops found north and east of Kerman, while row crops are predominant in the south and west. Since 1970, growth in Kerman has removed about 10 acres of farmland from production each year (Kerman 2019).

d. Important Farmlands

The State mapping of significant farmlands as part of a national Important Farmland Inventory System (additional detail provided in the Regulatory Setting section below) identifies those agricultural lands that are of Prime Importance, Statewide Importance, Unique, Locally Important, and Grazing Land. These designations indicate which lands are used for cultivation compared to the Soil Conservation Service's Land Capability Classification system which rates soils for their potential to support cultivation. A description of each of the five categories is provided below.

- **Prime Farmland.** Prime farmland is land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must

have been used for the production of irrigated crops at some time during the two update cycles prior to the most recent mapping date.

- **Farmland of Statewide Importance.** Farmland of statewide importance is land similar to prime farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date.
- **Unique Farmland.** Unique farmland is land of lesser quality soils used for the production of the state's leading agricultural crops (i.e., crops of high economic value, such as oranges, olives, avocados, rice, grapes, and cut flowers). This land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones of California. The land must have been cultivated at some time during the two update cycles prior to the mapping of 2008.
- **Farmland of Local Importance.** Farmland of local importance is land that is important to the local agricultural economy, as determined by each County's Board of Supervisors and a local advisory committee. In Fresno County, farmland of local importance has been identified as soils that are listed as prime farmland or farmlands of statewide importance that are not irrigated, and soils growing dry land crops – beans, grain, dry land walnuts, and dry land apricots.
- **Grazing Land.** Grazing land is land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres.

Table 4.2-1 illustrates inventoried land in the city of Kerman, designated by the California Department of Conservation (DOC), which includes Important Farmlands as well as other land uses, such as Urban and Built-Up Land.

Figure 4.2-1 indicates that nearly 100 percent of the agricultural land within the Planning Area is considered either "Prime Farmland, Farmland of Local Importance, or Farmland of Statewide Importance" by the DOC. About three-quarters (5,940 acres) of the 7,793 acres in the Planning Area is currently (2018) used for agricultural purposes (permanent crops and irrigated field crops). Unique Farmland is located south of Kearney Boulevard along the western, southern, and eastern areas of the Planning Area outside of the City limits. Farmland of Statewide Importance is located primarily west of Goldenrod Avenue along the northern, western, and southern portions of the Planning Area outside the City limits. The 2040 General Plan would preserve the agricultural lands within the Planning Area indicated by the FMMP as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance by designating the land use in these areas as Agriculture or Urban Reserve.

Farmland of Local Importance is located primarily within the City limits from Whitesbridge Road to Kearney Boulevard, areas south of California Avenue, and areas south of A Street. Within the Planning Area, the Farmland of Local Importance is located north of Whitesbridge Road between Modoc Avenue and Lassen Avenue.

Table 4.2-1 Important Farmland Totals in the City of Kerman

Farmland Designation	Acres	Percent of Inventoried Land
Prime Farmland	4,900.67	62.89
Farmland of Statewide Importance	551.36	7.07
Unique Farmland	350.69	4.50
Farmland of Local Importance	136.89	1.76
Grazing Land	0.00	—
Important Farmland Subtotal	5,939.61	76.22
Urban and Built-Up Land	1562.67	20.05
Other Land	290.78	3.73
Water Area	0.00	—
Total Area Inventoried	7,793.06	100.00

Source: Department of Conservation 2016; See Table 6-3 of the 2040 General Plan Background Report (Kerman 2019)

Table 4.2-1, as shown above, reports that approximately 5,900 acres of land within the Planning Area was considered Important Farmland in 2019.

e. Williamson Act Contract Land

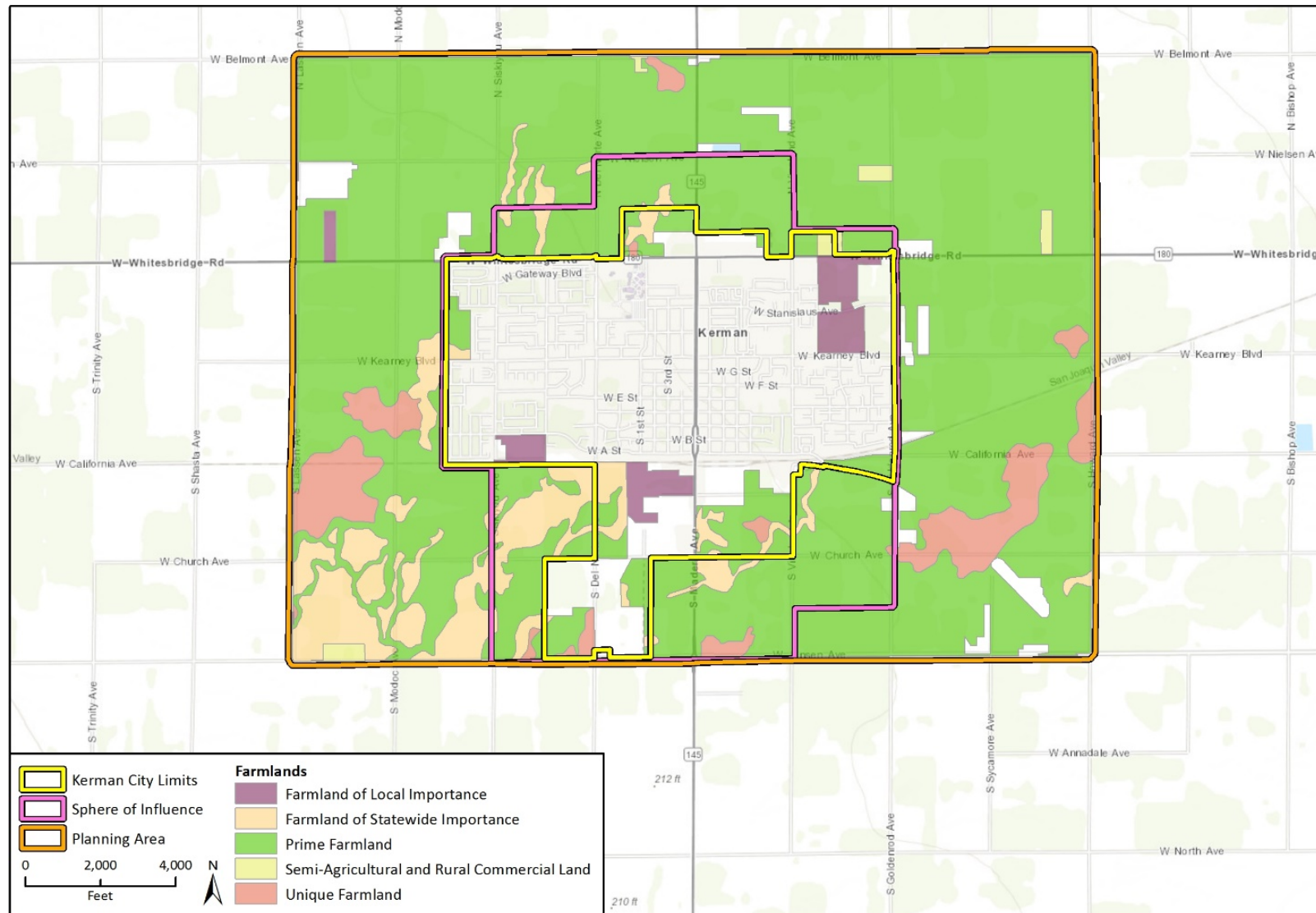
The Williamson Act was legislated by the State of California in 1967 to slow the loss of prime agricultural land to urban land uses. The Act provides property tax incentives for landowners who make a commitment to maintain their land in agricultural preserve contracts for a period of 10 years. Williamson Act contracts in Fresno County are automatically renewed on an annual basis unless a Notice of Non-renewal is filed with the Fresno County Assessor. After filing a Notice of Non-renewal, a landowner must wait for a period of 10 years before converting the land to non-agricultural uses. City and County governments may immediately cancel Williamson Act contracts only after making mandatory findings concerning the availability of alternate lands, the effect on adjacent agricultural lands, and the public need for the land. These findings are set forth in Section 51282 of the Government Code. Government Code Section 51284 states that no contract may be canceled without holding a duly noticed public hearing on the matter.

Approximately 2,850 acres within the Planning Area are under Williamson Act contracts. Figure 4.2-2 illustrates Williamson Act contract land within the Planning Area. Most of the parcels have been under Williamson Act contracts for more than 30 years. Almost all of the annexations within the city of Kerman over the last 30 years have been contiguous to existing urban development and on an “as needed” basis to provide land for additional urban growth. If necessary, Williamson Act contracts have been canceled during the annexation process to provide additional land for urban development.

f. Conversion of Farmlands in the Region

Conversion of farmlands is the loss of farmlands due to development or land use changes that do not support agricultural production. The DOC Farmland Mapping and Monitoring Program (FMMP), which updates its maps biennially, provides land use conversion information for decision makers to use in their planning for the present and future of California’s agricultural land resources.

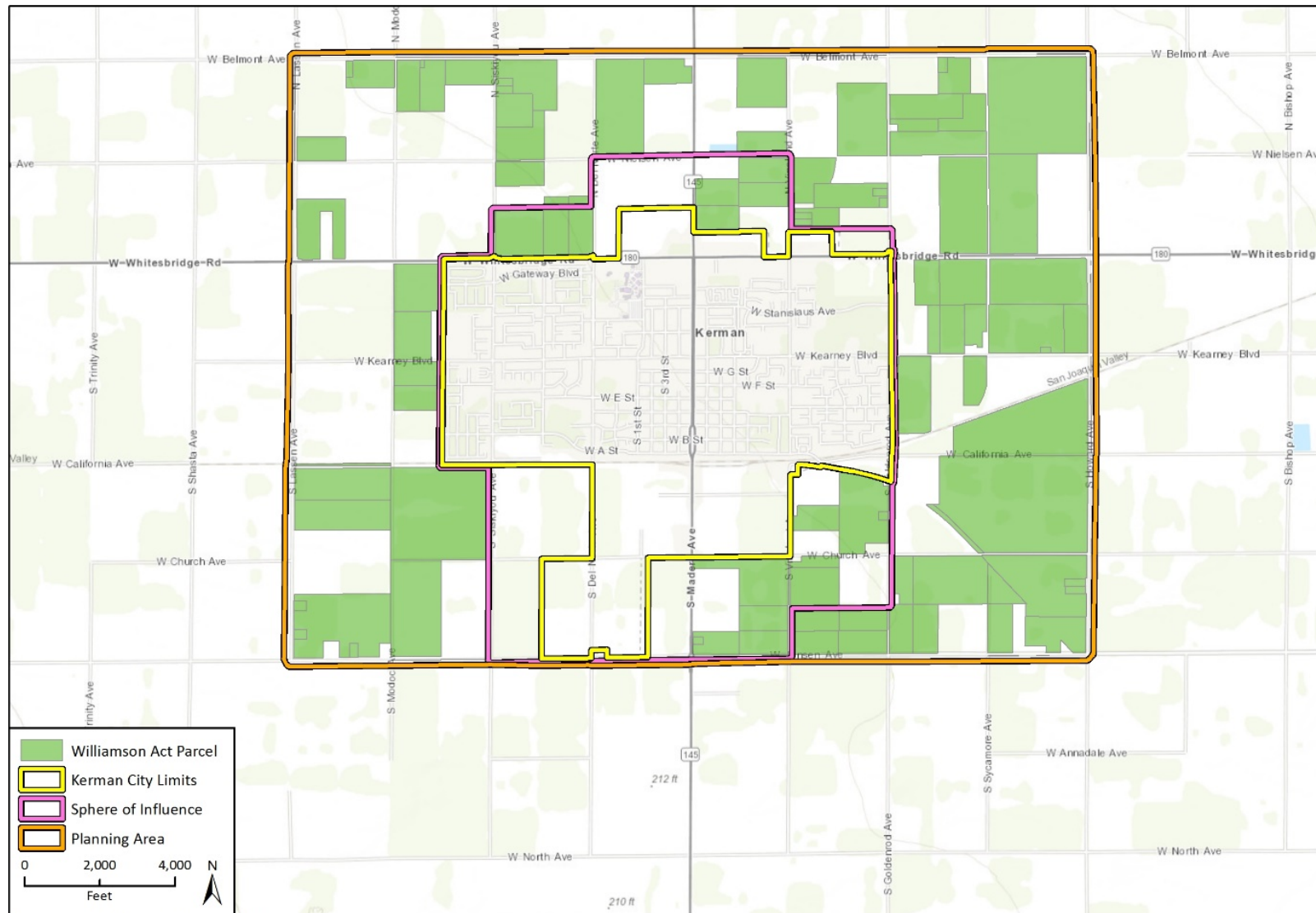
Figure 4.2-1 Important Farmlands



Basemap provided by Esri and its licensors © 2019.
Additional data provided by intier Harnish, 2018; City of Kerman, 2018; Fresno County, 2018, California Department of Conservation, 2016.

Fig 4.2-1 Farmlands

Figure 4.2-2 Williamson Act Contract Land



Basemap provided by Esri and its licensors © 2019.
Additional data provided by Intier Harnish, 2018; City of Kerman, 2018; Fresno County, 2018; California Department of Conservation, 2016.

Fig 2.2-2 Williamson Act Land

Agricultural/Urban Interface Issues

Development in and adjacent to agricultural areas in the Planning Area can create a variety of potential conflicts for both growers and urban uses. Existing areas of potential conflict are located to the east, south, and northwest of the Planning Area where there is active agricultural production adjacent to sensitive land uses such as residences. Potential agricultural/urban land use conflicts can arise from the following activities, among others:

Potential Concerns for Urban Neighbors

- Pesticide use and/or dust problems in vicinity of residential neighborhoods, particularly near schools
- Odors and health concerns associated with fertilizer/pesticide application and livestock
- Noise related to farming equipment or farm worker activities
- Farmworker parking

Potential Concerns for Agricultural Interests

- Restrictions on activity arising from neighbor concerns/complaints
- Loss of revenue and competitiveness
- Competition for water and land

g. Regulatory Setting

State

Farmland Mapping and Monitoring Program

The DOC's FMMP monitors the conversion of the State's farmland to and from agricultural uses. The FMMP uses County-level data to prepare a series of maps that identify eight classifications and uses based on a minimum mapping unit size of 10 acres. The program also produces a biennial report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of State agricultural land and updates the Important Farmland Series Maps every two years. The FMMP is an informational service only and does not constitute State regulation of local land use decisions. Agricultural land is rated according to several variables, including soil quality and irrigation status with Prime Farmland being considered the most optimal for farming practices. Other FMMP designations include Farmland of Local Importance, Grazing Land, and Water.

Land Conservation Act

Commonly known as the Williamson Act (California Administrative Code Section 51200 et seq.), the California Land Conservation Act of 1965 creates a legal arrangement whereby private landowners contract with local governments to voluntarily restrict land to agricultural and open space uses, protecting it from unnecessary or premature conversion to urban uses. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use rather than potential market value, which saves landowners from 20 percent to 75 percent in property tax liability each year.

Generally, Williamson Act contracts have an initial term of 10 years, with renewal occurring automatically each year thereafter. The contracts run with the land and are binding on all

succeeding landowners. Land must be in an agricultural preserve to enter into a Williamson Act contract. Agricultural preserves under a Williamson Act contract must contain at least 100 contiguous acres of agricultural land unless specific findings are made. Fresno County, in its implementation on prime agricultural land, has generally included all lands zoned AE-20 within an agricultural preserve and requires Williamson Act contracts to be a minimum of 20 acres in size consistent with the AE-20 zoning.

Non-renewal initiations are requested either by the landowner or the local government and are often filed in anticipation of converting farmland to other uses. Most contracted land is terminated through non-renewal. Upon the expiration of the contract, the restrictions are removed and the property tax assessment, which had been gradually increasing over the previous nine-year non-renewal period, returns to full market value.

Local

Local Agency Formation Commission (LAFCo) Boundary Controls

Under the Cortese-Knox-Hertzberg Act, each county has a Local Agency Formation Commission (LAFCo) with the power to review and decide on proposals for the expansion of city or special district boundaries. LAFCOs lack official authority over land use, but their boundary decisions, especially those dealing with city expansions, can influence the local pattern of urbanization and its impact on agricultural land.

The Fresno County LAFCo is a five-member body with two county representatives, two city representatives, and one public member. There are also three alternate members: one county representative, one city representative, and one public member. There are three members of the LAFCo Counsel supported by LAFCo staff. State law requires LAFCOs to consider agricultural land and open space preservation in all decisions related to expansion of urban development.

General Plan Land Use Designation

The 2040 General Plan designates lands that are currently used for agricultural production, or have the capacity to support farming, as well as associated and supportive uses, such as packing houses, dairies, and other livestock operations as Agriculture (AG). The purpose of this designation is to protect agriculture from urban encroachment, maintain land in agriculture until the time is appropriate for conversion to urban uses, and to ensure that conflicts do not arise between agriculture and urban uses.

Typical Uses include:

- Crop production, grazing, livestock raising facilities, dairies
- Packing houses, feed/grain storage
- Farmworker employee housing
- Natural open space areas

Zoning Ordinance

The City of Kerman Zoning Ordinance does not have a specific agricultural zone; however agriculture is an allowed use in the Urban Reserve (UR), Open Space, Recreation, Public Facilities (O), Rural Residential (RR), Light Manufacturing/Light Industry (M-1), and the Heavy Manufacturing/General Industry (M-2) zoning districts (Kerman 1990). Chapter 17.32 (UR) and Chapter 17.34 (O) of the

Zoning Ordinance is intended to preserve and protect agricultural uses, support continued agricultural operations, and alert prospective residents to the importance of agricultural land provisions (Kerman 1990b; Kerman 1990c). Chapters 17.36 (RR) is intended to allow for low density residential development on large lots in order to preserve the rural character of Kerman, allow for agricultural uses and serve as a transition area between urbanizing lands and agriculture (Kerman 1990d).

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds

An impact is considered significant if physical changes that could be facilitated by buildout of the General Plan Update would result in one or more of the following conditions, which are based upon the environmental checklist in Appendix G of the *CEQA Guidelines*:

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))
4. Result in the loss of forest land or conversion of forest land to non-forest use
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use

See Section 4.18, *Effects Found Not to be Significant*, for discussion of thresholds 3 and 4, as there are no timberland or forestlands in the city. In addition to the checklist questions above, this section also addresses potential land use conflicts between urban and agricultural uses.

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the General Plan convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
Threshold 5:	Would the General Plan 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?

Impact AG-1 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD ENCOURAGE THE CONTINUED OPERATION OF EXISTING AGRICULTURE IN, AND SURROUNDING, THE CITY. BUILDOUT OF THE 2040 GENERAL PLAN WOULD RESULT IN THE CONVERSION OF ACTIVE AGRICULTURAL LAND, BUT THIS CONVERSION WOULD BE OFFSET BY A POLICY REQUIREMENT TO PRESERVE AN EQUAL AMOUNT OF LIKE AGRICULTURAL LAND. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The economy of the Kerman area is dependent upon agricultural industries. In 2018, about three-quarters of the lands in Kerman's Planning Area was used for agricultural purposes (Kerman 2019). As mentioned in Section 4.2.1, *Setting*, nearly 100 percent of the Planning Area's agricultural land is designated by the DOC's FMMP as Prime Farmland, Farmland of Local Importance, Farmland of Statewide Importance or Unique Farmland. The 2040 General Plan would result in changes to the existing land use designations by allowing the conversion of existing Prime Farmland, Unique Farmland and Farmland of Statewide Importance, specifically within the Sphere of Influence (SOI) to be converted to a mix of land uses, primarily for residential, industrial, or office use and would establish an urban reserve as shown in the 2040 General Plan Land Use Map in Section 2, *Project Description*, Figure 2-4. Provision of additional land adjacent to the City of Kerman for urban uses provides for orderly urban development and reduces the pressure on converting agricultural lands within more rural Fresno County to urban uses, which would have a greater impact on commercial agricultural operations in the region. Nevertheless, buildout of the 2040 General Plan would result in the loss of agricultural lands as indicated by the FMMP. Implementation of an Agricultural Mitigation Program to mitigate the loss of agricultural land to urban development within the SOI by preserving an equivalent amount and type of agricultural land would offset this impact.

Residential development adjacent to agricultural land can have several negative impacts on the continuation of agricultural activities. For example, clearing and grading activities during construction could create excessive dust that could temporarily affect agricultural productivity (see Section 4.3, *Air Quality*). However, the emission of dust particulates during construction activity would be reduced by implementation of best management practices in Mitigation Measure AQ-1, which include watering of exposed soils as needed; enclosure, covering, or watering of exposed piles of construction debris; limiting vehicle speeds on-site; and securely covering all loads on haul/dump trucks.

The placement of residences adjacent to cultivated agriculture can have adverse economic impacts. Increased regulations and liability insurance to protect the farmer from adjacent urban uses cost time and money. Some farmers whose operations may be sensitive to nearby residences voluntarily limit their hours of operation and do not intensively use the portions of their property closest to urban uses, in effect establishing informal buffer zones on their own property. This has the effect of lowering crop yields, which can potentially affect the long-term economic viability of the agricultural

operation. This could ultimately cause the loss of agricultural production due to cessation of operations if the economic impacts become severe enough.

Those residing adjacent to agricultural land commonly cite odor nuisance impacts, noise from equipment, dust, and pesticide spraying as typical land use conflicts. Pesticide use on nearby crops and the suspension of dust from operation of equipment and earth-moving activities could create health concerns for residents. Additionally, odors from fertilizers, herbicides, pesticides, and equipment exhaust can be incompatible with residential uses.

Residential development next to agricultural uses could expose these urbanized uses to the above referenced issues and also result in reduced property values along the interface with agricultural uses. In turn, these potential incompatibilities could result in the generation of nuisance complaints, which can in turn adversely affect agricultural resources. The City of Kerman's Land Use Element, Goal LU-3 and policies LU-3.1 to LU-3.5 would be implemented to create a land use pattern in the city to protect the agricultural and open space lands by promoting compact and centralized urban growth around the existing Kerman city limits.

By design, the 2040 General Plan would focus future development in underdeveloped areas and prioritize infill development where there is sufficient infrastructure capacity and public services. One of the themes of the 2040 General Plan is to have agricultural farming practices and urban uses exist harmoniously with conflicts limited through buffers at the City's edge. The 2040 General Plan policies that would protect agricultural resources, particularly prime agricultural land, from premature future development are Goal LU-4 and Policies LU-4.1 to LU-4.4.

The Conservation, Open Space, Parks and Recreation Element of the 2040 General Plan would provide conservation and protection of natural resources for agricultural use, the Economic Development Element would support and expand the agricultural industry and related tourism; while the Land Use Element is designed to protect the continued operation of agricultural lands in and around Kerman.

Conservation, Open Space, Parks and Recreation Element Goals and Policies

Goal COS-4: To effectively manage water resources by adequately planning for the development, conservation, and protection of water resources for present and future generations.

- **Policy COS-4.4: Water for Agricultural Uses.** The City shall work with the appropriate agencies to effectively manage water quantity and quality to ensure long-term, adequate availability of water for agricultural uses.
- **Policy COS-4.7: Water Conservation Education.** The City shall continue to promote educational programs on routine water conservation practices for households, as well as educational programs targeted toward reducing water consumption on agricultural lands.

Economic Development Element Goals and Policies

Goal ED-2: To support the continued economic viability of the agricultural sector as an integral business to the city.

- **Policy ED-2.1: Center for Agritourism.** The City shall strive to establish its reputation as a center for agritourism in the state.
- **Policy ED-2.2: New Agricultural Technologies.** The City shall attract technologies to the Kerman area that are related to the agricultural economy industry, including plant breeding, nurseries, integrated pest management, and agricultural chemical companies.

- **Policy ED-2.3: Value-Added Production.** The City shall promote the production of “value-added” crops to maximize the economic benefit of Kerman’s agricultural industry and ensure its continued success.
- **Policy ED-2.4: Collaboration with Business Organizations.** The City should work with the Fresno County Farm Bureau, Fresno County Office of Tourism, and the Kerman Chamber of Commerce to encourage tours, dissemination of agriculturally-related news releases, and information regarding agricultural cluster industries in the Kerman area.
- **Policy ED-2.5: Agricultural Business Programs.** The City shall support programs that assist and educate farmers in diversifying their products and establishing expertise in a niche or specialty farming area, such as a specialty crop or organic farming.

Land Use Element Goals and Policies

Goal LU-4: To protect agricultural resources in Kerman, particularly prime agricultural land.

- **Policy LU-4.1: Agricultural Land Preservation.** The City shall preserve and protect agricultural lands by directing development to areas within City limits that are designated for urban-level development, and away from agriculturally-designated land to preserve open space and agricultural areas.
- **Policy LU-4.2: Agricultural Conservation Easements.** Agricultural Conservation Easements. The City shall develop an Agricultural Mitigation Program to mitigate the loss of agricultural land to urban development within the SOI. This program shall be consistent with the California Department of Conservation’s recommendations for the development of an Agricultural Mitigation Program to mitigate for the loss of prime agricultural land at a ratio of 1:1
- **Policy LU-4.3: Agricultural Zoning within SOI.** The City shall continue to encourage Fresno County to apply large-lot agricultural zoning (20-acre minimum) to unincorporated land within Kerman's SOI.
- **Policy LU-4.4: Opposition to Projects within SOI.** The City of Kerman shall oppose any development within its SOI that creates parcels of less than 20 acres.

The 2040 General Plan goals and policies would protect and preserve the agricultural resources within the Kerman Planning Area and minimize potential land use conflicts. These policies would promote growth of agricultural businesses, provide disclosure of agricultural activity, and encourage low density development adjacent to agricultural uses. However, implementation of the goals and policies of the 2040 General Plan listed above would not ensure the preservation of all agricultural land in the Planning Area. Policy 4.2 requires that the City’s Agricultural Mitigation Program be consistent with the DOC recommendations for such programs which include the following:

- Implement an Agricultural Mitigation Program
- Grant perpetual conservation easement(s), deed restriction(s), or other farmland conservation mechanism(s) to the qualifying entity which has been approved by the City to account for any farmland that is converted to non-agricultural uses.
- Make an in-lieu fee payment to a qualifying entity to be applied toward the future purchase of farmland to mitigate for the losses related to farmland, together with an endowment amount as may be required.
- Make an in-lieu payment to a qualifying entity to be applied toward a future perpetual conservation easement, deed restriction, or other farmland conservation mechanisms to preserve farmland.

- Establish an agricultural mitigation fund for the payment of in-lieu fees.
- Extend of the Urban Growth Boundary for 30 to 50 years.

The 2007 General Plan EIR concluded that because the land use changes would convert existing agricultural production in the City's SOI, agricultural impacts would be significant and unavoidable. The 2007 General Plan did not include a policy, such as Policy LU-4.2 as described above, to mitigate farmland through preservation. The 2040 General Plan would have similar impacts because full buildout through the year 2040 would result in conversion of existing agricultural uses in the Planning Area to non-agricultural uses. Impacts would be potentially significant, but with implementation of Policy LU-4.2 to develop an Agricultural Mitigation Program consistent with the DOC's recommendations, the loss of Prime Farmland, Unique Farmland, and/or Farmland of Statewide Importance would be offset with the preservation of an equal acreage of similar prime agricultural land. With the incorporation of the DOC recommended Agricultural Mitigation Program policies (equal preservation) to the 2040 General Plan, impacts related to the conversion of Farmland to non-agricultural use would be less than significant.

There are no designated forests within the 2040 General Plan. Therefore, no impacts to forest land would occur.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan conflict with existing zoning for agricultural use, or a Williamson Act contract?

Impact AG-2 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD ALTER THE CURRENT LAND USE PATTERN SURROUNDING THE CITY WITHIN ITS PLANNING AREA, AND MAY RESULT IN INCOMPATIBILITIES WHERE URBAN AND AGRICULTURAL USES WOULD DIRECTLY ABUT EACH OTHER, AND/OR IMPACT WILLIAMSON ACT CONTRACTED LANDS. HOWEVER, LAND USE CONFLICTS WOULD BE REDUCED THROUGH PROPOSED AGRICULTURAL LAND BUFFERS AND 2040 GENERAL PLAN POLICIES ADDRESSING AGRICULTURAL IMPACTS. THEREFORE, THE 2040 GENERAL PLAN'S CONFLICTS WITH EXISTING AGRICULTURAL ZONING AND LAND UNDER WILLIAMSON ACT CONTRACT WOULD BE REDUCED TO A LESS THAN SIGNIFICANT LEVEL.

By focusing on developing lands adjacent to the City limits, compact infill, and mixed-use projects, the 2040 General Plan would direct more growth in the areas that are already urbanized or planned for urban development, which would reduce conflicts with existing agricultural zoning, as well as avoiding lands currently designated for agriculture and/or under a Williamson Act contract. Almost all of the annexations within the city over the last 30 years have been contiguous to existing urban development and only on an "as needed" basis to provide land for additional urban growth. If necessary, Williamson Act contracts have been canceled during the annexation process to provide additional land for urban development.

As shown in Figure 4.2-2, Williamson Act Contract Land, there are no Williamson Act contracted lands within the City limits (DOC 2016); however, several parcels are designated as Williamson Act contracted lands within the SOI and Planning Area at approximately 2,850 acres or 48 percent of the parcels within the Planning Area (Kerman 2019).

A determination of the impacts to agricultural zoning and conflicts with Williamson Act contracts would be made on a case-by-case basis as individual projects are implemented. Many individual projects would likely not create significant impacts or would be located in urban built-up areas zoned for development. General Plan policies listed below are designed to reduce conflicts with existing agricultural zoning and the conversion of Williamson Act contracted lands to more urban uses.

Land Use Element Goals and Policies

Goal LU-3: To create a land use pattern that protects agricultural and open space lands by promoting compact and centralized urban growth around the historical Kerman townsite.

- **Policy LU-3.1: Strong Community Edge.** The City shall develop and maintain a strong community edge that clearly separates urban and agricultural uses, including through the use of man-made or natural barriers such as streets, railroads, and canals.
- **Policy LU-3. 3: Prevent Sprawl Development.** The City shall direct new development to areas that are contiguous to existing or approved development and prevent sprawl development.
- **Policy LU-3.4: Leapfrog Development.** The City shall require the Planning Commission and City Council to make a finding before approving new subdivisions that are more than 1/8 mile from existing urban development.
- **Policy LU-3.5: Increase Density and Intensity within City Limits.** The City shall prioritize increase overall residential densities and building intensities within current City limits to prevent development on surrounding agricultural lands.
- **Policy LU-3.6: Infill and Renovation.** The City shall encourage infill of vacant commercial properties and renovation of existing commercial structures to reduce the rate at which surrounding agricultural land is urbanized and to provide for a more efficient use of existing infrastructure.

Due to the agricultural importance to Kerman, several parcels within the Planning Area and SOI under Williamson Act contracts as shown in Figure 4.2-2 would remain under contract. These Williamson Act parcels are located north, south, east, and west of the City limits. The 2040 General Plan policies in the Land Use Element mentioned above, and the protection provided under a Williamson Act contract would preserve these parcels from premature development and therefore reduce impacts to land designated under a Williamson Act contract. Any parcels under Williamson Act contract would require a project-specific analysis and specific findings regarding the cancellation would be made prior to allowing cancellation pursuant to Section 51282 and Section 51284 of the Government Code. Property owners can also file a Notice of Non-Renewal in anticipation of future development that would start the 10-year countdown of the contract. Therefore, based on the 2040 General Plan policies and Williamson Act restrictions, impacts would be less than significant.

Hence, the 2040 General Plan policies would protect premature development from occurring on agricultural land and would minimize potential land use conflicts between agricultural and non-agricultural uses. The 2040 General Plan's proposed agricultural buffers (i.e., the Urban Reserve designation) and Agriculture designation, disclosure of agricultural activity, and low-density development would not conflict with the County's current agricultural land use designations, zoning districts, or Williamson Act Contracts. As such, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

No cumulative impacts would occur to forest land because the 2040 General Plan does not affect forest land and there is no forest land in the vicinity of the city.

As discussed in Section 4.2.1, *Setting*, the 2040 General Plan contains approximately 5,900 acres of Important Farmland, of which approximately 2,850 acres are under Williamson Act contracts. This farmland surrounds the City limits and encompasses much of the Planning Area and all of the land surrounding the Planning Area. Implementation of the 2040 General Plan, combined with regional growth, would result in a substantial contribution to the conversion of important farmland and may increase agriculture/urban interface conflicts. This is a significant cumulative impact. The farmland conversion associated with General Plan buildout would be in addition to development anticipated under the applicable land use plans of Fresno County, the cities of Fresno and Clovis, and to a lesser extent, the 13 additional smaller cities within Fresno County. While the focus of the cumulative impact analysis is the growth of the city of Kerman onto Prime Farmland, it is acknowledged that cumulative important farmland conversion contributions within Fresno County are of a statewide concern. The 2040 General Plan contains several goals, policies, and programs that would assist in reducing agricultural land conversion and conflict impacts. These can be found in the Conservation, Open Space, Parks and Recreation Element; Land Use Element; and the Economic Development Element. These policies and programs contain specific, enforceable requirements and/or restrictions and corresponding performance standards that assist in reducing this impact. The planned growth within the 2040 General Plan also reduces the pressure to develop urban uses within the agricultural lands surrounding Kerman. In addition, the 2040 General Plan Land Use Map establishes Agriculture and Urban Reserve designations, which create an agricultural/open space greenbelt around the city intended to minimize the physical effects of agricultural practices on urban uses, such as chemical spraying, noise, etc., to ensure the long-term ability of agricultural uses to continue beyond the expanded City limit and minimize land use conflicts between agricultural land uses and urban land uses.

Implementation of the 2040 General Plan would increase density and intensity of existing land uses and discourage sprawling development and unnecessary expansion of City limits to conserve existing agricultural resources and mitigate for the conversion of agricultural land developed within the planning area. Therefore, the 2040 General Plan would have incremental contribution to cumulative impacts associated with agricultural resources and important farmland conversion, but impacts to these resources would not be cumulatively considerable. Cumulative impacts would be less than significant.

4.3 Air Quality

This section analyzes the potential effects of the 2040 General Plan on air contaminant emissions and the associated impacts on air quality. This section analyzes both temporary air quality impacts relating to construction activity and possible long-term air quality impacts associated with development planned for in the 2040 General Plan. The analysis herein is based partially on information from the Environmental Protection Agency, California Air Resources Board, San Joaquin Valley Air Pollution Control District (SJVAPCD), and Fresno County General Plan. Greenhouse gas emissions and global climate change impacts are discussed in Section 4.8 *Greenhouse Gas Emissions*.

4.3.1 Setting

a. Local Climate and Meteorology

Air quality is affected by the rate and location of pollutant emissions and by climatic conditions that influence the movement and dispersion of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local and regional topography, provide the links between air pollutant emissions and air quality.

The city of Kerman is in the San Joaquin Valley Air Basin (SJVAB), which is defined by the Sierra Nevada Mountain Range to the east, the Coastal Ranges to the west, and the Tehachapi Mountains to the south. The SJVAB includes eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and western Kern County. The surrounding topographic features restrict air movement through and out of the basin and, as a result, the SJVAB is highly susceptible to pollutant accumulation over time. Inversion layers are formed in the SJVAB throughout the summer and winter; and inversion layer is created when a mass of warm air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below. During the summer, San Joaquin Valley experiences daytime temperature inversions at elevations from 2,000 to 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor (KCAG 2018). According to the United States Environmental Protection Agency (USEPA), the San Joaquin Valley has some of the nation's worst air quality (USEPA 2018).

The SJVAB is generally considered to have a Mediterranean climate, characterized by sparse rainfall and hot, dry summers. With an average of over 260 sunny days per year, the SJVAB provides favorable conditions for ozone formation. While precipitation and fog during the winter block sunlight and reduce ozone concentrations, wintertime fog provides favorable conditions for the formation of particulate matter (Fresno County 2017).

b. Air Pollutants of Primary Concern

Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, exhaust stack of a factory, etc.) into the atmosphere. Primary criteria pollutants include carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), fine particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). Secondary criteria pollutants are created by atmospheric chemical and photochemical reactions; ROGs together with NO_x form the building blocks for the creation of photochemical (secondary) pollutants. Secondary pollutants include oxidants, ozone (O₃), and sulfate and nitrate particulates (smog). The characteristics, sources, and effects of critical air contaminants are described below.

Ozone

Ozone (O_3) is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_x) and reactive organic compounds (ROC).¹ NO_x are formed during the combustion of fuels, while ROC is formed during combustion and evaporation of organic solvents. Because O_3 requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to O_3 include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide

Carbon monoxide (CO) is a localized pollutant that is found in high concentrations only near its source. The major source of CO, a colorless, odorless, poisonous gas, is automobile traffic. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Carbon monoxide health effects are linked to its relationship to hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of NO_2 produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2 , creating the mixture of NO and NO_2 commonly called NO_x . Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility. It can also contribute to the formation of small particulate matter (PM_{10}) and acid rain.

Suspended Particulates

Small particulate matter measuring no more than 10 microns in diameter is considered PM_{10} , while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates, and sulfates. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with small particulates (PM_{10}) and fine particulates ($PM_{2.5}$) can be very different. PM_{10} generally comes from windblown dust and dust kicked up from mobile sources. $PM_{2.5}$ is generally associated with combustion processes, as well as formation in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a

¹ Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, two groups are important from an air quality perspective: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, ROG, ROC, and VOC). SBCAPCD uses the term ROC to denote organic precursors.

health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Sulfur Dioxide

Sulfur dioxide (SO₂) is included in a group of highly reactive gases known as "oxides of sulfur." The largest sources of SO₂ emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore and the burning of fuels with a high sulfur content by locomotives, large ships, and non-road equipment. Sulfur dioxide is linked with a number of adverse effects on the respiratory system.

Lead

Lead (Pb) is a toxic metal that can be emitted from industrial sources, leaded aviation gasoline, and lead-based paint. Lead may cause a range of health effects, from behavioral problems and learning disabilities to seizures and death.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illnesses, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM) (CARB 2019). TACs are different than the criteria pollutants previously discussed because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

c. Air Pollution Regulation

The Federal and State governments have authority under the Federal and State Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards (AAQS) for the protection of public health. The USEPA is the Federal agency designated to administer air quality regulations, while CARB is the State equivalent in California. Federal and state standards have been established for six criteria pollutants, including O₃, CO, NO₂, SO₂, PM₁₀ and PM_{2.5}, and Pb.

Air quality monitoring stations measure pollutant ground-level concentrations (typically, 10 feet above ground level). Depending on whether the standards are met or exceeded, the local air basin is classified as in "attainment" or "non-attainment." Some areas are unclassified, which means no monitoring data are available. Unclassified areas are considered to be in attainment. Table 4.3-1 lists the current Federal and State standards for each of these pollutants as well as the attainment status of the SJVAPCD. California air quality standards are identical to or stricter than federal standards for all criteria pollutants.

Table 4.3-1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8 Hour	0.070 ppm	N	0.075 ppm	N/E
	1 Hour	0.09 ppm	N/S		
Carbon Monoxide	8 Hour	9.0 ppm	A/U	9 ppm	A/U
	1 Hour	20 ppm	A/U	35 ppm	A/U
Nitrogen Dioxide	1 Hour	0.18 ppm	A	0.100 ppm	A/U
	Annual Arithmetic Mean	0.030 ppm	A	0.053 ppm	A/U
Sulfur Dioxide	24 Hour	0.04 ppm	A	0.14 ppm	N/A
	1 Hour	0.25 ppm	A	0.075 ppm	A/U
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	N		
	24 Hour	50 µg/m ³	N	150 µg/m ³	A
Particulate Matter - Fine (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	N	12 µg/m ³	U/A
	24 Hour			35 µg/m ³	N
Sulfates	24 Hour	25 µg/m ³	A		
Lead	Calendar Quarter			1.5 µg/m ³	N/A
	Rolling 3 Month Average		A	0.15 µg/m ³	
	30 Day Average	1.5 µg/m ³			N/A
Hydrogen Sulfide	1 Hour	0.03 ppm	U		
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm	A		
Visibility Reducing particles	8 Hour(10:00 to 18:00 PST)	See below ¹	U		

A=Attainment A/U=Attainment/Unclassified N=Nonattainment N/S = Nonattainment/Severe N/E = Nonattainment/Extreme
U=Unclassified N/A = Not Applicable; mg/m³=milligrams per cubic meter ppm=parts per million µg/m³=micrograms per cubic meter

¹ Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: SJVAPCD 2012, <https://www.valleyair.org/aqinfo/attainment.htm#Federal%20Standards>

Local control in air quality management is provided by CARB through county-level or regional (multi-county) Air Pollution Control Districts (APCDs). CARB establishes statewide air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 15 air basins statewide. As mentioned in Section 4.3.1, *Local Climate and Meteorology*, the city of Kerman is in the SJVAB, which is under the jurisdiction of the San Joaquin Valley Air Pollution Control Board (SJVAPCD).

d. Current Air Quality

CARB and the USEPA established ambient air quality standards for major pollutants, including O₃, CO, NO₂, SO₂, Pb, and PM₁₀ and PM_{2.5}, which are discussed below under *Regulatory Setting*. Standards have been set at levels intended to protect public health. California standards are more restrictive than Federal standards for each of these pollutants except for lead and the eight-hour average for CO. The local APCDs are required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards.

The city of Kerman is located within the SJVAB under the jurisdiction of SJVAPCD. As the local air quality management agency, the SJVAPCD is required to monitor air pollutant levels to ensure that State and Federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

The Fresno-Drummond Monitoring Station is one of six SJVAPCD-operated monitoring stations located in Fresno County and is approximately 16.5 miles east of the city of Kerman.

Table 4.3-2 summarizes the representative annual air quality data for Fresno County over the years 2016 through 2018 at the Fresno-Drummond Monitoring Station for the following criteria pollutants: Hourly-Ozone, Ozone-8 Hour, PM₁₀ and NO₂. As shown in Table 4.2-2, between 2016 and 2018, the State ozone and State PM₁₀ levels were exceeded multiple times. Federal levels for worst hour-ozone were exceeded once in 2017. Federal levels for worst eight-hour ozone were exceeded multiple times (CARB 2018). Not included in the top-4 summary for the Fresno-Drummond Air Monitoring Station are the following criteria pollutants: PM_{2.5}, CO, State SO₂ and H₂S.

Table 4.3-2 Annual Air Quality Data at the Fresno-Drummond Air Monitoring Station

Pollutant	2016	2017	2018
Ozone, ppm - Worst Hour	0.117	0.125	0.119
Number of days of State exceedances (>0.09 ppm)	13	8	6
Number of days of Federal exceedances	0	1	0
Ozone, ppm – Worst 8 Hours	0.093	0.103	0.097
Number of days of Federal exceedances (>0.070 ppm)	57	29	32
Particulate Matter <10 microns, µg/m ³ Worst 24 Hours	86.3	120.5	154.8
Number of days of State exceedances (>50 µg/m ³)	17	17	19
Number of days of Federal exceedances (>150 µg/m ³)	0	0	0
Nitrogen Dioxide, ppm—Worst Hour	58.6	64.7	75.9
Number of days of State exceedances (> 0.18 ppm)	0	0	0
Number of days of Federal exceedances (> 0.100 ppm)	0	0	0

ppm = parts per million; µg/m³ = micrograms per cubic meter

* There was insufficient (or no) data available to determine the value.

Source: CARB Top 4 Summary <https://www.arb.ca.gov/adam/topfour/topfour1.php>

4.3.2 Regulatory Setting

The Federal Clean Air Act governs air quality in the United States. In addition to being subject to Federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. At the Federal level, the USEPA administers the Clean Air Act (CAA). The CAA is administered by the CARB at the state level and by the AQMDs at the regional and local levels. The SJVAPCD regulates air quality at the regional level, which is made up of eight counties in the Central Valley region.

a. Federal

The USEPA is responsible for enforcing the Federal CAA. The USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). The NAAQS are required under the 1977 CAA and subsequent amendments. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency has jurisdiction over emission sources outside state waters (e.g. beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by the CARB.

b. State

In California, CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the State requirements of the Federal CAA, administering the California CAA, and establishing the California Ambient Air Quality Standards (CAAQS). The California CAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding Federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective on March 1996. CARB oversees the functions of local APCDs, which in turn administer air quality activities at the regional and county level.

c. Regional

San Joaquin Valley Air Pollution Control District

The SJVAPCD is responsible for assuring that the Federal and State ambient air quality standards are attained and maintained in the Fresno County area. The SJVAPCD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities.

Regulation IV: Prohibitions

Describes new source performance standards and rules including open burning, reduction of animal matter, particulate matter and emission rates, and fuel burning.

Regulation VII: Toxic Air Pollutants

Describes rules for facilities that produce pollutants including ethylene oxide, dioxin, fluorides, asbestos, toxic metals, and perchloroethylene.

Regulation VIII: Fugitive PM₁₀ Prohibitions

Describes general requirements limiting the emissions of particulate matter on open areas, paved and unpaved roads, and agricultural sources.

Regulation IX: Mobile and Indirect Sources

Describes rules for general and transportation conformity, school bus fleets, and credits for emission reductions through incentive programs.

District Rule 9510: Indirect Source Review

District Rule 9510 is intended to reduce a project's impact on air quality through project design elements or mitigation by payments of applicable off-site mitigation fees. For projects subject to District Rule 9510, the SJVAPCD recommends that demonstration of compliance with District Rule 9510, including payment of all applicable fees before issuance of the first building permit, be made a condition of project approval.

SJVAPCD 2016 Plan for the 2008 8-Hour Ozone Standard

The 2016 Plan for the 2008 8-Hour Ozone Standard (2016 Ozone Plan) addresses the Federal mandates related to the 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS). Building on decades of developing and implementing effective air pollution control strategies, this plan demonstrates that District regulatory measures meet and exceed Federal Clean Air Act (CAA) requirements, includes additional commitments for potential further reductions in emissions, and ensures expeditious attainment (SJVAPCD 2016).

The deadline for the San Joaquin Valley (Valley) to attain the 2008 8-hour ozone standard is December 31, 2031. This requires another 207.7 tons per day in NO_x reductions from stationary and mobile sources throughout the Valley. The measures identified in this plan do achieve the necessary reductions. The ozone precursor emissions in the Valley are at historically low levels with approximately 80% reduction in NO_x stationary source emissions since 1990.

As a part of the positive trend in ozone air quality, the Valley is also on track to meet the Federal 8-hour ozone standard of 84 ppb ahead of the projected 2023 attainment date included in the 2007 Ozone Plan. With the ongoing improving trend in ozone air quality, USEPA also recently approved the District's request for the 1-hour ozone clean data finding and has officially proposed to grant the San Joaquin Valley as attainment for the 1-hour ozone standard.

SJVAPCD 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards

The 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards (2018 PM_{2.5} Plan) develops a strategy to attain the Federal health-based 1997, 2006, and 2012 national ambient air quality standards (standards, or NAAQS) for fine particulate matter (PM_{2.5}) (SJVAPCD 2018).

The 2018 PM_{2.5} Plan addresses multiple Federal PM_{2.5} standards and consists a combination of innovative regulatory and nonregulatory measures for mobile, stationary, and area sources. The PM_{2.5} standards include:

- 1997 PM_{2.5} Standard (24-hour 65 µg/m³ and Annual 15 µg/m³): Focus is on annual standard – San Joaquin Valley has already attained 24-hour portion of the standard, based on monitoring data from the three-year period from 2014 to 2016
 - Attainment deadline of December 31, 2015
 - Serious area 5% Plan with attainment deadline of December 31, 2020
- 2006 24-hour PM_{2.5} standard of 35 µg/m³: Serious area Plan with attainment deadline of December 31, 2024 with 5-year extension request

- 2012 annual PM_{2.5} standard of 12 µg/m³: Attainment deadline under “Serious” classification of December 31, 2025
 - This Plan would be submitted three years ahead of 2022 federal submission deadline

Despite the efforts within the 2018 PM_{2.5} Plan, the SJVAB continues to face significant challenges in attaining the Federal PM_{2.5} standards.

SJVAPCD Rule 9510 (Indirect Source Review)

The SJVAPCD established District Rule 9510 Indirect Source Review (ISR) to reduce project impacts on air quality through project design elements or mitigation by payments of applicable off-site mitigation fees. Compliance with Rule 9510 would reduce construction exhaust NO_x and PM₁₀ emissions by 20 percent and 45 percent respectively. Compliance with Rule 9510 would reduce operational emissions of NO_x and PM₁₀ emissions by 33.3 percent and 50 percent respectively (SJVAPCD 2015d).

Individual development projects would be subject to ISR requirements if upon full build-out the project would include or exceed any one of the following:

- 50 dwelling units;
- 2,000 square feet of commercial space;
- 25,000 square feet of light industrial space;
- 100,000 square feet of heavy industrial space;
- 20,000 square feet of medical office space;
- 39,000 square feet of general office space;
- 9,000 square feet of educational space;
- 10,000 square feet of government space;
- 20,000 square feet of recreational space; or
- 9,000 square feet of space not identified above.

The ISR rule also applies to any transportation or transit project where construction exhaust emissions equal or exceed two (2.0) tons NO_x or two (2.0) tons of PM₁₀.

For projects subject to Rule 9510, the SJVAPCD recommends that demonstration of compliance with Rule 9510, including payment of all applicable fees before issuance of the first building permit, be made a condition of project approval.

SJVAPCD Rule 9410 (Employer Based Trip Reduction)

SJVAPCD established Rule 9410, Employer Based Trip Reduction (eTRIP) which requires larger employers to establish an eTRIP. An eTRIP is a set of measures that encourages employees to use alternative transportation and ridesharing for their morning and evening commutes. Each measure contributes to a workplace where it is easier for employees to choose to use ridesharing or alternative transportation. Through this rule, single-occupancy vehicle trips are reduced, thus reducing emissions of oxides of nitrogen (NO_x), volatile organic compounds (VOC), and particulate matter (PM) (SJVAPCD 2015d).

d. Sensitive Receptors

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect the segment of the public most susceptible to respiratory distress, such as children under 14, the elderly over 65, persons engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases. Most sensitive receptor locations are therefore residences, schools, and hospitals and are located throughout the city.

The SJVAPCD recommends that general plans include buffer zones to separate sensitive receptors from sources of toxic air contaminants and odors. In April 2005, CARB released the final version of the *Air Quality and Land Use Handbook*, which is intended to encourage local land use agencies to consider the risks from air pollution prior to making decisions that approve the siting of new sensitive receptors (e.g. homes or daycare centers) near sources of air pollution. Unlike industrial or stationary sources of air pollution, siting of new sensitive receptors does not require air quality permits, but could create air quality problems. The primary purpose of the handbook is to highlight the potential health impacts associated with proximity to common air pollution sources, so that those issues are considered in the planning process. CARB makes recommendations regarding the siting of new sensitive land uses near freeways, truck distribution centers, dry cleaners, gasoline dispensing stations, and other air pollution sources. These recommendations are based primarily on modeling information and may not be entirely reflective of conditions in the Planning Area. The *Air Quality and Land Use Handbook* notes that siting of new sensitive land uses within these distances may be possible, but recommends that site-specific studies be conducted to identify actual health risks (CARB 2005). CARB acknowledges that land use agencies have to balance other siting considerations such as housing and transportation needs, economic development priorities, and other quality of life issues.

4.3.3 Impact Analysis

a. Methodology and Significance Thresholds

The analysis of the Plan's air quality impacts follows the guidance and methodologies recommended in the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI; 2015d) as well as Appendix G of the State CEQA Guidelines.

Methodology

Construction Emissions

Construction-related emissions are generally short-term in duration, but may still cause adverse air quality impacts. Construction of development associated with the proposed project would generate temporary emissions from three primary sources: the operation of construction vehicles (e.g., scrapers, loaders, dump trucks, etc.); ground disturbance during site preparation and grading, which creates fugitive dust; and the application of asphalt, paint, or other oil-based substances.

At this time, the projects facilitated by the 2040 General Plan do not have sufficient detail to allow project-level analysis and thus it would be speculative to analyze project-level impacts. Rather, construction impacts for the proposed project are discussed qualitatively, and emissions are not compared to SJVAPCD's recommended project-level construction thresholds.

Operational Emissions

Operational emissions associated with implementation of the 2040 General Plan would result from area, energy, and mobile sources associated with buildout. Area source emissions are generated by landscape maintenance equipment, consumer products, and architectural coating. Emissions attributed to energy use include natural gas consumption for space and water heating. Mobile source emissions would be generated by the anticipated increase in motor vehicle trips from new development. Operational emissions are speculative at the Plan-level because the 2040 General Plan does not involve specific development projects with project-level details. Rather, the 2040 General Plan provides a strategic vision for the city of Kerman that involves development of industrial, commercial, residential, institutional, and associated recreational uses within the Planning Area. Consequently, emissions from VMT and population growth are identified for the City, however impacts related to long-term emissions are discussed qualitatively as part of this analysis.

Significance Thresholds

Pursuant to the State CEQA Guidelines, air quality impacts related to the proposed project would be significant if the project would:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in 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;
4. Expose sensitive receptors to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people?

SJVAPCD has not established plan-level significance thresholds for construction air pollutant emissions. However, SJVAPCD has established individual project-level thresholds for temporary construction-related and long-term operational emissions of air pollutants, which are displayed in Table 4.3-3 for informational purposes only. The thresholds for construction and operational emissions are identical. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable net increase of criteria pollutants for which the SJVAB is in non-attainment under Federal and/or State ambient air quality standards (SJVAPCD 2015d). In addition, the SJVAPCD has published the *Air Quality Guidelines for General Plans* as guidance document and resource for cities and counties to address air quality in general plans (SJVAPCD 2015d).

Table 4.3-3 SJVAPCD Thresholds of Significance for Criteria Pollutants

Pollutant	Construction Emissions (tons per year)	Operational Emissions (tons per year)
CO	100	100
NO _x	10	10
ROG	10	10
SO _x	27	27
PM _{2.5}	15	15
PM ₁₀	15	15

Source: SJVAPCD 2015

Carbon Monoxide (CO) Hotspots

Localized CO “hotspots” can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the Federal AAQS of 35.0 ppm or the State AAQS of 20.0 ppm.

The SJVAPCD has established a local preliminary CO hotspot screening that can be used to determine with fair certainty the effect of a project has on any given intersection. The SJVAPCD has established the following screening criteria to determine whether new development projects would potentially generate a CO hotspot:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity.

However, because a traffic study for the 2040 General Plan was not conducted, the SJVAPCD criteria using a traffic study and subsequent intersection LOS data would not be an appropriate threshold. Instead, daily traffic volume estimates were provided using TAZ data from FCOG. Based on this data, a more appropriate threshold to determine impacts of CO hotspots is used from the Bay Area Quality Management District (BAAQMD). The SJVAB and the San Francisco Bay Area Air Basin (the jurisdiction of the BAAQMD, which is the air district immediately adjacent to SJVAB to the west) are both in attainment for the CAAQS and NAAQS for carbon dioxide and have not reported exceedances of the CO standard at local monitoring stations for the last two decades (CARB 2018; BAAQMD 2017). Therefore, given the similar ambient air quality conditions for CO in the mentioned air basin, it is appropriate to use the BAAQMD threshold in this analysis. The BAAQMD threshold is applied in the following impact analysis for the 2040 General Plan as a traffic study is required for the SJVAPCD screening thresholds presented above to determine whether the 2040 General Plan would result in an exceedance of CO standards.

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan conflict with or obstruct the implementation of the applicable air quality management plan?

Impact AQ-1 **THE 2040 GENERAL PLAN WOULD STRIVE TO REDUCE EMISSIONS OF OZONE PRECURSORS AND PARTICULATE MATTER TO LEVELS BELOW THOSE IDENTIFIED IN THE 2016 OZONE PLAN AND THE 2018 PM_{2.5} PLAN, AND SUBJECT TO SJVAPCD RECOMMENDED RULE 9510 AND/OR RULE 9410. IMPACTS RELATED TO CONSISTENCY OF THE PROPOSED PROJECT WITH AIR QUALITY PLANS WOULD BE LESS THAN SIGNIFICANT.**

Long-term emissions associated with future development in Kerman in accordance with the 2040 General Plan are those associated with mobile sources (e.g., vehicle trips) and stationary sources (e.g., electricity and natural gas). Emissions associated with individual projects, depending on project type and size, could exceed project-specific thresholds established by the SJVAPCD. However, such projects will be required to undergo independent, project-level CEQA review and include mitigation measures, if necessary, to address potentially significant impacts.

The most recently adopted air quality attainment plans in the San Joaquin Valley Air Basin are the SJVAPCD 2016 Ozone Plan and the 2018 PM_{2.5} Plan. The 2016 Ozone Plan guides the San Joaquin Valley area to achieve compliance with the State one-hour ozone standard as expeditiously as practicable, and how the region will reduce transport of O₃ and O₃ precursors to neighboring air basins (SJVAPCD 2016). The 2018 PM_{2.5} Plan addresses multiple PM_{2.5} standards. Neither of these air quality attainment plans include control measures that apply directly to individual development projects (SJVAPCD 2018).

The discussions that follow address 2040 General Plan consistency with the growth and emissions forecasts upon which the SJVAPCD 2016 Ozone Plan and 2018 PM_{2.5} Plan are based, and with applicable SJVAPCD control measures. Based on this qualitative analysis, the 2040 General Plan growth forecasts and control measures are consistent and comply with the SJVAPCD 2016 Ozone Plan and 2018 PM_{2.5} Plan.

Consistency with the 2016 Ozone Plan and 2018 PM_{2.5} Plan Growth Forecasts

The SJVAPCD uses county-level growth forecasts provided by the California Department of Finance (DOF) to project population-related emissions, which are used in developing the 2016 Ozone Plan and the 2018 PM_{2.5} Plan. Both the 2016 Ozone Plan and the 2018 PM_{2.5} Plan have planning horizons of 2030; therefore, it is not possible to directly compare 2040 growth forecasts with the project's growth forecast. For the purposes of this analysis, it was conservatively assumed that all population growth facilitated by the 2040 General Plan would occur prior to 2030. Table 4.3-4 shows that the projected 2030 City of Kerman population accounts for 1.56 and 1.64 percent respectively of the projected 2030 population growth of Fresno County in the 2016 Ozone Plan and 2018 PM_{2.5} Plan. The 2040 General Plan's population growth forecast methodology for year 2030 are based on FCOG and DOF data (Appendix A). Therefore, the growth projections from the 2016 Ozone Plan and 2018 PM_{2.5} Plan are consistent with the 2040 General Plan and account for growth within the City of Kerman.

Table 4.3-4 Comparison of 2030 Growth Projections

Metric	2030 Fresno County Growth Projections per 2016 Ozone Plan ¹ and 2018 PM _{2.5} Plan ²	City of Kerman 2030 Population Projection	Percentage of Kerman Population Compared to Fresno County
Population	1,200,666 ¹	18,770 ³	1.56%
Population	1,145,673 ²	18,770 ³	1.64%

¹ 2030 population forecast for Fresno County retrieved from the 2016 Ozone Plan

² 2030 population forecast for Fresno County retrieved from the 2018 PM_{2.5} Plan

³ 2030 population forecast for City of Kerman retrieved from 2040 General Plan Demographics and Economic Conditions Background Report

Notes: The difference in population projections show the change in population projections from the DOF from year 2016 to 2018.

Source: SJVAPCD 2016, SJVAPCD 2018, City of Kerman 2019

Table 4.3-5 shows the City of Kerman population and household projections at the General Plan buildout in 2040. The population would increase by approximately 4,170 people and the number of households would increase by approximately 720 by 2040, which presumes a population growth rate of approximately 1 percent per year.

Table 4.3-5 Population and Household Projections for City of Kerman

Year	Population	Households
2018	15,083	4,030
2040	19,650	4,750

Source: City of Kerman Background Report 2019

Based on FCOG traffic modeling projections using the projected growth forecasts, the 2040 General Plan's projected daily VMT in the year 2040 is 781,939 which would be a net increase of 298,501 daily VMT from 2018. This is an approximately 2.8 percent increase per year compared to 2018 conditions (483,437 daily VMT) (Appendix A).

Although the March 2015 SJVAPCD *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)* does not provide quantitative thresholds for criteria pollutant emissions, Table 4.3-6 below shows the net worst case annual operational emissions associated with buildout of the 2040 General Plan to accommodate the population and household growth identified in Table 4.3-5 as well as the projected buildout of 2040 General Plan that would include commercial, residential, industrial, institutional, and associated recreational uses. Emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.1 (Appendix A). The emissions estimates are provided for informational purposes only because the 2040 General Plan does not propose any specific development projects and the SJVAPCD 2005 *Air Quality Guidelines for General Plans* recommends a qualitative discussion for general plan-level air quality impacts regarding VMT.

Table 4.3-6 Operational Emissions

Pollutant	Maximum Annual Emissions (tons per year)
ROG	51
NO _x	665
CO	234
SO ₂	2
PM ₁₀	55
PM _{2.5}	24

See Appendix A for CalEEMod Annual worksheet.

Consistency with Control Measures

Consistency with the 2016 Ozone Plan and the 2018 PM_{2.5} Plan is also a function of consistency with applicable control measures. Transportation Control Measures (TCMs) identified in the SJVAPCD 2016 Ozone Plan and the 2018 PM_{2.5} Plan applicable to Kerman are listed below in Table 4.3-7. Both plans identify the same TCMs.

Table 4.3-7 SJVAPCD TCMs Contributing to PM_{2.5} and PM₁₀ Improvement

TCM	Title
(i)	Active Transportation (non-motorized transportation, such as biking and walking)
(ii)	Transportation demand management (TDM)
(iii)	Transportation system management (TSM)
(iv)	Transit
(v)	Goods movement
(vi)	Highways
(vii)	Arterials
(viii)	Operations and maintenance
(ix)	Improved transit
(x)	High occupancy vehicle lanes
(xi)	Traffic flow improvements
(xii)	Park and ride lots
(xiii)	Ridesharing/trip reduction programs
(xiv)	Bicycle/pedestrian facilities

Source: 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards SJVAPCD 2018

The 2040 General Plan includes a number of goals and policies that would reduce air contaminant emissions, primarily by promoting alternatives to personal vehicle use. These goals and policies would promote the implementation of the TCMs identified in the SJVAPCD 2016 Ozone Plan and 2018 PM_{2.5} Plan (Table 4.3-7) would reduce impacts to less than significant. Some of the most salient of these goals and policies include the following:

Land Use Element

Goal LU-3: To create a land use pattern that protects agriculture and open space lands by promoting compact and centralized urban growth around the historical Kerman townsite.

- **Policy LU-3.2: Sphere of Influence Maintenance.** The City shall maintain the Sphere of Influence to proactively plan and logically provide for growth of the community.
- **Policy LU-3.3: Prevent Sprawl Development.** The City shall direct new development to areas that are contiguous to existing or approved development and prevent sprawl development.
- **Policy LU-3.4: Leapfrog Development.** The City shall require the Planning Commission and City Council to make a finding before approving new subdivisions that are more than 1/8 mile from existing urban development.
- **Policy LU-3.5: Increase density and intensity within City Limits.** The City shall prioritize increase overall residential densities and building intensities within current City limits to prevent development on surrounding agricultural lands
- **Policy LU-3.6: Infill and Renovation.** The City shall encourage infill of vacant commercial properties and renovation of existing commercial structures to reduce the rate at which surrounding agricultural land is urbanized and to provide for a more efficient use of existing infrastructure

Circulation Element

Goal CIRC-1: To provide a safe and efficient roadway system that serves all users and enhances the community of Kerman.

- **Policy CIRC-1.1: Consistency between Land Use and Transportation Planning.** The City shall ensure land use and transportation planning are cohesive, consistent, mutually supportive, and strive to reduce vehicle miles traveled (VMT). This will include:
 - Maintaining land use patterns that encourage people to walk, bicycle, or use public transit routinely for a significant number of their daily trips;
 - Using the City's provision of public services to direct development to the most appropriate locations; and
 - Promoting the infill of vacant land and redevelopment sites.
- **Policy CIRC-1.2: Complete Streets.** The City shall plan a multimodal transportation system that provides safe, comfortable, and convenient access that accommodates various vehicle types and users, including automobiles, agricultural equipment, public transit, bicyclists, and pedestrians.
- **Policy CIRC-1.3: Eliminate Gaps.** The City shall create a more comprehensive multimodal transportation system by identifying and eliminating "gaps" in roadways, bikeways, and pedestrian networks; increasing public transit access; and removing natural and man-made barriers to accessibility and connectivity.

Goal CIRC-2: To insure the design, construction, and maintenance of a safe, efficient, and complete roadway system that is well-designed, virtually attractive, and provides access to all parts of Kerman.

- **Policy CIRC-2.1: Level of Service (LOS) and Vehicle Miles Travel (VMT) Standards.** The City shall maintain LOS standards for use in considering conditions of approval for discretionary development projects and use VMT analysis as the standard for evaluating environmental impacts under the California Environmental Quality Act (CEQA).
- **Policy CIRC-2.2: Maintain Adequate Level of Service (LOS).** The City shall plan the roadway system to maintain adequate roadway LOS to avoid congestion and reduce VMT. A level of service of C will be the desirable minimum service level in Kerman at which highway, arterial, and collector segments will operate. A level of service of B will be the desirable minimum service level in Kerman at which intersections and rail crossings will operate.
- **Policy CIRC-2.4: Vehicle Trip Length and Travel Time Reduction.** The City shall continue to improve the street network to be efficient and provide multiple routes that are efficient to reduce trip length, travel time, idling time, intersection delays, and other emissions producing activities
- **Policy CIRC-2.6: Vehicle Miles Traveled (VMT) Standards.** The City shall establish a 15 percent below baseline conditions as a clear and realistic VMT threshold of significance to determine impacts on the environment related to development projects. The City will develop the baseline using the Fresno Council of Governments (FCOG) Regional Transportation Model.
- **Policy CIRC-2.7: Vehicle Miles Traveled (VMT) Transportation Impacts.** The City shall require projects having potentially significant VMT transportation impacts under CEQA to implement feasible mitigation measures necessary to reduce the VMT for or induced by the project to the applicable performance metrics. Such mitigation measures may include, but are not limited to:
 - Provide infrastructure and facilities for walking and bicycling, particularly those that connect with and ensure access to existing active transportation infrastructure and transit;
 - Include on-site EV charging capabilities;
 - Incorporate traffic-calming measures;
 - Unbundle parking (separate/optional cost) from residential units in multifamily housing developments;
 - Provide incentives to carpool or use active transportation; and/or
 - Provide payment into an in-lieu fee program to reduce VMT.

Goal CIRC-5: To promote bicycling, walking, and using public transit, as functional alternatives to single-passenger automobile travel.

- **Policy CIRC-5.1: Alternative Modes of Transportation.** The City shall encourage project site designs and subdivision street and lot designs that support alternative modes of transportation, including public transit, bicycling, and walking.
- **Policy CIRC-5.2: Active Transportation.** The City shall encourage bicycling, walking, taking public transit, and carpooling as alternatives to driving single-passenger vehicles to reduce VMT, traffic congestion, and associated emissions from additional automobile use.
 - **Implementation Program J. Active Transportation Plan.** The City shall prepare an active transportation plan that assesses the needs of pedestrians and cyclists, identifies

improvements to bicycle lanes and sidewalks, and identifies future programs and funding sources.

- **Policy CIRC-5.3: Continuous Bicycle Network.** The City shall design a safe and logical bicycle path network that links key destinations within the planning area to promote the use of bicycles as a mode of transportation to reduce greenhouse gas emissions and to encourage exercise.
- **Policy CIRC-5.4: Safe Sidewalks Along Whitesbridge and South Madera Avenues.** The City shall work with Caltrans to improve the sidewalks along Whitesbridge Avenue and South Madera Avenue to provide a safe, continuous, and ADA-compliant network that encourages walking, and contributes to a sense of community.
- **Policy CIRC-5.5: Pedestrian-Friendly Streets.** The City shall design and improve streets to be “pedestrian-friendly” by incorporating features including wide and unobstructed sidewalks, bulb outs at intersections, narrow traffic lanes at key locations to slow traffic speed, adequate street lighting, and trees for natural shade cover.
- **Policy CIRC-5.6: Transit Amenities.** The City shall encourage the development of facilities and services (e.g., streetlights, transit stop benches and shelters, mobile trip planning applications, and electronic transit fare payment systems) that promote transit use and contribute to community character.
- **Policy CIRC-5.8: Electric Vehicle Charging Stations.** The City shall support the installation of electric vehicle charging stations at County facilities, parking lots, park-and-ride lots, and truck stops.

Public Health and Safety Element

Goal PH-7: To protect public health, agricultural crops, and natural resources from air pollution.

- **Policy PH-7.1: Regional Coordination for Air Quality.** The City shall continue to participate in regional planning efforts to meet air quality goals.
- **Policy PH-7.2: Agricultural Best Management Practices.** The City shall encourage agricultural operations to incorporate Best Management Practices to reduce particulate emissions consistent with State and Federal regulations, such as organic composting, using enhanced efficiency fertilizers, paving roads, limited- or no-tilling, cover-cropping, and transitioning to electric or alternatively-fueled agricultural equipment in place of gasoline or diesel equipment.
- **Policy PH-7.3: Industrial Best Management Practices.** The City shall require industrial facilities to incorporate economically feasible Best Management Practices and control technology to reduce PM₁₀ and PM_{2.5} emissions consistent with State and Federal regulations.
- **Policy PH-7.6: Incentives for Air Pollutions Reductions in New Projects.** The City shall provide incentives for new projects, particularly new multifamily residential buildings and other sensitive land uses, to incorporate design features that achieve good indoor air quality above and beyond State and Federal requirements.

Housing Element

Goal HE-1: To facilitate and encourage the provision of a range of housing types to meet the diverse needs of residents.

- **Policy HE-1.3: Direct Growth to Urban Areas.** The City shall continue to direct new growth to urban areas in order to protect natural resources.

- **Policy HE-1.5: Infill Housing Development.** The City shall encourage infill housing development on vacant, by-passed, and underutilized lots within existing developed areas where essential public infrastructure is available.
- **Policy HE-1.6: Higher-Density, Mixed-Use, and Transit-Oriented Development.** The City shall promote development of higher-density housing, mixed-use, and transit-oriented development in areas located along major transportation corridors and transit routes and served by the necessary infrastructure.

Goal HE-2: To encourage and facilitate the development of affordable housing.

- **Policy HE-2.6: Second Dwelling Units.** The City shall encourage the development of second dwelling units to provide additional affordable housing opportunities.

Goal HE-6: To encourage energy efficiency in all new and 2015-2023 Housing.

- **Policy HE-6.1: Energy Conservation in New Housing.** The City shall encourage the use of energy conserving techniques in the siting and design of new housing.
- **Policy HE-6.2: State Energy Conservation Requirements.** The City shall actively implement and enforce all State energy conservation requirements for new residential construction.

While buildout of the 2040 General Plan would increase annual emissions during the construction and operational phases of development which could potentially be considered cumulatively considerable, implementation of the policies listed above would reduce impacts to air quality. By including policies that encourage infill development, the 2040 General Plan would reduce vehicle trips and emissions, encourage alternative modes of transportation, and comply with statewide measures to reduce energy usage in Kerman. The 2040 General Plan would also promote design and safety elements through Implementation Program J which would create an active transportation plan to guide future active transportation facilities in the community, further reducing vehicle emissions.

Development in the city facilitated by the 2040 General Plan would be required to comply with the City's policies within the Land Use Element limiting development to growth control allocations. Thus, development would limit the emissions associated with buildout of the 2040 General Plan.

Adoption of the 2040 General Plan would result in less than significant criteria pollutant emissions or other significant air quality impacts because it would be consistent with the population growth projections and emissions control measures of the 2016 Ozone Plan and the 2018 PM_{2.5} Plan.

Mitigation Measures

Impacts would be less than significant; therefore, mitigation is not required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan 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?

Impact AQ-2 CONSTRUCTION OF NEW DEVELOPMENT UNDER THE 2040 GENERAL PLAN WOULD POTENTIALLY GENERATE SIGNIFICANT IMPACTS TO AIR POLLUTANT EMISSIONS OF OZONE PRECURSORS, CO, SO₂, PM₁₀, AND PM_{2.5}. HOWEVER, IMPLEMENTATION OF 2040 GENERAL PLAN POLICIES WOULD RESULT IN COMPLIANCE WITH SJVAPCD GUIDELINES AND REDUCE THESE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

Construction activity facilitated by the 2040 General Plan would cause temporary emissions of various air pollutants from demolition, grading, construction worker travel to and from project sites, delivery and hauling of construction supplies and debris to and from project sites, and fuel combustion by on-site construction equipment would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants, particularly during site preparation and grading. The extent of daily emissions, particularly ROG and NO_x emissions, generated by construction equipment, would depend on the equipment used and the hours of operation for each project. The extent of PM_{2.5} and PM₁₀ emissions would depend upon the following factors: 1) the amount of disturbed soils; 2) the length of disturbance time; 3) whether existing structures are demolished; 4) whether excavation is involved; and 5) whether transporting excavated materials offsite is necessary. Dust emissions can lead to both nuisance and health impacts.

As discussed under Section 4.3.3(a), *Methodology and Significance Thresholds*, the SJVAPCD has not established plan-level significance thresholds for construction air pollutant emissions. However, the guidelines include project-level thresholds for construction emissions. The SJVAPCD developed the Small Project Analysis Level (SPAL) screening tool to determine the size below which it is reasonable to conclude that an individual project would not exceed applicable thresholds of significance for criteria pollutants. If individual projects fall below the SPAL screening levels, then SJVAPCD has determined that quantification of construction emissions is not necessary and that project-level air quality impacts would be less than significant (SJVAPCD 2017).

Development under the 2040 General Plan requiring discretionary approvals by the City would also potentially be subject to SJVAPCD Rules 9510 and/or 9410. Based on correspondence from SJVAPCD, new development under the 2040 General Plan is subject to compliance to these rules, as mentioned in Section 4.3.2, *Regulatory Setting*. Rule 9510 would reduce construction exhaust NO_x and PM₁₀ emissions by 20 percent and 45 percent respectively. Compliance with Rule 9510 would reduce operational emissions of NO_x and PM₁₀ emissions by 33.3 percent and 50 percent respectively. Rule 9410 would require larger employers to establish an eTRIP to encourage employees to use alternative transportation and ridesharing for their morning and evening commutes (SJVAPCD 2015d).

At this time, most projects facilitated by the 2040 General Plan do not have sufficient detail to allow project-level analysis and thus it would be speculative to analyze project-level impacts. However, per SJVAPCD guidance, projects facilitated by the 2040 General Plan that do not exceed the SPAL screening levels would have less than significant construction-related air quality impacts. Nevertheless, projects that exceed the SPAL screening levels would result in potentially significant air quality impacts due to construction-related emissions of ROG, NO_x, CO, SO₂, PM₁₀, and PM_{2.5}. Implementation of 2040 General Plan Public Health and Safety Element Policy PH-7.4 would be required to reduce construction-related air quality impacts to a less than significant level.

Public Health and Safety Element

Policy PH-7.4: Construction Best Management Practices. The City shall require new projects to incorporate economically feasible SJVAPCD construction best management practices as conditions of approval, if the project exceeds the most recent SJVAPCD SPAL screening levels at the time of preparation.

Mitigation Measures

Impacts would be less than significant, and mitigation is not required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3: Would the General Plan expose sensitive receptors to substantial pollutant concentrations?
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Impact AQ-3 BUILDOUT OF THE 2040 GENERAL PLAN MAY EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS. CONSTRUCTION-RELATED EMISSIONS ASSOCIATED WITH THE 2040 GENERAL PLAN WOULD GENERATE SHORT-TERM EMISSIONS OF CARBON MONOXIDE AND TOXIC AIR CONTAMINANTS, WHICH CAN CONTRIBUTE TO HUMAN HEALTH HAZARDS. HOWEVER, IMPLEMENTATION OF 2040 GENERAL PLAN POLICIES WOULD REDUCE SENSITIVE RECEPTORS EXPOSURE TO POLLUTANT CONCENTRATIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT (CLASS II).

As discussed in Section 4.3.1, *Setting*, sensitive receptors as defined by the SJVAPCD include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). The 2040 General Plan would include the development of land uses considered to be sensitive receptors, as well as new development near existing sensitive receptors. The following paragraphs discuss pollutant concentrations that would occur within the 2040 General Plan that may affect these sensitive receptors.

Lead and Asbestos

Demolition of existing structures in the city could result in exposure of construction personnel and the public to concentrations of hazardous air pollutants such as asbestos or lead-based paints. Construction associated with development of projects under the 2040 General Plan would temporarily increase air pollutant emissions, possibly creating localized areas of unhealthy air pollution levels or air quality nuisances. However, the SJVAPCD and CARB have regulations that address the handling of hazardous air pollutants such as lead and asbestos. During demolition and renovations, asbestos-bearing materials often occur in building materials. Asbestos containing materials is subject to the limitations of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as listed in the Code of Federal Regulations requiring notification and inspection. Most demolitions and many renovations are subject to a CAL-OSHA Certified asbestos inspection prior to start of activity. The SJVAPCD recommends contractors for new development to contact SJVAPCD for asbestos assessment prior to the demolition or renovation phase of existing buildings.

CO Hotspots

Buildout of the 2040 General Plan would result in new development or redevelopment that would generate additional vehicle trips on area roadways. Areas with high vehicle density, such as congested intersections, have the potential to create concentrations of CO (“CO hotspots”) and could potentially expose sensitive receptors to harmful levels of pollution. The NAAQS for CO is 35.0 ppm and the CAAQS for CO is 20.0 ppm.

As discussed above in Section 4.3.3(e), *Methodology and Significance Thresholds*, localized CO concentrations are the result of the volume of cars along a road and the level of emissions generated by vehicles, rather than the flow of traffic, and vehicle CO emissions have declined over time due to stringent State standards for vehicle emissions and would continue to decline as more stringent standards are put in place. The SJVAPCD threshold would not be an appropriate threshold to determine 2040 General Plan CO hotspot significance because a traffic study was not conducted and VMT data from FCOG was provided for this analysis. Therefore, the CO threshold from BAAQMD, which is the air district immediately adjacent to SJVAPCD to the west, is utilized in this analysis.² BAAQMD has determined that a volume of 44,000 vehicles per hour is the level above which traffic volumes may contribute to a violation of CO standards (BAAQMD 2017). All of the studied road and freeway segments would have daily traffic volumes below 44,000 vehicles under buildout of the 2040 General Plan; see Appendix A for roadway volumes. Therefore, the 2040 General Plan would not result in volumes of traffic that would create, or substantially contribute to, the exceedance of State and Federal AAQS for CO. This impact would be less than significant.

Toxic Air Contaminants

All stationary source projects subject to air permitting are assessed for TAC impacts by the SJVAPCD as part of the permitting process. However, no specific stationary sources are envisioned under the 2040 General Plan. New developments that require discretionary approval may be subject to SJVAPCD regulations to complete a project-specific Health Risk Assessment (HRA) for sources listed below (SJVAPCD 2015c).

- Freeways and High Traffic Roadways
- Distribution Centers (100 trucks per day/40 trucks with TRUs per day)
- Chrome Plating Facilities
- Dry Cleaners
- Large Gasoline Dispensing Facilities (3.6 million gallon/year throughput)
- Large Commercial Projects with Loading Docks (3 or more deliveries per day)
- Recycling Centers using Diesel Equipment for Loading and Crushing Operations
- Hospitals with multiple Emergency Diesel Engines
- Other Facilities with Multiple Idling Trucks

² The SJVAB and the San Francisco Bay Area Air Basin (the jurisdiction of the BAAQMD) are both in attainment for the CAAQS and NAAQS for carbon dioxide and have not reported exceedances of the CO standard at local monitoring stations for the last two decades (CARB 2018; BAAQMD 2017). Therefore, given the similar ambient air quality conditions for CO in both air basins, it is appropriate to use the BAAQMD threshold in this analysis.

Project construction would result in emissions of TACs, primarily in the form of DPM emissions from heavy equipment operations and heavy-duty trucks during project construction. The following measures are required by State law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, Section 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to 5 minutes; electric auxiliary power units should be used whenever possible.

Developments planned for in the 2040 General Plan would result in operational emissions that may include stationary sources that would emit air pollutants or TACs. Examples of projects that emit pollutants include gasoline dispensing, dry cleaning, electronic and parts manufacturing, and freeways as mentioned above. At this time, the projects facilitated by the 2040 General Plan do not have sufficient detail to allow project-level analysis and thus it would be speculative to determine that substantial TAC emissions that could pose a significant health risk to nearby sensitive receptors would not occur. Therefore, air quality impacts would be potentially significant. However, new developments requiring discretionary approvals would be subject to 2040 General Plan Circulation Element and Public Health and Safety Element below which would require SJVAPCD evaluation of stationary sources near sensitive receptors, reducing TACs impacts.

Circulation Element

- **Policy CIRC-2.3: CO Hotspot Screening.** The City shall require new development projects to demonstrate LOS reductions for any project-associated intersection to an LOS E or F, or worsen an existing LOS F. If this requirement is not met, a project-specific CO Hotspot analysis shall be conducted using a protocol developed by the Institute of Transportation Studies at University of California, Davis entitled Transportation Project-Level Carbon Monoxide Protocol. If the results demonstrate that the project will potentially have a significant effect on any intersection, the City shall conduct a CO Hot Spot analysis. If the CO analysis shows levels above current SJVAPCD ambient air quality standards, the project proponent shall be required to make intersection improvements to reduce CO emissions at the intersection, alter the project to reduce the impact, or implement other programs that can demonstrate a reduction in CO Hot Spot emissions below SJVAPCD ambient air quality standards at the impacted intersection(s).

Public Health and Safety Element

- **Policy PH-7.5: Toxic Air Contaminants (TACs) and Health Risks Assessments (HRA).** The City shall require new development projects that produce Toxic Air Contaminants (TACs) or other health risks to retain a qualified professional to complete a SJVAPCD-compliant evaluation of all stationary source developments near sensitive receptors to determine if a project-specific Health Risks Assessment (HRA) would be required prior to approval. If required, the City shall require all identified TAC risks from the HRA to be mitigated to meet current SJVAPCD TAC thresholds.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation (Class II).

Threshold 4: Would the General Plan result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact AQ-4 THE 2040 GENERAL PLAN WOULD NOT CREATE OBJECTIONABLE ODORS THAT WOULD AFFECT A SUBSTANTIAL NUMBER OF PEOPLE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Project-specific analysis would be assessed for new development planned for in the 2040 General Plan.

The SJVAPCD GAMAQI provides guidelines and thresholds for odor impacts which recommends City's disclose applicable information regarding the characteristics of the buffer zone between the sensitive receptor(s) and the odor source(s), local meteorological conditions, and the nature of the odor source (SJVAPCD 2015b).

Odor impacts on residential areas and other sensitive receptors, such as hospitals, daycare centers, schools, etc., warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas. An analysis of potential odor impacts should be conducted for the following two situations:

1. **Generators** – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
2. **Receivers** – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. Table 4.3-7 shows the GAMAQI Screening Levels for Potential Odor Sources for the SJVAB. Land uses that typically produce objectionable odors include landfills, rendering plants, chemical plants, agricultural uses, wastewater treatment plants, refineries, fast food restaurants, bakeries, and coffee roasting facilities (CARB 2005; SJVAPCD 2015d). The residential uses in the 2040 General Plan are not considered odor-generating land uses. At this time, the projects facilitated by the 2040 General Plan do not have sufficient detail to allow project-level analysis and thus it would be speculative to determine adverse odor affects from the 2040 General Plan. Two of the city's existing odor sources include the wastewater treatment plant, located on 15485 W. Church Street, and the Mid Valley Disposal composting facility, located at 15300 W Jensen Avenue. Both are within the industrial areas near the City's southern boundary and more than 2 miles from any sensitive receptors. Therefore, odor impacts would be adverse, but less than significant (Class III).

Table 4.3-8 Screening Levels for Potential Odor Sources

Type of Facility	Distance from Sensitive Receptors (miles)
Wastewater Treatment Facilities	2
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operations (e.g., auto body shops)	1
Food Processing Facility	1
Feed Lot/Dairy	1
Rendering Plant	1

Mitigation Measures

No mitigation is required because this impact would be adverse, but less than significant (Class III).

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

The City of Kerman falls within the jurisdiction of Fresno County which is in the jurisdiction of the SJVAPCD. As discussed in Impact AQ-1, the SJVAPCD would require all jurisdictions within the SJVAB to be consistent with their air quality management plans. Buildout of the 2040 General Plan would increase annual emissions during the construction and operational phases of development which could potentially be considered cumulatively considerable. However, implementation of the 2040 General Plan policies would reduce impacts to air quality. The policies would reduce vehicle trips and emissions by encouraging infill development, alternative modes of transportation, compliance with state-wide measures to reduce energy usage in Kerman, and creation of an active transportation plan via Implementation Program J in the Circulation Element which would guide future active transportation facilities in the community to further reduce vehicle emissions. Adoption of the 2040 General Plan would result in less than significant criteria pollutant emissions or other significant air quality impacts because it would be consistent with the population growth projections and emissions control measures of the 2016 Ozone Plan and the 2018 PM2.5 Plan, and cumulatively reduce impacts to a less than significant level within the SJVAB.

While the SJVAPCD is primarily responsible for regulating emissions generated in the air basin, the transport of emissions in one area can affect another area's ability to achieve attainment of pollutant standards. The SJVAB currently exceeds two Federal air quality standards and two State air quality standards multiple times. Construction activities associated with implementation of the 2040 General Plan would create fugitive dust and ozone precursor emissions and have the potential to result in temporary adverse impacts on air quality.

However, implementation of the 2040 General Plan goals and policies would ensure that the developments facilitated by the 2040 General Plan would not result in cumulative odors from both construction and operation. Therefore, the proposed project would not have a cumulatively considerable contribution to regional air quality impacts.

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4.4 Biological Resources

This section addresses direct and indirect impacts to the following biological resources: regulated waterways and wetlands, sensitive habitats and mature native trees, sensitive plants and animals, and wildlife movement corridors.

4.4.1 Setting

a. Environmental Setting

Background and Geographic Regions

The city of Kerman is in the San Joaquin Valley in Fresno County. Geographically, the city is near the bluffs of the San Joaquin River which are approximately 10 miles north of Kerman. The San Joaquin Valley was historically an ecologically diverse area that provided habitat to a variety of terrestrial, riparian, and aquatic species. The area is heavily developed for agricultural, residential, and associated infrastructure uses. Like many other cities in the San Joaquin and Central Valleys of California, Kerman is surrounded entirely by agricultural lands with interspersed settlements of farmhouses and small ranches. This surrounding agricultural land has the effect of an open space greenbelt around the city.

The Coastal Range and Sierra Nevada mountains are approximately 35 miles southwest and northeast of Kerman, respectively. Fresno County and the area surrounding the City of Kerman include geographical regions classified by different natural landscape features and biota including the Central Western California Region, the Great Central Valley, and the Sierra Nevada Region.

Central Western California Region

The western side of Fresno County, to the west of the city of Kerman, is in the Central Western California Region and generally supports habitat communities such as grasslands, oak woodlands, blue oak-foothill pine woodland, riparian woodlands, and chaparral.

Great Central Valley

The city of Kerman lies directly in the central-most portion of Fresno County, which is in the Great Central Valley Region. This area is mainly agricultural, but also supports a variety of vegetation communities in isolated patches and along the margins of the Valley. These vegetation communities include grasslands, marshes, vernal pools, alkali scrub, and riparian woodlands.

Sierra Nevada Region

The region of Fresno County situated directly east of the city of Kerman is the Sierra Nevada Region, which is subdivided into the Sierra Nevada Foothills Subregion and the High Sierra Nevada Subregion.

The Sierra Nevada Region supports habitat communities such as grasslands, chaparral, serpentine chaparral, blue oak woodlands, blue oak-foothill pine woodlands, and riparian woodlands. The High Sierra Nevada Subregion supports a variety of habitat communities such as montane conifer and hardwood forest types, montane riparian woodlands, montane chaparral, and alpine scrub.

Natural Communities

The community descriptions listed below follow Holland's 1986 report for the California Department of Fish and Wildlife (CDFW) and the State's Natural Diversity Database. Figure 4.4-1 shows the habitat types/natural communities for the city of Kerman and the surrounding area.

Valley Sink Scrub

The Valley Sink Scrub is characterized by low, open to dense succulent shrub lands dominated by alkali-tolerant Chenopodiaceae, especially iodine bush (*Allenrolfea occidentalis*) and several seepweed (*Suaeda*) species. Generally, the understory in this community is lacking, although it may occasionally develop sparse herbaceous cover dominated by red brome (*Bromus rubens*). Annual plants in Valley Sink Scrub communities are most active from January to April, with perennials following in prominence from March to September. Plant species typically found in this community include iodine bush, recurved larkspur (*Delphinium recurvatum*), saltgrass (*Distichlis spicata*), alkali heath (*Frankenia salina*), rusty molly (*Kochia californica*), goldfields (*Lasthenia* spp.), boraxweed (*Nitrophilia occidentalis*), pickleweed (*Salicornia subterminalis*), and seepweed (*Sueda moquinii*).

Non-Native Grassland

Non-native grassland is characterized by dense to sparse cover of annual grasses and is often associated with numerous species of showy-flowered, native annual forbs (wildflowers), especially in high rainfall years. Grass species most commonly associated with this habitat type include wild oat (*Avena* spp.), soft chess brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and red brome. Forb species most commonly associated with this habitat type include non-native species such as filaree (*Erodium* spp.) and bur clover (*Medicago polymorpha*). California poppy (*Eschscholzia californica*) can also be quite common in this habitat type.

Wetlands and Water Features

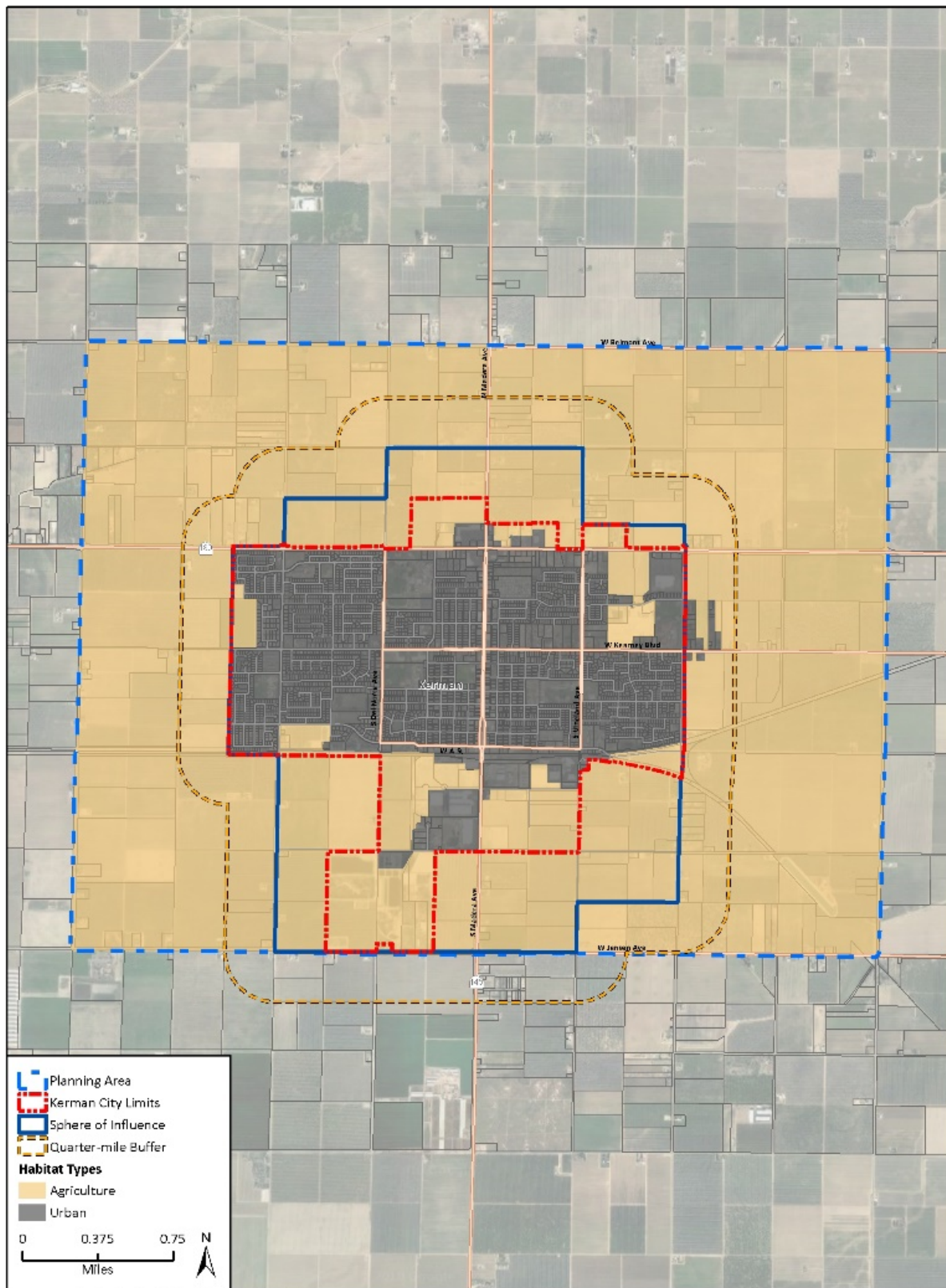
Wetlands and water features include freshwater sloughs, marshes, vernal pools, wet meadows, springs and seeps, portions of lakes, ponds, rivers and streams, and all other areas that are periodically or permanently covered by shallow water, are dominated by hydrophilic vegetation, or have soils that are predominantly hydric in nature. Wetlands and water features in the city of Kerman have been highly altered and are presently very scarce. There are no natural surface water features such as streams or lakes in the Kerman area. There are several irrigation canals which run through the city and its surrounding lands used for agricultural purposes.

The area immediately surrounding Kerman in the larger Fresno County region contains wetlands and waters mapped by the National Wetland Inventory (NWI). These include freshwater ponds, freshwater emergent wetlands, and freshwater forested/shrub wetland. Additionally, several miles to the north of the city lies the San Joaquin River and to the west of the city lies the Fresno Slough, a tributary of the San Joaquin River that provides riverine and associated emergent wetland habitat to the area. Wetland features located in the city of Kerman are shown in Figure 4.4-2.

Freshwater Emergent Wetlands

Freshwater emergent wetlands include all non-tidal waters dominated by emergent herbaceous plant species such as, mosses, and/or lichens.

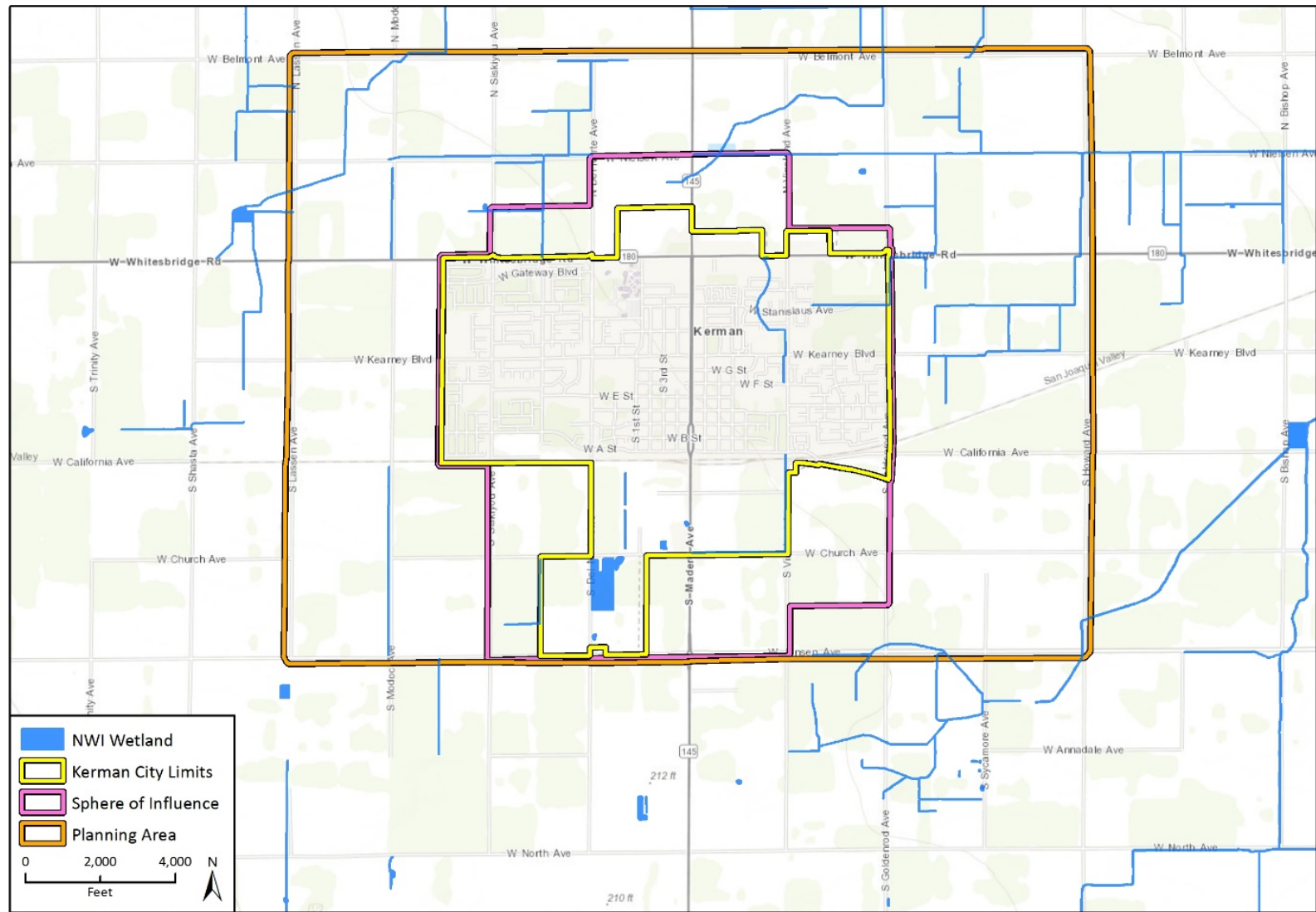
Figure 4.4-1 Habitat Types



Imagery provided by Google, ESRI, and their licensors © 2018.
 X Additional data provided by CDFW, 2014.

Fig. 1.5 Habitat Types in Kerman

Figure 4.4-2 Wetland Features in the City of Kerman



Imagery provided by Microsoft Bing and its licensors © 2019.

X Wetlands data provided by National Wetlands Inventory, U. S. Fish and Wildlife Service. 2017.

Fig 4.4-2 Wetland Features

Freshwater Forested/Shrub Wetlands

Freshwater Forested/Shrub Wetlands include non-tidal waters that are dominated by trees and shrubs, with emergent herbaceous plants, mosses, and/or lichens. Wetlands that lack vegetation can be included in this class if they also exhibit the same criteria as described for freshwater emergent wetlands. The vegetation found in freshwater forested/shrub wetlands are generally dominated by woody vegetation such as shrubs and trees.

Freshwater Ponds

Freshwater ponds include non-tidal waters with vegetative cover along their edges, such as trees, shrubs, emergent herbaceous plants, mosses, and/or lichens. Freshwater ponds can be man-made or natural and typically consist of an area of standing water with variable amounts of shoreline. These wetlands and deep-water habitats are dominated by plants that grow on or below the surface of the water.

Rivers

Riverine habitats include all wetlands and deep-water habitats in natural or artificial channels that contain periodically or continuously flowing water. The main rivers in Fresno County include the San Joaquin River located 5.5 miles to the north and the Kings River which runs southeast and is approximately 25 miles from Kerman.

b. Special-Status Resources

Special-status species include those species that are listed as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife (USFWS), or are candidates for either state or federal listing, or have been designated as "fully protected" or "species of special concern" by USFWS and CDFW, or are other species that are tracked by the California Natural Diversity Database (CNDDDB) or California Native Plant Society (CNPS), but do not fall into any of the categories cited above. Information regarding the occurrences of special-status species in the 2040 General Planning Area was obtained from searching the CDFW's CNDDDB (March 2018), USFWS Information for Planning and Conservation (IPaC) (March 2018), and California Native Plant Society's (CNPS) Electronic Inventory (CNPS March 2018) for Kerman and eight surrounding 7.5-minute quadrangles. These databases contain records of reported occurrences of Federal- or State-listed endangered, threatened, rare, or proposed endangered or threatened species, Federal species of concern, State species of special concern, or otherwise sensitive species or habitat that may occur within a five-mile radius of the Planning Area. Lists from the USFWS and CDFW were also reviewed and lists of common and sensitive wildlife and plant species potentially occurring within the Planning Area were generated. This search range encompasses a sufficient distance to accommodate for regional habitat diversity and to overcome the limitations of the CNDDDB (the CNDDDB is based on reports of actual occurrences and does not constitute an exhaustive inventory of every resource). See Appendix B for a detailed species lists.

Listed Species

Federal, State, and local authorities under a variety of legislative acts share regulatory authority over biological resources. The CDFW has direct jurisdiction under law for biological resources through the State Fish and Game Code and under the California Endangered Species Act (CESA). The Federal Endangered Species Act (ESA) also provides direct regulatory authority over special-status

species and their habitats to the USFWS. These acts specifically regulate listed and candidate endangered, and candidate threatened species, which are defined as:

- **Endangered Species:** any species that is in danger of extinction throughout all or a significant portion of its range
- **Threatened Species:** any species that is likely to become an endangered species within the foreseeable future throughout all or a significant part of its range

Special-Status Wildlife

One bird and one mammal special-status species are known to be or possibly found in the 2040 General Plan Planning Area, based on a search of the CNDDDB. Table 6-4 of the 2040 General Plan Background Report identifies animal species with the potential to occur near the 2040 General Plan Planning Area, based on a search of the CNDDDB and USFWS IPaC, both the bird and mammal special-status species are Federally Endangered and State Endangered. These include the Burrowing Owl (*Athene cunicularia*) and the Fresno kangaroo rat (*Dipodomys nitratoides exilis*). State or Federally-listed species are accorded the highest protection status. See Appendix B for a detailed special-status species lists.

Another species that is likely to occur in the 2040 General Planning Area is the San Joaquin Kit Fox (*Vulpes macrotis mutica*), a Federally endangered and State threatened species. It has not been reported in the CNDDDB to have occurred within the Kerman quadrangle, but is known to occur within one mile of the 2040 General Plan Area. Because of this proximity, it is likely that San Joaquin kit fox could forage at times within the Planning Area. The kit fox is endemic to central California and is commonly found at the southern extent of the San Joaquin Valley specifically in Bakersfield, Taft, and Coalinga. However, their population size has declined dramatically because of habitat loss and fragmentation caused by increased urbanization and agricultural cultivation of their native habitat (City of Kerman 2007).

Special-Status Plant Species

Special-status plant species are defined as listed as endangered or threatened under the CESA or ESA, or rare under the Native Plant Protection Act or considered to be rare (but not formally listed) by resource agencies and the scientific community. CDFW and local governmental agencies may also recognize special-status listings developed by focal groups (i.e., Audubon Society Blue List, CNPS Rare and Endangered Plants, U.S. Forest Service regional lists). Table 6-4 of the 2040 General Plan Background Report shows seven special-status plant species that have the potential to occur within the 2040 General Planning Area, five of which have a State and/or Federal listing status. These State and/or Federally listed species include the heartscale (*Atriplex cordulata* var. *cordulata*), lesser saltscale (*Atriplex minuscula*), Palmatebracted bird'sbeak (*Chloropyron palmatum*), recurved larkspur (*Delphinium Recurvatum*), and California alkali grass (*Puccinellia Simplex*). See Appendix B for a detailed Special-status plant species lists.

Special-Status Habitats

Special-status habitats are vegetation communities, associations, or sub-associations that support concentrations of special-status plant and/or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Although special-status habitats are not afforded legal protection unless they support special-status species, potential impacts on them may increase concerns and trigger the prescription of mitigation measures by resource agencies for those habitats.

Special-status habitats are considered sensitive by Federal, State, and local agencies because of their rarity or value in providing habitat for plants, fish, and wildlife. There are no special-status habitats within the Planning Area. As shown in Figure 4.4-1, the Planning Area consists of two habitat types: Agricultural and Urban.

c. Critical Habitat

Critical habitat is defined in the ESA as a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. An area is designated as “critical habitat” after USFWS publishes a proposed Federal regulation in the Federal Register and then receives and considers public comments on that proposal. The final boundaries of a critical habitat area, once identified, are published in the Federal Register.

There is no critical habitat designated for any special-status plant and animal species within the Kerman city limits or within the sphere of influence. The nearest designated critical habitat is approximately 11 miles west of the city for the Fresno kangaroo rat.

d. Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The California Essential Habitat Connectivity Project: A Strategy for Conserving Connected California (CDFW, 2018) evaluates critical wildlife movement corridors throughout California. Fresno County has wildlife corridors and connectivity among three ecoregions: The Central Coast, Great Central Valley, and Sierra Nevada ecoregions. These ecoregions are roughly consistent with the ecoregions defined in The Jepson Manual (Baldwin et al., 2012) as discussed above. The city of Kerman lies in the Great Central Valley ecoregion which is further subdivided into Essential Connectivity Areas (ECAs) that represent the most critical wildlife movement areas for long-term conservation of California’s special-status wildlife species. ECAs are large, continuous areas, and individual ECAs may overlap one another without clearly defined boundaries. The city of Kerman lies between the Anticline Ridge-Joaquin Ridge ECA and the Coyote Ridge-Owens Mountain ECA, which are approximately 30 miles southwest and 30 miles east of the city, respectively.

The Great Central Valley ecoregion is composed of the valleys of Central California, bordered by the Pacific Coast Ranges on the west, the Sierra Nevada and Cascade Ranges on the east, and the Tehachapi Range on the south. Most of this land does not support wildlife movement because of its high fragmentation and conversion of natural habitats to agricultural and urban uses.

Local wildlife movement corridors may be used by a range of wildlife, and can be formed by drainages, uninterrupted riparian corridors, more extensive areas of fallow agriculture lands, and other natural areas. These smaller local movement corridors may provide for access to foraging areas, localized movement associated with breeding, annual dispersal among isolated populations, and local migrations.

e. Regulatory Setting

Federal

Federal Endangered Species Act

The USFWS and the National Marine Fisheries Service (NMFS) administer the Federal Endangered Species Act (ESA). The ESA requires each agency to maintain lists of imperiled native species and affords substantial protections to these “listed” species. The jurisdiction of the NMFS under the ESA is limited to the protection of marine mammals, marine fishes, and anadromous fish. All other species are subject to USFWS jurisdiction.

The USFWS and NMFS may “list” a species if it is endangered (at risk of extinction in all or a significant portion of its range) or threatened (likely to become endangered in the foreseeable future). Section 9 of the ESA prohibits the “take” of any wildlife species listed as endangered and most species listed as threatened. Take, as defined by the ESA, means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Harm is defined as “any act that kills or injures the species, including significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering” (50 CFR 17.3).

The ESA includes exceptions that allow an action to be carried out, despite the fact that the action may result in the “take” of listed species, where conservation measures are included for the species. Section 7 of the ESA provides an exception for actions authorized (e.g., under a Section 404 permit), funded, or carried out by a Federal agency and Section 10 provides an exception for actions that do not involve a Federal agency.

Federal Clean Water Act, Section 401 – Programmatic General Permit for Wetland Fill

The Clean Water Act (CWA) is the primary Federal law that protects the quality of the nation’s waters, including wetlands, lakes, rivers, and coastal areas. Section 404 of the CWA regulates the discharge of dredged or fill material into the waters of the United States, including wetlands. The CWA holds that all discharges into the nation’s waters are unlawful unless specifically authorized by a permit; issuance of such permits constitutes its principal regulatory tool.

The USACE is authorized to issue Section 404 permits, which allow the placement of dredged or fill materials into jurisdictional waters of the United States under certain circumstances. The USACE issues two types of permits under Section 404, general permits (either nationwide permits or regional permits) and standard permits (either letters of permission or individual permits). General permits are issued by the USACE to streamline the Section 404 permitting process for statewide or regional activities that have minimal direct or cumulative environmental impacts on the aquatic environment. Standard permits are issued for activities that do not qualify for a general permit (i.e., that may have more than a minimal adverse environmental impact).

Federal Clean Water Act, Section 401 – Programmatic Water Quality Certification

Under the CWA Section 401, applicants for a Federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the State in which the discharge would originate. Therefore, all projects that have a Federal component and may affect state water quality (including projects that require Federal agency

approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401 and the State's Porter-Cologne Water Quality Control Act. In California, Section 401 certification is handled by the RWQCBs. Fresno County is under the jurisdiction of the Central Valley RWQCB, which is responsible for implementation of State and Federal water quality protection guidelines. The RWQCB implements the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan), a master policy document for managing water quality issues in the region.

State

California Endangered Species Act

Administered by the CDFW, California ESA (CESA) prohibits the take of listed species and species formally under consideration for listing ("candidate" species) in the state. CESA defines take as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (Fish and Game Code § 86). Under this definition, and in contrast to the ESA, CESA does not prohibit "harm" to a listed species. Furthermore, "take" under the CESA does not include "the taking of habitat alone or the impacts of the taking." However, the killing of a listed species that is incidental to an otherwise lawful activity and not the primary purpose of the activity constitutes a "take" under CESA. CESA does not protect insects, but with certain exceptions prohibits the "take" of plants on private land.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning (NCCP) Act was put in place to implement broad-based planning for effective protection and conservation of California's wildlife heritage while continuing to allow appropriate development and growth. The NCCP Act does not focus only on listed species and is broader in its orientation and objectives than are the ESA or CESA. The NCCP Act encourages local, State, and Federal agencies to prepare comprehensive conservation plans that maintain the continued viability of species and biological communities impacted by human changes to the landscape. The NCCP Act provides for incidental "take" authorization, such that covered activities resulting in incidental "take" of listed species may be carried out without violating CESA. Permits issued under the NCCP Act can also be broad and may include both listed species and non-listed species. No NCCPs are currently in effect or under development in Fresno County.

State Fish and Game Code Section 1600-1616 – Master Streambed Alteration Agreement for Streambed Modifications

The CDFW has jurisdictional authority over streams, lakes, and wetland resources associated with these aquatic systems under California Fish and Wildlife Code Section 1600 et seq. CDFW has the authority to regulate work that will "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris waste or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" (Fish and Wildlife Code § 1602.). An entity that proposes to carry out such an activity must first inform CDFW, and when CDFW concludes that the activity will "substantially adversely affect an existing fish or wildlife resource," the entity proposing the activity must negotiate an agreement with CDFW that specifies terms under which the activity may be carried out in a way that protects the affected wildlife resource.

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

The impact analysis is based on available literature regarding the existing biological resources within the Plan Area. Impacts on biological resources were assessed using significance criteria from Federal, State, and local regulations. Impacts to flora and fauna may be determined to be significant even if they do not directly affect rare, threatened, or endangered species because development projected by the 2040 General Plan may result in indirect impacts to species.

CEQA Statute Section 21001 (c) states that it is the policy of the State of California to “prevent the elimination of fish and wildlife species due to man’s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities.” Impacts on biological resources may be assessed using impact significance criteria encompassing CEQA guidelines and Federal, State and local plans, regulations, and ordinances.

Significance Thresholds

Appendix G of the State *CEQA Guidelines* provides the following general thresholds to determine that significant impacts to biological resources could occur if a project action would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
3. Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially (i.e., direct/indirect reduction) 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
6. Conflict with the provisions of an adopted Habitat Preservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Impacts related to approved habitat conservation plans, Threshold 6, is discussed in Section 4.18, *Effects Found Not to be Significant*, as there are no habitat conservation or natural community conservation plans in the 2040 General Planning Area. All other significance thresholds are discussed below.

b. Project Impacts and Mitigation Measures

Threshold 1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-1 WITH IMPLEMENTATION OF THE GOALS AND POLICIES IN THE 2040 GENERAL PLAN, SUBSTANTIAL ADVERSE EFFECTS, EITHER DIRECTLY OR THROUGH HABITAT MODIFICATIONS, ON ANY SPECIES IDENTIFIED AS A CANDIDATE, SENSITIVE, OR SPECIAL SPECIES IN LOCAL OR REGIONAL PLANS, POLICIES, OR REGULATIONS BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE OR U.S. FISH AND WILDLIFE SERVICE WOULD BE AVOIDED OR MINIMIZED. IMPACTS WOULD THEREFORE BE LESS THAN SIGNIFICANT.

As mentioned in 4.4.1, *Setting*, the 2040 General Plan Planning Area is surrounded by agricultural working lands primarily located in areas designated as Agriculture or Open Space within the Planning Area. The City views these agricultural lands as locally-significant natural resources, providing a strong economic base for the community as well as a rural landscape and open space “system” that surrounds the city.

Two State ecological reserves lie west of Kerman. The Kerman Ecological Reserve is seven miles west and contains annual grassland, though northern claypan vernal pool and alkali desert scrub habitats also occur on this site. The second reserve, Alkali Sink Ecological Reserve, is 12 miles west of Kerman which includes alkali sink scrub and annual grassland habitats. These ecological reserves would not be directly impacted by implementation of the 2040 General Plan.

As mentioned in 4.4.1b, *Special-Status Resources*, State species of special concern, and State or Federally-listed species with the potential to occur in the city include burrowing owl (*Athene cunicularia*), Fresno kangaroo rat (*Dipodomys nigratoides exilis*) and San Joaquin kit fox (*Vulpes macrotis*). Section 4.4.1b *special-status plant species*, indicates the CNDDDB records the vegetation communities and State or Federally-listed special-status plant species with the potential to occur in the city to include: heartscale (*Atriplex cordulata* var. *cordulata*), lesser saltscale (*Atriplex minuscula*), palmate bracted bird’sbeak (*Chloropyron palmatum*), recurved larkspur (*Delphinium Recurvatum*), and California alkali grass (*Puccinellia Simplex*).

However, based on the highly disturbed (non-natural, urbanized state) nature of the 2040 General Plan Planning Area, sensitive species are not expected to regularly occur. Species that occur in these areas are typically adapted to anthropogenic disturbance and/or are ornamental species. Developed and agriculturally disturbed areas within or surrounding the city of Kerman include vineyards, almond orchards, cotton and alfalfa fields, irrigated row and field crops, residential development, commercial development, and industrial development. Plant species in urban habitats typically consist of ornamental and other non-native invasive plant species, with large developed areas lacking vegetation.

There are no special-status or sensitive habitats within the Planning Area. As shown in Figure 4.4-1, the Planning Area consists of two habitat types: agricultural and urban. Both habitat types are highly disturbed, developed, and have sparsely/non-vegetated habitats generally associated with urban and agricultural areas.

New development within the 2040 General Plan Planning Area would minimize natural resources impacts because the General Plan emphasizes preservation of natural resources. Goal COS-1 in the Conservation, Open Space, Parks and Recreation Element of the 2040 General Plan would ensure

the preservation of and expansion of open space areas in the city of Kerman to meet the current and future needs of the community and support natural habitats. The City's growth management policies in the Land Use Element of the 2040 General Plan include LU-3.1 to LU-3.6, which emphasize infill development with increased densities and confine City development to prevent sprawl which would minimize effects on sensitive species surrounding the city's developed areas. Additionally, all development planned for under the 2040 General Plan would be subject to the provisions of the various Federal and State natural resources regulations (discussed in Subsection 4.4.1, Setting) and their respective permitting processes. Furthermore, prior to project-specific development planned for in the 2040 General Plan, the preparation of biological assessments and inventories of sensitive biological resources would ensure that potential special-status plant and animal species that could be impacted by future development would be identified and potential impacts would be reduced or avoided. Therefore, implementation of these policies would avoid substantial impacts to special-status plant and animal species. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-2 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD NOT RESULT IN A SUBSTANTIAL ADVERSE EFFECT ON ANY RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

There are no natural surface water features such as streams or lakes in the 2040 General Plan Planning Area. There are several irrigation canals that run through the city and its surrounding lands that are used for agricultural purposes as shown in Figure 4.4-2. The nearest naturally occurring riparian habitat to the city is the San Joaquin River located approximately 5 miles north, outside the Planning Area.

According to CDFW and USFWS databases, there are occurrences of special-status species within the Kerman Quad as indicated in Impact BIO-1. However, there is no designated critical habitat for any special-status plant or wildlife species within the boundary of the city of Kerman or in the 2040 General Plan Planning Area. The closest designated critical habitat is the Fresno kangaroo rat located approximately 11 miles west of the city (USFWS 2018b). Because of the highly disturbed habitat observed within the city and the 2040 General Plan Planning Area, new development within the Planning Area would not impact riparian or sensitive habitat communities. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3: Would the project have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-3 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD NOT RESULT IN SUBSTANTIAL ADVERSE EFFECT ON PROTECTED WETLANDS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Wetland and water features include freshwater sloughs, marshes, vernal pools, wet meadows, springs and seeps, portions of lakes, ponds, rivers and streams, and all other areas that are periodically or permanently covered by shallow water, are dominated by hydrophilic vegetation, or have soils that are predominantly hydric in nature. Wetland and water features in Kerman have been highly altered and are presently very scarce. As mentioned in Impact BIO-2, there are no natural surface water features such as streams or lakes in the 2040 General Plan Planning Area. There are several irrigation canals which run through the 2040 General Plan Planning Area and are used for agricultural purposes.

Although the NWI classifies several areas throughout the Planning Area as wetlands and bodies of water, these are either man-made, currently in use for agricultural purposes, and/or are highly disturbed. As described in Impact BIO-1 and shown in Figure 4.4-1, the only habitat types present within the 2040 General Plan Planning Area are agricultural and urban. Therefore, it is highly unlikely these NWI classified areas would support wetland habitats. Therefore, implementation of the 2040 General Plan would not result in substantial adverse effects on potentially jurisdictional waters. In addition, the Land Use Element for the 2040 General Plan includes policies that would promote infill development, reduce sprawl, and protect existing agricultural resources around city limits. These growth policies would reduce the possible impacts of city development that could encroach upon the State ecological reserves just west of the city that includes vernal pools. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 4: Would the project 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?

Impact BIO-4 THE 2040 GENERAL PLAN PLANNING AREA DOES NOT LARGELY SUPPORT WILDLIFE MOVEMENT CORRIDORS. NEW DEVELOPMENT UNDER THE 2040 GENERAL PLAN WOULD AVOID IMPACTS TO WILDLIFE MOVEMENT CORRIDORS BY EMPHASIZING INFILL DEVELOPMENT AND CONSERVING EXISTING OPEN SPACE AREAS. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

There is not a diversity of wildlife or creek channels in Kerman that would serve as wildlife movement corridors. The city of Kerman lies between the Anticline Ridge-Joaquin Ridge ECA and the

Coyote Ridge-Owens Mountain ECA, which are approximately 30 miles southwest and 30 miles east of the city, respectively. The Great Central Valley ecoregion is composed of the valleys of Central California, bordered by the Pacific Coast Ranges on the west, the Sierra Nevada and Cascade Ranges on the east, and the Tehachapi Range on the south. Most of this land does not support wildlife movement because of high fragmentation and conversion of natural habitats to agricultural and urban uses.

New growth and development under the 2040 General Plan would preserve the existing agricultural land and open spaces. The level of change that would result from the 2040 General Plan would not result in development of existing open spaces within the city, as the 2040 General Plan includes goals and policies to conserve the city's natural environment. The 2040 General Plan goals and policies listed below would help to preserve natural habitat and open space within the city, thus protecting wildlife corridors that may exist.

Conservation, Open Space, Parks and Recreation Element Goals and Policies

Goal COS-1: To preserve and expand undeveloped open space areas in Kerman to meet the current and future needs of the community and support natural habitats.

- **Policy COS-1.1. Access to Open Space.** The City shall strive to improve and provide community access to open space, while environmentally responsible and economically viable.

Preserving access to open space, as stated in Policy COS-1.1, would maintain protection and enhancement areas that may be used as wildlife corridors in the city. Therefore, the 2040 General Plan 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. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Cumulative development in the Fresno County area surrounding Kerman in combination with the 2040 General Plan buildout may contribute to the loss of foraging and breeding habitat for special status species, decline of special status species, fragmentation of habitat and isolation of populations, and decrease of movement opportunities. Implementation of the 2040 General Plan would increase density and intensity of existing land uses. However, goals and policies in the 2040 General Plan would conserve existing natural resource and limit impacts on special status species. Furthermore, impacts on biological resources associated with the individual development projects would be less than significant with mitigation incorporated. Therefore, buildout of the 2040 General Plan would have incremental contribution to cumulative impacts associated with biological resources but the impacts to biological resources would not be cumulatively considerable. Cumulative impacts would be less than significant.

Threshold 5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Impact BIO-5 DEVELOPMENT PROPOSED BY THE 2040 GENERAL PLAN WOULD NOT CONFLICT WITH LOCAL POLICIES AND ORDINANCES THAT PROTECT BIOLOGICAL RESOURCES, INCLUDING A TREE PRESERVATION POLICY OR ORDINANCE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Implementation of the 2040 General Plan would be subject to all applicable local policies and regulations related to the protection of important biological resources. Specifically, development under the 2040 General Plan would be required to comply with the Kerman Municipal Code (KMC) Chapter 12.20—Trees and Shrubs in Public Places. The ordinance provides standards for the planting, maintenance, protection, and removal of trees along public streets. The ordinance requires the expressed permission of the superintendent of streets to cut, trim, prune, plant, remove, injure, or interfere with any tree, shrub, or plant on any public street or place in the city. This may be subject to the condition that any removed tree be replaced by an official tree in conformity with the city's street tree plan as described in Section 12.20.040 of the KMC.

Lands proposed for development under the 2040 General Plan would be evaluated on a project-by-project basis and would be required to comply with the City's ordinance protecting public and street trees. Therefore, the 2040 General Plan would not conflict with local policies and ordinances protecting biological resources, such as a tree preservation policy or ordinance and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Cumulative development in the County of Fresno surrounding Kerman in combination with development proposed under the 2040 General Plan may contribute to the loss of foraging and breeding habitat for special status species, decline of special status species, fragmentation of habitat and isolation of populations, and decrease of movement opportunities. Implementation of the 2040 General Plan would increase density and intensity of existing land uses and discourage sprawling development and unnecessary expansion of City limits to conserve existing agricultural resources and limit impacts on special status species. Therefore, implementation of the 2040 General Plan would have an incremental contribution to cumulative impacts associated with biological resources and impacts to biological resources would not be cumulatively considerable. Cumulative impacts would be less than significant.

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4.5 Cultural Resources

The analysis in this section has been prepared in accordance with CEQA Guidelines Section 15064.5 and considers potential impacts to archaeological and historic resources. This section includes a brief summary of background information on cultural resources, a review of known archaeological and built environment resources, and an analysis of the 2040 General Plan's potential impacts on these resources. Potential impacts to paleontological resources are addressed in Section 4.7, *Geology and Soils*. Potential impacts to tribal resources are addressed in Section 4.16, *Tribal Cultural Resources*.

4.5.1 Setting

a. Cultural Setting

Regional Prehistory

During the twentieth century, many archaeologists developed chronological sequences to explain prehistoric cultural changes within all or portions of northern California (c.f., Jones and Klar 2007:308-312; Moratto 1984:248-250). California prehistory is generally divided into three broad time periods: Paleoindian period (ca. 11,550-8,550 B.C.), Archaic Period (8,550 B.C.-A.D. 1100), and Emergent Occupation (A.D. 1000- European Contact). The following prehistoric chronological sequence for the Central Valley presented is based on Rosenthal et al. (2007) and Moratto (1984).

Paleoindian Period (11,550-8,550 B.C.)

There is little known information about the Paleoindian period in the Central Valley. Geoarchaeological studies have demonstrated that erosion and deposition have buried or destroyed early archaeological deposits. Most claims of ancient human occupation have been dismissed by Moratto (1984) based on radiocarbon dating. Currently (2019), the earliest accepted date of human occupation in the Central Valley ranges from 11,550 to 9,550 B.C. and comes from fluted projectile points similar to Clovis points found at sites near Tracy Lake and the Tulare Lake Basin (Rosenthal et al. 2007).

Lower Archaic (8,550-5,550 B.C.)

Climate change at the end of the Pleistocene caused significant periods of alluvial deposition beginning around 9,050 B.C. The Lower Archaic, like the Paleoindian Period, is represented only by limited isolated finds. Only one Lower Archaic site (KER-116) has been identified in the Central Valley and few in the surrounding foothills (Rosenthal et al. 2007). Typical Lower Archaic artifacts include flaked stone crescents and stemmed points. The identification of projectile points and a diverse faunal assemblage at KER-116 point to hunting being an important subsistence activity. However, milling tools and plant remains are largely absent in the valley, therefore, plant use during the Lower Archaic remains unclear. Several foothill sites contain milling implements and evidence of the use of nut crops, such as acorn and pine. The relationship between foothill and valley floor adaptations is largely unknown during the Lower Archaic. However, distinct adaptations are apparent in the Middle Archaic, and it is possible that these divergent traditions first emerged in the Lower Archaic (Rosenthal et al. 2007).

Middle Archaic (5,550-550 B.C.)

The Middle Archaic began with substantial climate change to much warmer, drier conditions. Tulare Lake shrank and eventually disappeared. Fans and floodplains stabilized after an initial period of deposition in 5,550 B.C. Archaeological deposits dating to the Middle Archaic are rare in the Central Valley because of these geomorphic changes. The Middle Archaic record has revealed a pattern of organized subsistence strategies and increased residential stability. The archetypal pattern of the Middle Archaic has been identified as the Windmill Pattern. This pattern is represented by extended burials oriented to the west and a sophisticated material culture (Rosenthal et al. 2007). Middle Archaic sites are relatively common in the foothills surrounding the Central Valley and show relatively little change from the Lower Archaic (Rosenthal et al. 2007).

During this time, the mortar and pestle become more widespread, suggesting a shift toward more intensive subsistence practices. Fishing technologies, such as bone gorges, hooks, and spears, also appeared during the Middle Archaic suggesting a new focus on fishing. Several other technologies become apparent during this time. Baked-clay impressions of twined basketry, simple pottery, and other baked clay objects have been found at several sites. Personal adornment items also become more frequent. Exchange with outside groups is evidenced by the presence of obsidian, shell beads, and ornaments (Rosenthal et al. 2007; Moratto 1984). Trade also seemed to be focused on utilitarian items such as obsidian or finished obsidian tools from at least five separate sources (Moratto 1984).

Upper Archaic (550 B.C.-A.D. 1100)

The Upper Archaic began with the onset of the Late Holocene, which is marked by a cooler, wetter climate. The environmental conditions of the Upper Archaic were characterized by the return of lakes that had disappeared during the Middle Archaic and a renewed fan and floodplain deposition. The Upper Archaic is better represented in the archaeological record than earlier periods. Cultural diversity was more pronounced and is marked by contrasting material cultures throughout the valley (Rosenthal et al. 2007).

During this period, numerous specialized technologies were developed such as bone tools and implements, manufactured goods such as Olivella and Haliotis beads and ornaments, well-made ceremonial blades, and ground-stone plummets. People living in the San Joaquin Valley region traded with neighboring groups for obsidian. While Upper Archaic period economies varied by region throughout the Central Valley, they were primarily focused on seasonal resources such as acorns, salmon, shellfish, rabbits, and deer (Rosenthal et al. 2007).

Emergent Occupation (A.D. 1000-Historic)

The stable climatic conditions of the Upper Archaic continued into the Emergent Period. There has been sporadic research on the San Joaquin Valley during this time period, so only the Pacheco Complex on the western edge of the valley has been formally defined. After A.D. 1000, many of the technologies witnessed during the Archaic disappeared and were replaced by cultural traditions witnessed at European contact. During the Emergent Period, the bow and arrow replaced the atlatl as the preferred hunting method sometime between A.D. 1000 and 1300.

Increased social complexity is evidenced by increased variation in burial types and offerings and larger residential communities. Grave offerings such as shell beads, ornaments, ritually “killed” items, and mortars and pestles are often found in burials. Pottery was frequently obtained through trade with groups living in the foothills to the east. The Panoche side-notched point became

important in the western side of the San Joaquin Valley (Rosenthal et al. 2007). In addition to the side-notched point, the Panoche Complex featured large circular structures, flexed burials, marine shell beads, bone awls, milling stones, and mortars and pestles (Moratto 1984).

As with the Archaic Period, Emergent Period economies varied geographically, although throughout the Central Valley fishing and plant harvesting increased in importance. Most Emergent residential sites contain diverse assemblages of mammal and bird remains and large amounts of fish bone. After 1,000 years, the mortar and pestle become the dominant tool type and small seeds increase in archaeological deposits over time (Rosenthal et al. 2007).

Ethnography

The San Joaquin Valley was historically occupied by the Penutian-speaking Yokuts (Kroeber 1925; Wallace 1978; Latta 1999). The Planning Area is in a transitional zone between the Northern Valley and Southern Valley Yokuts (Wallace 1978). Adjacent native groups include the Salinan and Costanoan to the west, Foothill Yokuts and Sierra Miwok to the east, and Kitanemuk and Chumash to the south (Kroeber 1925). The three geographical divisions of the Yokuts are the Northern Valley, Southern Valley, and Foothill Yokuts. The distinction between the three groups is primarily based on language dialect (Wallace 1978).

The Yokuts established permanent villages. Residential structures were most often of two types: single-family dwellings and larger communal residences that housed 10 families or more. Villages frequently included mat-covered granaries and a sweathouse (Wallace 1978).

Yokuts subsistence was based on a mixed economy focused on fishing, collecting, and hunting small game. Fishermen employed tule rafts and caught fish with nets, spears, basket traps, and bow and arrow. Yokuts often gathered mussels and hunted turtles in lakes, rivers, and streams. Wild seeds and roots contributed a large portion of the Yokuts diet. Tule roots were gathered, dried, and pounded into a flour to be prepared as a mush. Tule seeds and grass and flowering herb seeds were prepared in the same way. Leaves and stems of certain plants, such as clover and fiddleneck, were also collected. Acorns, a staple of most California Native Americans, were not readily available in the Yokuts ethnographic territory. Some Yokuts tribes journeyed to neighboring groups to trade for acorns. Waterfowl was frequently hunted with snares, nets, and bow and arrow. Land mammals and birds contributed a smaller part of the Yokuts diet.

Small game was occasionally taken in snares or traps, or shot with bows and arrows (Wallace 1978). The basic economic unit among the Yokuts was the nuclear family. Totemic lineages were based on patrilineal descent. Totem symbols were passed from father to offspring and families sharing the same totem formed an exogamous lineage. Totems were associated with one of two moieties, a division which played a role during ceremonies and other social events (Wallace 1978).

Yokuts were split into self-governing local groups, most often including several villages. Each group had a chief who directed ceremonies, mediated disputes, handled punishment of those doing wrong, hosted visitors, and provided aid to the impoverished. In certain cases, settlements had two chiefs, one for each moiety. Other political positions included the chief's messenger and the spokesman (Wallace 1978).

Shamans were also an important part of Yokuts village life. The Yokuts' Shaman gained power through a dream or vision. If, after this vision, the man accepted the role as shaman, he would pray, fast, and acquire talismans to aid him in his future work. Shamans had the ability to heal the sick and served the primary role in religious life (Wallace 1978).

Yokuts technology depended primarily on tule. Stems of the plant served as the raw material for baskets, cradles, boats, housing, and many other items. Tools such as knives, projectile points, and scraping tools were made from imported lithic materials as stone was not readily available in the Central Valley. Marine shells secured through trade with coastal peoples were used in the manufacture of shell money and personal adornment items (Wallace 1978).

Historic Setting

Post-European contact history for the State of California is generally divided into three periods: the Spanish Period (1769-1822), the Mexican Period (1822-1848), and the American Period (1848-present).

Spanish Period (1769-1822)

In 1542, Juan Rodriguez Cabrillo led the first European expedition to observe what is now known as southern California. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper) California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Kyle 2002).

Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823. Portolá continued north, eventually reaching the San Francisco Bay in 1769. In 1772, Pedro Fages led the first Europeans to enter the San Joaquin Valley. Fages led a small expedition into the southernmost part of the valley, stopping at a village on the shores of Buena Vista Lake, before heading towards San Luis Obispo. The next European to enter the valley was Francisco Garcés in 1776. In the early 1800s, numerous expeditions were made into the Central Valley to search for land for new missions or to recapture runaway neophytes. However, the Spanish never succeeded in taking control of the region and no missions were established in the Central Valley. Perhaps the most lasting fixture the Spanish built in the San Joaquin Valley was El Camino Viejo, also known as the Los Angeles Trail, an early 19th Century ox cart trail whose eastern branch passed through the present Fresno County (Kyle 2002).

Mexican Period (1822-1848)

The Mexican Period commenced when news of the success of the Mexican Revolution against the Spanish crown (1810-1821) reached California in 1822. This period was an era of extensive interior land grant development and exploration by American fur trappers west of the Sierra Nevada Mountains. Beginning in 1833, mission lands were conferred as rancho grants. Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Kyle 2002). However, no ranchos were established in the San Joaquin Valley (Nettles and Baloiian 2006).

American Period (1848-Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of southern California continued dramatically in the early American Period.

The discovery of gold in northern California in 1848 led to the California Gold Rush, although the first California gold was actually discovered in Placerita Canyon near the San Fernando Mission in

1842 (Workman 1935). In 1850, California was admitted into the United States and by 1853, the population of California exceeded 300,000. While gold prospectors were among the earliest American-era settlers of what is now Fresno County, gold mining there was relatively unproductive and ran its course by the early 1950s (Kyle 2002). Thousands of settlers and immigrants continued to move into the state, particularly after the completion of the transcontinental railroad in 1869 (Kyle 2002; Nettles and Baloian 2006).

Fresno County was established on April 19, 1856. Fresno County underwent four stages of development: the mining period, which continued into the 1860s; the sheep and cattle-raising period from the 1860s to 1874; the general farming period from the 1870s; and the later transition to irrigated row crops. Moses J. Church developed some of the county's first canals, fostering an era of prosperous irrigated row crop farming (Shallat 1978). To this day, agriculture remains a major facet of Fresno County's economy.

Kerman

The Southern Pacific (SP) Railroad Company established the nucleus of settlement now known as Kerman in the late 19th Century, naming it Collis, in honor of SP president Collis P. Huntington. When it was founded in 1891, Collis consisted of a railroad stop and water pump located on SP's line between Fresno and Tracy (City of Kerman 2018; Vandor 1919).

In 1900, William G. Kerckhoff and Jacob Mansar, a pair of Los Angeles-based capitalists, acquired approximately 3,000 acres of land in the area near Collis. The pair formulated plans for a new town immediately north of the Collis rail stop, renaming the prospective settlement Kerman (a name formed from the first three letters of two men's surnames) (City of Kerman 2018). In 1906, the Fresno Irrigated Farms Company, of which Kerckhoff was president, began marketing Kerman as part of the company's 26,000-acre Bank of California Tract, a venture made feasible by the recent opening of the Fresno Irrigation Canal Company's system. Fresno Irrigated Farms marketed their subdivision not only the promise of its productive, irrigated farmland, but also on Kerman's potential as the tract's full-service transportation hub and commercial center (Martin 1906). In a promotional pamphlet for the Bank of California Tract, Fresno Irrigated Farms trumpeted plans for the new town's "wide streets, large lots, and a beautiful oval plaza" (Martin 1906). As plans were being completed, the company announced the construction of a "new, modern hotel" and general store near the existing SP station. The town was laid out in 1907, and by the second decade of the 20th Century, historical photographs indicate that the Madera Street plaza (the current Plaza Veterans Park) was developed, with commercial buildings standing on either side of the street (Fresno Bee 1953; Calisphere 2018a; Semas 2017).

Kerman developed gradually in the first half of the 20th Century. In 1914, the area that is now Kerman was farm town of 400 residents (Kerman 2018). By 1919, the town had grown into what one observer described as "a railroad freight transfer point" and "the central point in a 26,000-acre colonization tract." Although a November 1917 fire had destroyed the Fresno Farms Company block and severely damaged the Kerman Hardware Company's store, by the early 1920s, buildings had continued to fill the commercial lots flanking the plaza, while a number of "bungalows" emerged in the area bounded generally by Fourth Street, Ninth Street, E Street, and California Avenue (now A Street) (Calisphere 2018a; USGS 1922; Vandor 1919). There were at least two public schools in the area now known as Kerman by the early 1920s: Kerman Grammar School and Kerman High School (Calisphere 2018b and 2018c). The town's growth continued into the mid-1940s. When the community voted to incorporate in 1946, Kerman's population was 1,050 (Kerman 2018).

In the decades following Kerman's incorporation, the city experienced a growth spurt consistent with that in much of post-World War II California. Public investments included the acquisition and expansion of the City's water and sewer in the 1950s and the construction of new junior high and high schools in the 1960s. By the early 1960s, developers had begun to build new residential subdivisions on the former crop fields north, east, and west of the City's historic core. The main commercial district expanded along Madera Street, north of E Street (NETR 2018). Kerman's growth continued in each of the following decades, with the city reaching a population of more than 13,000 in 2010.

A review of historical photographs and USGS topographical maps suggest that potential historical resources aged 45 years or older may be located in Kerman. The city's historic commercial core is one area in which potential historical resources could be found. Historic aerial photographs suggest that a concentration of pre-1962 (and in some cases pre-1946) commercial buildings on South Madera Street, between A Street and G Street, with the highest concentration found in the northern half of this area. Also, within the commercial core, Plaza Veterans Park is of particular significance because it appears to retain much of its early 20th Century form. The older residential areas surrounding the commercial core are also of interest. The area bound by A Street, Kearney Boulevard, First Street, and Ninth Street potentially contains the city's largest concentration of houses built before 1962. There also appear to be several homes that date to before 1946 on the blocks bound by C, E, Second, and Fourth streets (USGS 1922; USGS 1957; Calisphere 2018a; NETR 2018).

Known Cultural Resources

According to the Office of Historic Preservation, no resources listed on the National Register of Historic Places, California Register of Historical Resources, the California Historical Landmarks, or the California Points of Historical Interest are located within Kerman. Kerman does not maintain a register of local historical resources.

Potential Cultural Resources

A review of historical photographs and USGS topographical maps suggests that potential historical resources aged 45 years or older may be located in Kerman. Kerman's historic commercial core is one area in which potential historical resources could be found. Historic aerial photographs suggest that a concentration of pre-1962 (and in some cases pre-1946) commercial buildings on South Madera Street, between A Street and G Street, with the highest concentration found in the northern half of this area. Also, within the commercial core, Plaza Veterans Park is of particular note, as it appears to retain much of its early twentieth-century form. The older residential areas surrounding the commercial core are also of interest. The area bound by A Street, Kearney Boulevard, First Street, and Ninth Street potentially contains the city's largest concentration of houses built before 1962. There also appear to be several homes that date to before 1946 on the blocks bounded by C, E, Second, and Fourth Streets (USGS 1922; USGS 1957; Calisphere 2018a; NETR 2018).

b. Regulatory Setting

Federal

The definition of a Federal undertaking in 36 Code of Federal Regulations (CFR) 800.16(y) includes projects requiring a Federal permit, license, or approval. Cultural resources are considered during Federal undertakings chiefly under Section 106 of the NHPA of 1966 (as amended) through one of

its implementing regulations, 36 CFR 800 (Protection of Historic Properties). Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of the NHPA, and Section 106 (36 CFR 800.3–800.10). Other Federal laws include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act (AIRFA) of 1978, the Archaeological Resources Protection Act (ARPA) of 1979, and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1989, among others.

National Historic Preservation Act, Section 106

Section 106 of the NHPA (16 United States Code [USC] 470f) requires Federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, the significance of any adversely affected historic property is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level. Historic properties are those significant cultural resources that are listed in or are eligible for listing in the NRHP (36 CFR 60.4).

State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (CEQA Guidelines, Section 15064.5[a][1-3]).

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds

Cultural Resources

Under CEQA, any project that may cause a substantial adverse change in the significance of a historical resource would also have a significant effect on the environment. According to Appendix G of the *CEQA Guidelines*, impacts related to cultural resources from the proposed project would be significant if the project would:

1. Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
3. Disturb any human remains, including those interred outside of dedicated cemeteries

The significance of a cultural resource and subsequently the significance of any impact is determined by among other things, consideration of whether or not that resource can increase our knowledge of the past. The determining factors are site content and degree of preservation. A finding of archaeological significance follows the criteria established in the *CEQA Guidelines*.

CEQA Guidelines Section 15064.5 (Determining the Significance of Impacts to Archaeological Resources) states:

(3) [...] Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, § 5024.1, Title 14 CCR, Section 4852).

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

Historical resources are “significantly” affected if there is demolition, destruction, relocation, or alteration of the resource or its surroundings. Generally, impacts to historical resources can be mitigated to below a level of significance by following the Secretary of the Interior’s Guidelines for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings [CEQA Guidelines Section 15064.6(b)]. In some circumstances, documentation of a historical resource by way of historic narrative photographs or architectural drawings will not mitigate the impact of demolition below the level of significance [CEQA Guidelines Section 15126.4(b)(2)]. Preservation in place is the preferred form of mitigation for archaeological resources as it retains the relationship between artifact and context, and may avoid conflicts with groups associated with the site [CEQA Guidelines Section 15126.4 (b)(3)(A)]. If an archaeological resource does not meet the historic resource or the more specific “unique archaeological resource” definition, impacts do not need to be mitigated [CEQA Guidelines Section 15064.5(e)]. Where the significance of a site is unknown, it is presumed to be significant for the purpose of the EIR investigation.

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the General Plan cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?
Threshold 2:	Would the General Plan cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Impact CUL-1 DEVELOPMENT FACILITATED BY THE 2040 GENERAL PLAN HAS THE POTENTIAL TO IMPACT HISTORICAL AND UNIQUE ARCHAEOLOGICAL RESOURCES. HOWEVER, ADHERENCE TO EXISTING REGULATIONS AND POLICIES IN THE 2040 GENERAL PLAN WOULD REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

Based on CEQA Guidelines Section 15064.5, future development activities facilitated by the 2040 General Plan would have a significant impact on historical resources if it would cause a substantial adverse change in the significance of a historical resource. Historical resources include properties eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or the local register of historical resources. In addition, as explained in Section 15064.5, “[s]ubstantial adverse change in the significance of an historical resource means physical

demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.”

Although there are no specific development projects associated with the 2040 General Plan, implementation of the plan would guide development in the Planning Area through the year 2040. Development under the proposed 2040 General Plan could affect known or unknown historic or archaeological resources.

The 2007 General Plan EIR indicates a search of the California Archaeological Inventory database revealed that no known archaeological sites are located within the 2007 Planning Area or on adjacent properties. At the time, two linear archaeological investigations had been conducted near the Planning Area. In 1988, Noble and Weigel conducted a 4.5-mile survey along Madera Avenue, south of the City limits. A second, smaller survey north of the Planning Area was also conducted but did not reveal any archaeological finds (Kerman 2007).

According to the Office of Historic Preservation, no resources within Kerman were listed on the National Register of Historic Places, California Register of Historical Resources, the California Historical Landmarks, or the California Points of Historical Interest are located within Kerman (Kerman 2019). Although, Buildings and other resources older than 45-years of age have the potential to qualify as a historic resource, Kerman does not maintain a register of local historical resources.

Effects on archaeological resources would be discoverable once a specific project has been proposed and would be highly dependent on the individual project site conditions and the characteristics of the proposed ground-disturbing activity. Ground-disturbing activities associated with development planned for in the 2040 General Plan have the potential to damage or destroy previously unknown archaeological resources that may be present on or below the ground surface. This is particularly the case in areas that have not previously been developed with urban uses, have not been studied through an archaeological resources investigation, or when excavation depths exceed those previously attained. Consequently, damage to or destruction of previously unknown sub-surface archaeological resources could occur due to development under the proposed 2040 General Plan. To ensure that development within Kerman does not have a detrimental effect on archaeological resources, each project will need to be assessed once it is proposed.

Chapter 17.49.060 of the City of Kerman Code of Ordinances requires that all discretionary proposals consider the potential to disturb significant cultural resources, and further survey and evaluation be performed by a qualified professional in areas where such resources may exist. The 2040 General Plan Conservation, Open Space, Parks and Recreation Element and Land Use Element includes policies and implementation programs to protect cultural resources, included below.

Conservation, Open Space, Parks and Recreation Element Goals and Policies

Goal COS-3: To protect sites and structures of historical and cultural significance, and to enhance the availability of new cultural amenities.

- **Policy COS-3.1: Tribal Consultation Requirements Compliance.** The City shall continue to comply with SB 18 and AB 52 by consulting with local California Native American tribes. If archaeological resources of Native American origin are identified during project construction, a qualified archaeologist shall consult with Kerman to begin Native American consultation procedures. Appropriate Native American tribes shall be contacted by the City or qualified archaeologist. As part of this process, it may be determined that archaeological monitoring may be required; a Native American monitor may also be required in addition to the archaeologist.

The project proponent shall fund the costs of the qualified archaeologist and Native American monitor (as needed) and required analysis and shall implement any mitigation determined to be necessary by the City, qualified archaeologist, and participating Native American tribe.

Land Use Element

- **Policy LU-7.3: CEQA Compliance.** The City shall review projects for compliance with the California Environmental Quality Act (CEQA), including the requirements outlined in Table A-1 in Appendix A to reduce adversity to environmental impacts. (See Appendix A, Historical and Archeological Resource)

Impacts on historic and archaeological resources can only be determined once a specific project has been proposed because the effects depend on both the individual built structure or historic resource and the characteristics of the proposed activity. Specifically, implementation of the COS-3.1 and LU-7.3 would reduce project-specific impacts to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3: Would the General Plan disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-2 GROUND DISTURBING ACTIVITIES ASSOCIATED WITH DEVELOPMENT FACILITATED BY THE 2040 GENERAL PLAN COULD RESULT IN DAMAGE TO OR DESTRUCTION OF HUMAN BURIALS; HOWEVER, ADHERENCE TO EXISTING REGULATIONS AND POLICIES IN THE 2040 GENERAL PLAN WOULD REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

Human burials outside of formal cemeteries often occur in prehistoric archeological contexts. Although much of the Planning Area is built out or previously disturbed from agricultural activities, the potential still exists for these resources to be present. Excavation during construction activities in the city would have the potential to disturb these resources, including Native American burials.

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California Public Resources Code. The California Health and Safety Code (Sections 7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protects them from disturbance, vandalism, or destruction, and established procedures to be implemented if Native American skeletal remains are discovered. Public Resources Code Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and established the NAHC to resolve any related disputes.

Development facilitated by the 2040 General Plan would be required to adhere to the regulations listed in the Public Resources Code, which would ensure that formalized procedures such as halting construction work and retaining the County Coroner are undertaken if human remains are unearthed during any future construction activities. As a result, due to required adherence to existing regulations, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Cumulative development in the 2040 General Plan Planning Area may contribute to impacts on cultural resources as growth occurs in the region. The increase in growth from cumulative development may impact existing and previously undisturbed and undiscovered historical, archaeological, and paleontological resources. While most cultural resources are typically site-specific, with impacts that are project-specific, others may have regional significance; for example, an historical structure that represents the last known example of its kind. For such a resource, cumulative impacts, and the contribution of the 2040 General Plan to them, would be potentially significant. Implementation of the 2040 General Plan policies outlined in this section would reduce the cumulative cultural resources impacts due to development facilitated by the 2040 General Plan to a less than significant level.

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4.6 Energy

This section discusses the energy impacts of implementing the 2040 General Plan, following the guidance for evaluation of energy impacts in Appendix C of the CEQA Guidelines.

4.6.1 Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and can generate greenhouse gas (GHG) emissions that contribute to climate change. Fossil fuels are burned to power vehicles, to generate electricity for powering residences and commercial/industrial buildings, and to heat and cool building spaces. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes such as auto, carpool, and public transit; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

a. Energy Supply

Petroleum

California

California is one of the top producers of petroleum in the nation, with drilling operations occurring throughout the state, but primarily concentrated in Kern and Los Angeles counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay area. Crude oil production in California and Alaska is in decline, and California refineries have become increasingly dependent on foreign imports (California Energy Commission [CEC] 2019a). Foreign suppliers now produce more than half of the crude oil refined in California (CEC 2016a).

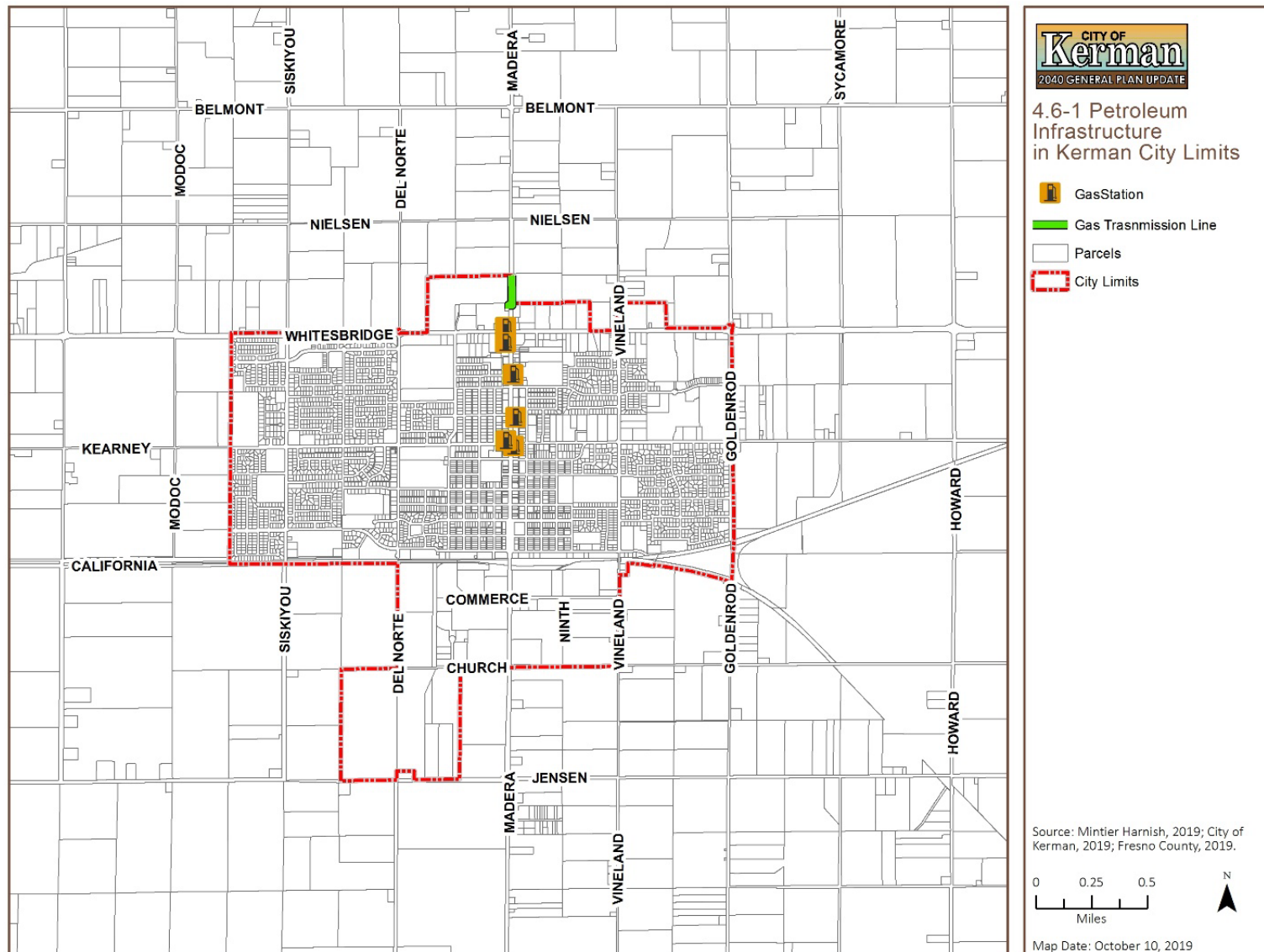
City of Kerman

Petroleum fuels are generally purchased by individual users such as residents and employees. As shown in Figure 4.6-1 while no petroleum refineries are located in the City limits, six gasoline stations are present in the City limits (EIA 2019b; Google 2019). This figure also shows transmission pipelines in Kerman; however, these are natural gas transmission pipelines and not petroleum fuel pipelines (National Pipeline Mapping System [NPMS] 2019). According to the Division of Oil, Gas, and Geothermal Resources (DOGGR), no abandoned, orphaned, or operating oil wells exist within the Planning Area (DOGGR 2019a).

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various statewide regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle with transportation fuels including the following:

Figure 4.6-1 Petroleum Infrastructure in Kerman City Limits



Hydrogen

Hydrogen is being explored for use in combustion engines and fuel cell electric vehicles. The interest in hydrogen as an alternative transportation fuel stems from its clean-burning qualities, its potential for domestic production, and the fuel cell vehicle's potential for high efficiency, which is two to three times more efficient than gasoline vehicles. Currently, 42 hydrogen refueling stations are located in California; however, none are located in Kerman (DOE 2019a).

Biodiesel

Biodiesel is a renewable alternative fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is biodegradable and cleaner-burning than petroleum-based diesel fuel. Biodiesel can run in any diesel engine generally without alterations; however, fueling stations have been slow to make it available. There are currently 11 biodiesel refueling stations in California, none of which is located in Kerman (DOE 2019b).

Electric Vehicles

Electricity can be used to power electric and plug-in hybrid electric vehicles directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored as a way to use electricity generated onboard the vehicle to power electric motors. There is one electrical charging station in Kerman, located at 15100 West Kearney Boulevard (DOE 2019c).

Natural Gas

California

Natural gas continues to play an important and varied role in California. The State's net natural gas production for 2017 was 162.7 billion cubic feet, or approximately 168,720 billion British thermal units (Btu), representing an increase of 3.6 percent from 2016 production (DOGGR 2018).

2018 California Gas Report

The 2018 California Gas Report presents a comprehensive outlook for natural gas requirements and supplies for California through the year 2035. The report is prepared in even-numbered years, followed by a supplemental report in odd-numbered years, in compliance with California Public Utilities Commission (CPUC) Decision D.95-01-039. The projections contained in the California Gas Report are for long-term planning and do not necessarily reflect the day-to-day operational plans of the utilities (California Gas and Electric Utilities [CGEU] 2018).

California natural gas demand, including volumes not served by utility systems, is expected to decrease at a rate of 0.5 percent per year from 2018 to 2035. The forecasted decline is due to a combination of moderate growth in the Natural Gas Vehicle market and across-the-board declines in all other market segments: residential, commercial, electric generation, and industrial markets (CGEU 2018).

Residential gas demand is expected to decrease at an annual average rate of 1.4 percent. Demand in the commercial and industrial markets are expected to increase slightly at an annual rate of 0.2 percent. Stricter codes and standards coupled with more aggressive energy efficiency programs and new goals laid out in Senate Bill (SB) 350, discussed further under *Regulatory Setting*, are making a

significant impact on the forecasted load for the residential, commercial, and industrial markets (CGEU 2018).

For the purposes of load-following as well as backstopping intermittent renewable resource generation, gas-fired generation will continue to be the primary technology to meet the ever-growing demand for electric power; however, overall gas demand for electric generation is expected to decline at 1.4 percent per year for the next 17 years due to more efficient power plants, statewide efforts to minimize GHG emissions through aggressive programs pursuing demand-side reductions, and the acquisition of preferred power generation resources that produce little or no carbon emissions (CGEU 2018).

California's existing gas supply portfolio is regionally diverse and includes supplies from California onshore and offshore sources, Southwestern United States supply sources, the Rocky Mountains, and Canada (CGEU 2018).

City of Kerman

As shown in Figure 4.6-1, the city does not contain any natural gas wells. As no abandoned, orphaned, or active gas wells are located within Kerman (DOGGR 2019a), the City does not produce any natural gas within the 2040 General Plan Planning Area.

Electricity

California

In 2018, California's in-state electric generation totaled 194,727 gigawatt-hours (GWh) (CEC 2019b). Primary fuel sources for the State's electricity generation in 2018 included natural gas (51.7 percent), large hydro (15.3 percent), solar photovoltaic (PV) (13.3 percent), wind (7.5 percent), geothermal (3.4 percent), nuclear (3.0 percent), small hydro (2.2 percent), biomass (1.6 percent), solar thermal (1.6 percent), coal (<1 percent), petroleum coke (<1 percent), waste heat (<1 percent), and oil (<1 percent) (CEC 2019b). In-state electricity generation capacity reached 80,304 megawatts (MW) in 2018 (CEC 2019b).

California's 2018 Integrated Energy Policy Report

Every two years, the CEC prepares the Integrated Energy Policy Report (IEPR). The 2018 update to the IEPR highlighted the implementation of California's innovative policies and the role the State played in establishing a clean energy economy. Volume II of the 2018 IEPR, referred to herein as the 2018 IEPR Update, was adopted in February 2019 and encompasses new analyses, as well as opportunities for public participation. According to the 2018 IEPR Update, California's electric grid relies increasingly on clean sources of energy such as solar, wind, geothermal, hydroelectricity, and biomass (CEC 2019c). As this transition advances, the grid is also expanding to serve new sectors including electric vehicles, rail, and space and water heating. California has installed more renewable energy than any other state in the United States with over 30,000 MW of utility-scale systems operational (CEC 2019c). California's Renewables Portfolio Standard (RPS) establishes increasing renewable energy procurement requirements for electricity utilities and other load-serving entities. The 2018 IEPR Update highlights the renewable portfolio (RPS) targets of 33 percent renewable energy sources by 2020 and 100 percent carbon-free energy sources by 2045, as established by SB 100 (CEC 2019c). As discussed further under *Regulatory Setting*, the RPS targets under SB 100 include 33 percent renewable sources by 2020, 50 percent renewable sources by

2026, 60 percent renewable sources by 2030, and 100 percent carbon-free sources by 2045 (California Legislative Information 2018).

City of Kerman

Pacific Gas and Electric (PG&E) is responsible for providing power supply to Kerman while complying with county, State, and federal regulations. PG&E's power system is one of the nation's largest electric and gas utilities and maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (PG&E 2019a). In 2018, PG&E's power mix, including all PG&E-owned generation plus PG&E's power purchases, consisted of 33 percent renewable resources, including wind, geothermal, biomass, solar, and small hydro, 27 percent nuclear generation, 20 percent natural gas, 18 percent large hydroelectric facilities, and 2 percent unspecified power that is not traceable to specific sources by any auditable contract trail (PG&E 2019b).

PG&E's 2018 Integrated Resource Plan

PG&E's 2018 Integrated Resource Plan serves as a roadmap through 2030 that guides PG&E's efforts to supply reliable electricity in an environmentally responsible and cost-effective manner. The Integrated Resource Plan introduces new constraints and considerations into the power system planning process and is intended to help applicable parties understand how load serving entities plan to shape their future energy portfolios to meet the State's clean energy goals. In the 2018 Integrated Resource Plan, PG&E analyzes three scenarios for 2030 that differ in various aspects, including the share of electric vehicles in the statewide fleet and availability of different energy sources. According to these scenarios, PG&E anticipates meeting a 2030 energy load demand of between 36,922 gigawatt hours (GWh) and 37,370 GWh (PG&E 2018).

b. Energy Demand

Petroleum

City of Kerman

Although the 2040 General Plan applies only to Kerman, the smallest scale to which petroleum consumption information is available is at the county level. Fresno County fuel sales are used herein to provide a regional context for fuel consumption in Kerman and the surrounding area. The most recent data for State and county fuel consumption are further illustrated in Table 4.6-1. As shown therein, in 2017 Fresno County consumed an estimated 367 million gallons of gasoline and 88.2 million gallons of diesel fuel (CEC 2019d). As Fresno County had a 2018 population of 1,007,252 (California Department of Finance [DOF] 2019), the County's annual per capita fuel consumption in 2017 consisted of 368.5 gallons of gasoline and 88.6 gallons of diesel fuel. As shown in Table 4.6-1, each person in Fresno County consumed approximately 51.8 million Btu in transportation fuel in 2017.

Table 4.6-1 2017 Annual Gasoline and Diesel Consumption

Fuel Type	Fresno County	County Per Capita Consumption (gallons)	County Per Capita Consumption (MMBtu)
Gasoline	367,000,000	368.5	40.5
Diesel	88,200,000	88.6	11.3
Total	455,200,000	457.1	51.8

Notes: Diesel and gasoline volumes are expressed in gallons while Btu volumes are expressed in millions of Btu (MMBtu).
Source: CEC 2019d

Natural Gas

City of Kerman

Although the 2040 General Plan applies only to Kerman, the smallest scale to which natural gas consumption information is available is at the county level. Therefore, natural gas consumption in Fresno County is used herein to characterize the City's existing natural gas consumption. According to the CEC, Fresno County consumed approximately 346.8 million U.S. Therms of natural gas in 2018 (CEC 2018a). With a population of 1,007,252 in 2018 (DOF 2019), Fresno County's 2018 per capita natural gas consumption was approximately 344.3 U.S. Therms. As shown in Table 4.6-2, Fresno County's per capita natural gas consumption in 2018 was approximately 32.2 million Btu.

Table 4.6-2 2018 Annual Natural Gas Consumption

Energy Type	Fresno County (U.S. Therms)	County Per Capita Consumption (U.S. Therms)	County Per Capita Consumption (MMBtu)
Natural Gas	346,754,247	346.8	32.2

Notes: Natural gas consumption volumes for Fresno County and California are expressed in U.S. Therms while County per capita consumption is expressed in U.S. Therms and millions of Btu (MMBtu).
Source: CEC 2018a

Electricity

City of Kerman

Although the 2040 General Plan applies only to Kerman, the smallest scale to which electricity consumption information is available is at the county level. Therefore, electricity consumption in Fresno County is used herein to characterize the City's existing electricity consumption. According to the CEC, Fresno County consumed approximately 7,604.6 GWh in 2018 (CEC 2018b). With a population of 1,007,252 in 2018 (DOF 2019), Fresno County's 2018 per capita electricity consumption was approximately 7.55 MWh. As shown in Table 4.6-3, Fresno County's per capita electricity consumption was approximately 93.0 million Btu in 2017.

Table 4.6-3 2017 Annual Electricity Consumption

Energy Type	Fresno County (MWh)	County Per Capita Consumption (kWh)	County Per Capita Consumption (MMBtu)
Electricity (MWh)	7,604,600.0	7,549.9	25.9

Notes: Electricity consumption volumes for Fresno County and California are expressed in megawatt-hours (MWh) while County per capita consumption is expressed in kilowatt-hours (kWh) and millions of Btu (MMBtu).

Source: CEC 2018b

4.6.2 Regulatory Setting

Federal

Energy Independence and Security Act of 2007

The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce U.S. dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil, and confronting global climate change. Specifically, it does the following:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard, requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels
- Reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020 – an increase in fuel economy standards of 40 percent

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles sold in the U.S. The law placed responsibility on the National Highway Traffic and Safety Administration, a part of the U.S. Department of Transportation, for establishing and regularly updating vehicle standards. The United States Environmental Protection Agency (USEPA) administers the Corporate Average Fuel Economy program, which determines vehicle manufacturers' compliance with existing fuel economy standards. Since the inception of the Corporate Average Fuel Economy program, the average fuel economy for new light-duty vehicles steadily increased from 13.1 miles per gallon for the 1975 model year to 30.7 miles per gallon for the 2014 model year and is proposed to increase to 54.5 by 2025. Light-duty vehicles include autos, pickups, vans, and sport-utility vehicles.

Energy Star Program

In 1992, the USEPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specification for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the USEPA joined with the Energy Department to expand the program, which now also includes qualifying commercial and industrial buildings, and homes.

State

California Energy Plan

The CEC is responsible for preparing the California Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The 2008 California Energy Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban designs that reduce vehicle miles travelled (VMT) and accommodate pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), the CEC and CARB prepared and adopted in 2003 a joint agency report, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand. Furthermore, in response to the CEC's 2003 and 2005 *Integrated Energy Policy Reports*, the Governor directed the CEC to take the lead in developing a long-term plan to increase alternative fuel use.

Integrated Energy Policy Report

SB 1389 (Chapter 568, Statutes of 2002) required the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The CEC uses these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. The most recent assessment, the *2018 Integrated Energy Policy Report*, contains two volumes. Volume I highlights the implementation of California's innovative policies and the role they have played in establishing a clean energy economy. Volume II, scheduled for completion in February 2019, will provide more detail on several key energy issues and will encompass new analyses, as well as significant opportunities for public participation (CEC 2018d).

Senate Bill 1078: California Renewables Portfolio Standard Program

SB 1078 (Chapter 516, Statutes of 2002), and as expanded under SB 2, established the RPS for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. SB 2 expanded this law and required procurement from eligible renewable energy resources to 33 percent by 2020. In addition, electricity providers subject to the RPS must increase their renewable share by at least one percent each year.

Senate Bill X1-2: California Renewable Energy Portfolio Standard

In 2011, the Governor signed SB X1-2, which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 33 percent of their electricity

supply from renewable sources by 2020. The CPUC and CEC jointly implement the statewide RPS program through rulemakings and monitoring the activities of electric energy utilities in the state.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. This act also requires doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

Senate Bill 100: California Renewable Energy Portfolio Standard Program: Emissions of Greenhouse Gases

Approved by the Governor on September 10, 2018, SB 100 amends the State's RPS program from 33 percent of electricity generation from renewable sources by 2020 and 50 percent by 2030 to 33 percent by 2020, 50 percent by 2026, 60 percent by 2030, and 100 percent carbon-free electricity generation by 2045.

Assembly Bill (AB) 1493: Reduction of Greenhouse Gas Emissions

AB 1493 (Chapter 200, Statutes of 2002), known as the Pavley bill, amended Health and Safety Code sections 42823 and 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required that the state of California apply for a waiver under the federal Clean Air Act. Although the USEPA initially denied the waiver in 2008, USEPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions.

Energy Action Plan

In the October 2005 *Energy Action Plan (EAP) II*, the CEC and CPUC updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP, such as the emerging importance of climate change, transportation-related energy issues and research and development activities. The CEC adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the State's ongoing actions in the context of global climate change.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required the CEC to prepare a plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other federal, State, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan, Executive Order S-06-06

Executive Order (EO) S-06-06, April 25, 2006, establishes targets for the use and production of biofuels and biopower, and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels in California by 2010, 40 percent by 2020, and 75 percent by 2050. EO S-06-06 also calls for the State to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and recommends actions to address them so that the State can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications
- Create jobs and stimulate economic development, especially in rural regions of the state
- Reduce fire danger, improve air and water quality, and reduce waste

Title 24, California Code of Regulations

California Code of Regulations, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. The CEC established Title 24 in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and nonresidential buildings. The standards are updated on an approximately three-year cycle to allow consideration and possible incorporation of new efficient technologies and methods. In 2016, the CEC updated Title 24 standards with more stringent requirements effective January 1, 2017. All buildings for which an application for a building permit is submitted on or after January 1, 2017, must follow the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The CEC Impact Analysis for California's 2016 Building Energy Efficiency Standards estimates that the 2016 Standards are 28 percent more efficient than the previous 2013 standards for residential buildings and five percent more efficient for non-residential buildings. The building efficiency standards are enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary due to local climatologic, geologic, or topographic conditions, provided these standards exceed those provided in Title 24.

California Green Building Standards Code (2016), California Code of Regulations Title 24, Part 11

California's Green Building Code, referred to as CalGreen, was developed to provide a consistent approach to green building in the State. Having taken effect in January 2016, the most recent version of CalGreen lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved energy efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety, and general welfare by promoting a more sustainable design.

Local

Fresno Council of Governments 2018 – 2042 Regional Transportation Plan/Sustainable Communities Strategy

The Regional Transportation Plan (RTP) is a comprehensive assessment of all forms of transportation available in Fresno County and of the needs for travel and goods movement. The 2014 RTP contains a Sustainable Communities Strategy (SCS) as required by SB 375. Enacted in 2008, SB 375 requires that each Metropolitan Planning Organization include an SCS that provides an integrated land use and transportation plan for meeting greenhouse gas emission reduction targets set forth by the California Air Resources Board (CARB).

In June 2018, Fresno COG adopted the 2018-2042 RTP/SCS. The Draft 2018-2042 RTP/SCS charts the 25-year course of transportation to 2042 to address greenhouse gas emissions reductions and other air emissions. The RTP is made up of a variety of different elements or chapters, and each element is augmented by additional documentation. The RTP also contains a chapter that establishes the SCS to show how integrated land use and transportation planning can lead to lower greenhouse gas emissions from autos and light trucks, as well as improve overall quality of life in the region.

Clean Energy Road Map

The City of Kerman partnered with Clean Energy Road Map and worked with the Sustainable Energy Roadmap team to develop a customized policy roadmap containing guidance on how to transform the local new energy economy. The Sustainable Energy Roadmap (SER) is an 18-month initiative focused on providing free resources and technical assistance to San Joaquin Valley jurisdictions to improve their sustainability and social equity goals. The program launched in January of 2015 and is sponsored by California's Strategic Growth Council. For Kerman, the SER is divided into the following sections:

- Water & Energy Efficiency
- Renewable Energy & Storage
- Social Equity
- Transportation & Land Use

The City and the Sustainable Energy Roadmap team suggests policies, identifies goals status, and provides guidance under each goal which are further divided into the subsections Policy, Permitting, Planning & Zoning, Financing, Market Development, and Workforce Development. As part of the 2040 General Plan, the City has added sustainable and energy efficiency policies that are in line with the Clean Energy Road Map (Clean Energy Roadmap, 2019).

City of Kerman Water Conservation Ordinance

Chapter 13.28 of the City's Municipal Code establishes provisions for water conservation practices and a water conservation plan to reduce water consumption within the city through conservation, enabling effective water supply planning, assuring reasonable and beneficial use of water, preventing waste of water, and maximizing the efficient use of water within the city. The ordinance sets limits on watering hours, watering days, and limits on the duration of watering landscaping, lawns or other vegetated areas with potable water. The City also prohibits the use of water to wash down hard or paved surfaces unless necessary for safety or sanitary hazards.

City of Kerman Green Building Standards Code

The City's Green Building Standards Code (Chapter 15.0 4 of the City's Municipal Code) formally adopts the 2016 California Green Building Standards Code (CalGreen) and State of California amendments, published by the California Building Standards Commission, and all revisions and amendments adopted by the California Building Standards Commission as the Green Building Standards Code of Union City. The California Energy Code is a part of the California Green Building Standards Code, and therefore a part of the City's Green Building Standards Code. The California Energy Code contains energy efficiency provisions, such as requiring energy efficient indoor light fixtures, and solar water-heating systems in certain restaurants.

4.6.3 Impact Analysis

a. Methodology and Thresholds of Significance

Significance Thresholds

The following thresholds of significance were developed in accordance with Appendix G of the CEQA Guidelines. Energy-related impacts would be significant if the 2040 General Plan would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation
2. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency

Methodology

Energy consumption is categorized herein in terms of "direct" and "indirect" energy. Direct energy accounts for energy consumed during operation of the transportation system and land use scenario envisioned under the 2040 General Plan, such as fuel consumed by vehicles, natural gas consumed for heating and/or power, and electricity consumed for power. Indirect energy is the energy needed for construction and maintenance of the transportation system and land use scenario facilitated by the 2040 General Plan. The analysis of direct energy involves the quantification of anticipated transportation fuel, natural gas, and electricity consumption under the 2040 General Plan and a qualitative discussion of the efficiency, necessity, and wastefulness of the energy consumption. Analysis of indirect energy involves a qualitative discussion of construction and maintenance energy requirements anticipated under buildout of the 2040 General Plan.

Direct Energy Consumption

Buildout of the 2040 General Plan would generate direct energy consumption from transportation fuel from the anticipated growth of residential, commercial and industrial land uses. Currently, there is not sufficient detail regarding the new development within the 2040 General Plan therefore build-out assumptions for direct energy impacts have been used to estimate energy usage for land use buildout.

Projections for the 2040 General Plan transportation fuel were calculated based on the Mobile Source Emission Inventory (EMFAC) 2014 database. As such, direct energy consumption from transportation fuel for the 2040 General Plan is discussed based on EMFAC 2014 projections and qualitatively. For 2040 natural gas and electricity consumption under buildout of the land use scenario envisioned by the 2040 General Plan, consumption factors were drawn from the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. The CalEEMod data is provided as

Appendix A. Transportation fuel, natural gas, and electricity per capita consumption in 2040 is presented in comparison to 2018 per capita consumption for informational purposes.

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact E-1 THE DEVELOPMENT AND POPULATION GROWTH FACILITATED BY THE 2040 GENERAL PLAN WOULD RESULT IN AN INCREASE OF OVERALL CONSUMPTION OF ENERGY COMPARED TO EXISTING CONDITIONS. HOWEVER, THE 2040 GENERAL PLAN IS BASED ON A LAND-USE STRATEGY THAT WOULD PROMOTE GREATER OVERALL ENERGY EFFICIENCY IN COMMUNITY AND MUNICIPAL OPERATIONS. 2040 GENERAL PLAN POLICIES AND IMPLEMENTATION PROGRAMS WOULD ENSURE THAT DEVELOPMENT UNDER THE 2040 GENERAL PLAN WOULD COMPLY WITH EXISTING ENERGY EFFICIENCY REGULATIONS, AND WOULD ENCOURAGE NEW DEVELOPMENT TO TAKE ADVANTAGE OF VOLUNTARY ENERGY EFFICIENCY PROGRAMS. WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY WOULD NOT OCCUR AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Development facilitated by the 2040 General Plan would involve the use of energy during construction and operation. Energy use during construction would be primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators for lighting. Temporary grid power may also be provided to construction trailers or electric construction equipment. Long-term operation of development projects would require permanent grid connections for electricity and natural gas service to power internal and exterior building lighting, and heating and cooling systems. In addition, the increase in vehicle trips associated with potential development would increase fuel consumption.

Daily operation of the regional transportation system uses energy in the form of fuel consumed by propulsion of passenger vehicles, including automobiles, vans and trucks, and transit vehicles, including buses and trains. Increases in motor vehicle trips are primarily a combined function of population and employment growth.

Table 4.6-4 shows daily VMT and estimated fuel consumption translated into energy use (Btu) in the City of Kerman under 2018 conditions and future 2040 conditions with implementation of the 2040 General Plan. As shown therein, direct transportation energy demand would increase from approximately 2,904.57 daily Btu per capita to approximately 4,698.01 daily Btu per capita, an increase of 2.8 percent over a 22-year period. However, proposed 2040 General Plan Policies from the Circulation Element listed below Table 4.6-4, would improve the availability of alternative transportation modes and help reduce congestion and overall demand for transportation fuels.

Table 4.6-4 Direct Transportation Energy Use in the City of Kerman

Year	Population	Daily VMT	Per Capita Btu/ VMT Factor	Direct Energy Consumption (Daily Per Capita MBtu)
2018	15,480	483,437	0.11	2,904.57
2040	19,650	781,939	0.11	4,698.01

Notes: Daily VMT for Existing and Existing + Proposed General Plan (as provided by Fresno COG) were applied to the 2018 and 2040 scenarios, respectively. Daily VMT and county-level fuel consumption information was used to derive a per capita daily Btu per VMT consumption factor. Per Capita Btu/VMT Factor is expressed in singular Btu while Daily Per Capita Direct Energy Consumption is expressed in thousands of Btu (MBtu).

The 2040 General Plan Circulation Element contains *Section 4.6 Alternative Transportation* with a goal and subsequent policies to promote a reduction in VMT through support of alternative transportation. While personal automobile travel has been the predominant transportation mode for residents in the City, there are two public transit systems that service Kerman: the Fresno County Rural Transit Agency (FCRTA) and the Westside Transit service. The City is working on upgrades to bicycle facilities, including construction of additional bicycle lanes, particularly along California Avenue. The City is also improving sidewalks, completing a trail that connects existing sidewalks and bike lanes, and adding amenities to rest areas, including park benches, lighting, and trash receptacles.

Circulation Element

Goal CIRC-5: To promote bicycling, walking, and using public transit, as functional alternatives to single-passenger automobile travel.

- **Policy CIRC-5.1: Alternative Modes of Transportation.** The City shall encourage project site designs and subdivision street and lot designs that support alternative modes of transportation, including public transit, bicycling, and walking.
- **Policy CIRC-5.2: Active Transportation.** The City shall encourage bicycling, walking, taking public transit, and carpooling as alternatives to driving single-passenger vehicles to reduce VMT, traffic congestion, and associated emissions from additional automobile use.
- **Policy CIRC-5.3: Continuous Bicycle Network.** The City shall design a safe and logical bicycle path network that links key destinations within the planning area to promote the use of bicycles as a mode of transportation to reduce greenhouse gas emissions and to encourage exercise.
- **Policy CIRC-5.4: Safe Sidewalks Along Whitesbridge and South Madera Avenues.** The City shall work with Caltrans to improve the sidewalks along Whitesbridge Avenue and South Madera Avenue to provide a safe, continuous, and ADA-compliant network that encourages walking, and contributes to a sense of community.
- **Policy CIRC-5.5: Pedestrian-Friendly Streets.** The City shall design and improve streets to be “pedestrian-friendly” by incorporating features including wide and unobstructed sidewalks, bulb outs at intersections, narrow traffic lanes at key locations to slow traffic speed, adequate street lighting, and trees for natural shade cover.
- **Policy CIRC-5.6: Transit Amenities.** The City shall encourage the development of facilities and services (e.g., streetlights, transit stop benches and shelters, mobile trip planning applications, and electronic transit fare payment systems) that promote transit use and contribute to community character.

- **Policy CIRC-5.8: Electric Vehicle Charging Stations.** The City shall support the installation of electric vehicle charging stations at County facilities, parking lots, park-and-ride lots, and truck stops.

Construction and maintenance of future land use development envisioned under the 2040 General Plan would result in short-term consumption of energy resulting from the use of construction equipment and processes. CalGreen includes specific requirements related to recycling, construction materials, and energy efficiency standards that would apply to construction of future development envisioned by the 2040 General Plan and would minimize wasteful, inefficient, and unnecessary energy consumption. Construction and operation of projects facilitated by the 2040 General Plan would be required to comply with relevant provisions of CalGreen and Title 24 of the California Energy Code, as well as the City's Water Conservation and Construction and Demolition Debris Recycling Ordinances, which would further avoid wasteful, inefficient, and unnecessary energy consumption.

Operation of the development facilitated by the 2040 General Plan would consume natural gas and electricity for building heating and power, lighting, and water conveyance, among other operational requirements. Table 4.6-5 displays per capita natural gas and electricity net new consumption under buildout of the 2040 General Plan. As shown therein, per capita natural gas consumption for the anticipated population growth and land use scenario envisioned under the 2040 General Plan would be approximately 51.3 MBtu and approximately 2,582 MBtu for electricity.

Table 4.6-5 Projected 2040 Annual Natural Gas and Electricity Consumption in the City of Kerman

Year	Per Capita Consumption	Direct Energy Consumption (Daily Per Capita MBtu)
Natural Gas	U.S. Therms	
2040 (Net New Only) ¹	0.55	51.29
Electricity	kWh	
2040 (Net New Only) ¹	756.79	2,582

Notes: The 2040 energy consumption shown in this table represents net new consumption only. Per capita consumption in 2040 is derived from dividing net new energy consumption by net new population anticipated by 2040 (19,650 people). Per capita energy consumption is expressed in U.S. Therms for natural gas, kilowatt-hours (kWh) for electricity, and thousands of Btu (MBtu) for both.

¹Net New: Difference between existing total usage and projected total usage.

The 2040 General Plan contains goals, policies, and implementation programs that would prevent inefficient, wasteful, and unnecessary energy consumption during construction and operation of development facilitated by the General Plan. The 2040 General Plan goals, policies, and implementation programs that present the greatest potential for reducing wasteful, inefficient, and unnecessary energy consumption are as follows:

Conservation, Open Space, Parks and Recreation Element

Goal COS-5: To minimize energy consumption and reduce greenhouse gas emissions as part of the statewide effort to combat climate change.

- **Policy COS-5.1: Reduction of Fossil Fuels Reliance.** The City shall promote the development and use of renewable energy resources (e.g., solar, thermal, wind, tidal) to reduce dependency on petroleum-based energy sources.

- **Policy COS-5.3: Sustainable Building Practices.** The City shall promote sustainable building practices that incorporate a “whole systems” approach to design and construction that consumes less energy, water, and other non-renewable resources, such as facilitating passive ventilation and effective use of daylight.
- **Policy COS-5.4: Renewable Energy Features in New Projects.** During the development review process, the City shall encourage projects to integrate features that support the generation, transmission, efficient use, and storage of renewable energy sources.
- **Policy COS-5.5: Energy-Efficient Municipal Buildings.** The City shall consider CALGreen Tier 1 energy performance, along with LEED Silver or Gold equivalent status for new municipal buildings to maximize energy efficiency.
- **Policy COS-5.6: Electric Vehicle Charging.** The City shall encourage and support expanding Electric Vehicle (EV) charging stations and the purchase of electric vehicles.
- **Policy COS-5.7: Energy Conservation Awareness.** The City shall increase awareness about energy efficiency and conservation to encourage residents, businesses, and industries to conserve energy.

Public Facilities and Services Element

Goal PFS-4: To support and invest in efficient energy practices at City facilities and events.

- **Policy PFS-4.1: Efficient City Operation and Maintenance.** The City shall operate and maintain City facilities in an efficient manner that meets community needs while conserving financial and natural resources.
- **Policy PFS-4.2: Energy Efficient Facility Retrofits and Expansions.** When retrofitting or expanding infrastructure and City facilities, the City shall prioritize energy efficiency and water conservation as key design features.

Housing Element

Goal HE-6: To encourage energy efficiency in all new and 2015-2023 Housing.

- **Policy HE-6.1: Energy Conservation in New Housing.** The City shall encourage the use of energy conserving techniques in the siting and design of new housing.
- **Policy HE-6.2: State Energy Conservation Requirements.** The City shall actively implement and enforce all State energy conservation requirements for new residential construction.
- **Policy HE-6.3: Public Education on Energy Conservation.** The City shall promote public awareness of the need for energy conservation.
 - **5.8 Implementation Program O: Housing Rehabilitation Program.** The City of Kerman is a participating jurisdiction in the Fresno County Housing Assistance Rehabilitation Program, which provides loans to qualifying homeowners in the unincorporated County and participating cities for the improvement of their homes. Eligible improvements include energy efficiency upgrades and installations, health and safety and hazard corrections, and accessibility modifications. Loan terms under this program vary according to household income and the improvements and repairs that are needed. City staff also serves as the USDA 504 single family housing home repair loan/grant packager for the City of Kerman. This grant/loan program assists seniors and low-income eligible families in obtaining grants or low-interest loans to make home repairs.

- **5.8 Implementation Program P: Fresno County Rental Rehabilitation Program (RRP).** This program provides no interest loans to qualifying property owners in the unincorporated County and participating cities for making improvements to their rental properties. The City of Kerman is a participating city. Eligible improvements include repairing code deficiencies, completing deferred maintenance, lead-based paint and asbestos abatement, HVAC repairs, energy efficiency upgrades, accessibility modifications, and kitchen and bathroom upgrades.
- **5.8 Implementation Program U: Energy Conservation.** The City promotes energy conservation in housing development and rehabilitation.

In addition to the above policies and implementation programs, the 2040 General Plan encourages infill and transit-oriented development and active transportation to reduce overall energy consumption and result in greater energy efficiency throughout the City. For example, the 2040 General Plan contains land-use strategies to prioritize increases in overall residential densities and building intensities and to encourage infill and renovation of existing structures to prevent development on surrounding agricultural lands. The 2040 General Plan also sets a strong community edge and directs new development to areas that are contiguous to existing or approved development to prevent sprawl. Mixed-use, transit-oriented, and higher-density developments improve energy efficiency as the resulting development pattern places City residents closer to places of employment, businesses residents patronize, and public transit facilities. By placing services and amenities close to where people live and work, the 2040 General Plan would minimize the need to drive and reduce per capita energy consumption and greenhouse gases.

Implementation of the 2040 General Plan policies and implementation programs listed above, as well as other policies and implementation programs contained in the 2040 General Plan that would result in indirect energy conservation, such as the promotion of alternative transportation, water conservation, and waste reduction, would promote greater energy efficiency in municipal and community operations and development. Furthermore, the 2040 General Plan contains a land-use strategy that actively promotes infill mixed-use and transit-oriented development, which would result greater energy efficiency overall for City residents, businesses, and City operations. Therefore, the 2040 General Plan would not result in wasteful, inefficient, or unnecessary consumption of energy. This impact would be less than significant.

Mitigation Measures

Mitigation is not required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Impact E-2 THE 2040 GENERAL PLAN WOULD BE CONSISTENT WITH ENERGY EFFICIENCY GOALS CONTAINED IN THE CITY OF KERMAN CLEAN ENERGY ROADMAP. CONSTRUCTION AND OPERATION OF PROJECTS FACILITATED BY THE 2040 GENERAL PLAN WOULD COMPLY WITH RELEVANT PROVISIONS OF THE STATE'S CALGREEN PROGRAM AND TITLE 24 OF THE CALIFORNIA ENERGY CODE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed in 4.6.1, *Setting*, Kerman developed a SER in 2015. The SER outlines strategies to assist in identifying areas where sustainable energy potential is abundant, but resources and information are scarce. With help from the SER team, the City received resources and support from industry experts to develop a customized policy roadmap containing guidance to set and pursue high-impact goals related to smart growth, transportation, land use, climate, and energy.

The 2040 General Plan contains new policies and goals which are in line with those identified by the SER. Table 4.5-6 below identifies just the SER suggested policies that are currently set as “in progress” for the City and where the 2040 General Plan is consistent with the SER to target energy efficiency and renewable energy. The SER goals that have already been met by the City are not included in this analysis.

Table 4.6-6 2040 General Plan Consistency with the City of Kerman Sustainable Energy Roadmap

Sustainable Energy Roadmap Policy Recommendation	General Plan Consistency
Water & Energy Efficiency	
Policy	
[POL1] Set energy efficiency target for existing municipal buildings and create an energy reduction plan to achieve goal.	<p>Consistent. The 2040 General Plan includes Section 8.4 Sustainable Municipality within the Public Facilities and Services Element to support and invest in efficient energy practices at City facilities and events. The subsequent goals and policies would allow the City to pursue development of the SER suggested policies within the City’s municipal facilities and departments.</p> <p>Section 5.7 Energy Conservation and Sustainable Development within the Housing Element of the 2040 General Plan supports energy conservation in residential buildings that would allow for the adoption of ordinances listed in the SER.</p>
[POL2] Establish energy- and water-efficient product procurement requirements for municipal agencies.	
[POL3] Adopt a temperature policy for municipal buildings with programmable thermostats.	
[POL4] Adopt ordinance requiring non-residential building energy benchmarking & public disclosure that is in compliance with AB 1103	
[POL5] Adopt ordinance requiring non-residential building energy benchmarking & public disclosure that is in compliance with AB 1103	
[POL6] Set water conservation target for municipal operations that exceeds state reduction goals.	

Sustainable Energy Roadmap Policy Recommendation	General Plan Consistency
Planning & Zoning	
<p>[Z1] Adopt a green building code with energy efficiency standards that exceed California Title 24 requirements.</p> <p>[Z2] Add an energy element or sustainability element to the municipal general plan.</p> <p>[Z3] Encourage use of cool roof materials and green roofs during roof upgrade projects.</p> <p>[Z5] Provide guidance for energy efficiency upgrades in historic buildings.</p> <p>[Z7] Explore adoption of a graywater ordinance.</p>	<p>Consistent. The 2040 General Plan includes goals to promote energy conservation and sustainable development, alternative transportation, energy resource conservation, and a sustainable municipality throughout the document. These goals and subsequent policies would allow the City to meet to recommended planning and zoning changes as listed in the SER.</p>
Financing	
<p>[F1] Publicize available rebates and incentives for energy efficiency upgrades for residents and businesses.</p> <p>[F2] Publicize available incentives and financing for energy efficiency upgrades to public agencies.</p> <p>[F4] Explore creation of revolving loan fund for municipal energy upgrades.</p> <p>[F6] Publicize available rebates and incentives for water efficiency upgrades and water-conserving appliances.</p> <p>[F7] Promote water and energy efficiency incentives and financial assistance resources to local industries.</p>	<p>Consistent. The 2040 General Plan includes goals and policies to increase public awareness of available funding for energy efficiency upgrades and programs. The Sustainable Municipality section includes prioritizing energy efficiency and water conservation as key design features. In addition, the Housing Element Section 5.7 Energy Conservation and Sustainable Development lists policies that would allow the City to explore financing opportunities listed in the SER.</p>
Market Development	
<p>[M3] Implement an energy upgrade program for residents, including low-income households, and local businesses. [M5] Encourage agricultural industry to take advantage of water efficiency opportunities.</p>	<p>Consistent. The Housing Element includes policies to assist residents in maintaining and improving residential properties through various housing rehabilitation assistance programs. In addition, under the Conservation, Open Space, Parks and Recreation Element, Section 6.4 Water Conservation tasks the City with encouraging farmers to use the latest irrigation techniques designed to reduce water consumption.</p>
Workforce Development	
<p>[WFD1] Publicize energy efficiency-focused workforce trainings and professional development resources to local technicians.</p> <p>[WFD2] Publicize water efficiency technical trainings and resources to area residents and professionals.</p> <p>[WFD3] Partner with local industry, academic and workforce organizations to provide water efficiency training programs.</p>	<p>Not Applicable. These goals are beyond the purview of the 2040 General Plan.</p>

Sustainable Energy Roadmap Policy Recommendation	General Plan Consistency
Renewable Energy & Storage	
Policy	
<p>[POL1] Establish a renewable energy target for municipal facilities or offset a portion of municipal electricity usage with green power.</p> <p>[POL1] Establish a renewable energy target for municipal facilities or offset a portion of municipal electricity usage with green power.</p>	<p>Consistent. The City currently has solar panels operating at the City's WWTP. In addition, Public Facilities and Services Element Section 8.4 Sustainable Municipality contains the following policy:</p> <ul style="list-style-type: none"> ▪ Policy PFS-4.2. Energy Efficient Facility Retrofits and Expansions. When retrofitting or expanding infrastructure and City facilities, the City shall prioritize energy efficiency and water conservation as key design features.
Permitting	
<p>[P1] Adopt standardized permitting application forms for various small-scale renewable energy and energy storage systems.</p> <p>[P2] Provide an overview of the permitting and inspection process for locally relevant types of renewable energy systems.</p>	<p>Not Applicable. These goals are beyond the purview of the 2040 General Plan.</p>
Planning & Zoning	
<p>[Z1] Incorporate renewable energy goals and strategies into long-term planning documents, such as General Plans.</p> <p>[Z2] Encourage new construction to be built "solar ready", with pre-wiring for solar PV and easy plumbing access for solar water heating.</p> <p>[Z3] Update zoning code to establish and expand allowed use zones for renewable energy systems.</p> <p>[Z4] Provide clear guidance for renewable energy system installations on historic buildings.</p> <p>[Z5] Incorporate measures for electric vehicle charging stations into renewable energy planning efforts.</p>	<p>Consistent. The 2040 General Plan includes goals and a policy consistent with the SER. Throughout the document, each Element includes energy goals and strategies for long-term sustainability of the City.</p> <ul style="list-style-type: none"> ▪ Policy HE-6.1. Energy Conservation in New Housing. The City shall encourage the use of energy conserving techniques in the siting and design of new housing. ▪ Policy COS-5.3: Sustainable Building Practices. The City shall promote sustainable building practices that incorporate a "whole systems" approach to design and construction that consumes less energy, water, and other non-renewable resources, such as facilitating passive ventilation and effective use of daylight. ▪ Policy COS-5.4. Renewable Energy Features in New Projects. During the development review process, the City shall encourage projects to integrate features that support the generation, transmission, efficient use, and storage of renewable energy sources. ▪ Policy COS-5.6. Electric Vehicle Charging. The City shall encourage and support expanding Electric Vehicle (EV) charging stations and the purchase of electric vehicles.

Sustainable Energy Roadmap Policy Recommendation	General Plan Consistency
Market Development	
<p>[M1] Provide renewable energy educational resources and evaluation tools to the community</p> <p>[M2] Adopt a local sales tax exemption or property tax exemption for renewable energy systems and energy storage systems.</p> <p>[M3] Support the organization of a community-based bulk purchase program for renewable energy systems.</p> <p>[M4] Assess municipal building portfolio for renewable energy project development opportunities.</p> <p>[M5] Explore public-private partnerships to install renewable energy systems at affordable housing developments.</p> <p>[M6] Explore constructing a renewable energy system at a landfill or wastewater treatment facility.</p>	<p>Consistent/Not Applicable. The 2040 General Plan contains policies and programs to support renewable energy systems at municipal facilities and provide renewable energy education resources to the community. In addition, new projects are encouraged to include renewable energy features.</p> <p>The remainder of these goals are beyond the scope of the General Plan and would require coordination within City departments to achieve.</p>
Workforce Development	
<p>[WFD2] Partner with local colleges and neighboring cities/counties to promote renewable energy-focused educational programs.</p> <p>[WFD3] Promote green business incentives and assistance programs to local businesses and organizations.</p>	<p>Not Applicable. These goals are beyond the purview of the 2040 General Plan.</p>
Social Equity	
Policy	
<p>[POL1] Encourage local employment and job creation through municipal contracting.</p> <p>[POL2] Promote participatory planning and environmental justice community inclusion in the policy-making process.</p> <p>[POL3] Adopt measures to protect and improve local air quality.</p> <p>[POL4] Ensure public has access to data regarding the presence of environmental hazards as well as channels for emergency notification.</p> <p>[POL5] Ensure compliance and enforcement of federal, state, and local environmental and air quality regulations.</p>	<p>Consistent. As part of the 2040 General Plan, the City added new policies under the Land Use Element, Section 3.5 Environmental Justice and 3.6 Civic Engagement that addresses the policies listed within this segment of the SER.</p>

Sustainable Energy Roadmap Policy Recommendation	General Plan Consistency
Planning & Zoning	
<p>[Z1] Update zoning codes to provide for access to green spaces in all areas of the community.</p> <p>[Z2] Update zoning and permitting standards to restrict highly polluting facilities in proximity to residential areas and water resources</p>	<p>Consistent. The 2040 General Plan Conservation, Open Space, Parks and Recreation Element Section 6.2 Parks & Recreation goal addresses these SER goals.</p> <ul style="list-style-type: none"> ▪ Goal COS-2. To expand and maintain a high-quality public park and recreation system that is convenient, accessible, and affordable to all segments of the City. <p>Subsequent goals additionally address proximity to green spaces.</p>
Financing	
<p>[F1] Promote clean energy financing and utility assistance programs that are accessible to all community members.</p>	<p>Not Applicable. These goals are beyond the purview of the 2040 General Plan.</p>
Market Development	
<p>[M1] Ensure all community members receive clean energy policy and program information through culturally-sensitive channels.</p> <p>[M2] Ensure all community members have access to emergency weather shelters.</p>	<p>Consistent. The 2040 General Plan contains policies to increase public awareness about energy efficiency and conservation programs.</p>
Transportation & Land Use	
Policy	
<p>[POL1] Adopt a fleet purchasing policy to replace existing municipal fleet vehicles with low-emission vehicles.</p> <p>[POL2] Adopt a commuter benefits ordinance and/or telecommuting policy for municipal employees</p>	<p>Not Applicable. These goals are beyond the purview of the 2040 General Plan.</p>
Permitting	
<p>[P1] Adopt a standardized permitting application form for electric vehicle charging stations for individually zoned end-uses.</p>	<p>Consistent. The 2040 General Plan would allow the City to pursue adoption of a standardized permitting application.</p>
Planning & Zoning	
<p>[Z2] Update local building and zoning codes to require electric vehicle charging station prewiring in new construction and major retrofits</p>	<p>Consistent. Goals and policies within the 2040 General Plan promote renewable energy construction and the installation of electric vehicle charging stations.</p>
Financing	
<p>[F1] Promote financial incentives to increase government and private purchases of electric and alternative fuel vehicles.</p> <p>[F2] Ensure electric vehicle charging stations are eligible under local Property Assessed Clean Energy (PACE) program</p>	<p>Consistent. The 2040 General Plan contains goals and policies to encourage installation of electric vehicle charging stations, encourage transit-oriented development, and promotes a sustainable municipality.</p>

Sustainable Energy Roadmap Policy Recommendation	General Plan Consistency
Market Development	
[M1] Encourage local retailers and employers to install electric vehicle charging stations for customers and employees	Consistent. See financing section above.
[M2] Organize a regional initiative for government fleets to procure low-emitting vehicles as well as fuels and charging stations.	
[M3] Establish and publicize incentives that encourage transit-oriented development.	
Workforce Development	
[WFD1] Publicize electric/alternative fuel vehicle training and professional development resources to local workforce. [WFD2] Partner with local colleges and neighboring communities to promote alternative vehicle education programs or technical courses.	Not Applicable. These goals are beyond the purview of the 2040 General Plan.

The 2040 General Plan would be consistent with the City of Kerman SER and the energy efficiency strategies contained therein. As described in Impact E-1, above, construction and operation of projects facilitated by the 2040 General Plan would be required to comply with relevant provisions of CalGreen and Title 24 of the California Energy Code. Therefore, this impact would be less than significant and no mitigation is required.

Mitigation Measures

Mitigation is not required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Based on the comparisons of 2040 General Plan buildout electricity, natural gas, and fuel demand to statewide demand for these resources shown in Table 4.6-4 and Table 4.6-5, energy demand associated with 2040 General Plan buildout would result in a nominal increase in statewide energy demand. Furthermore, California's use of non-renewable electricity and natural gas are expected to continue to decline as a proportion of overall energy demand due to stringent energy efficiency measures and a growing acceptance of solar power by residential and commercial customers. A mandated increase in renewable energy use would also serve to offset any increase in non-renewable energy use resulting from the General Plan buildout. Therefore, the 2040 General Plan would not be expected to result in the need for construction of new major facilities or substantial alteration of existing facilities to meet projected energy demands and cumulative impacts would be less than significant.

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4.7 Geology and Soils

This section of the EIR analyzes the potential physical environmental effects from implementation of the 2040 General Plan related to seismic hazards and geologic conditions, underlying soil characteristics and erosion, and paleontological resources in the Planning Area.

4.7.1 Setting

a. Geologic and Soils Setting

The City of Kerman is located within the San Joaquin Valley in the north-center of Fresno County. Eastern Fresno County is largely granitic rock associated with the Sierra Nevada batholith, with small areas of serpentinite, gabbro, and metavolcanic rock in the foothills. Kerman lies in the Central Valley geomorphic province, a large northwest-trending trough consisting of marine and non-marine sedimentary rocks derived from the erosion of the Coast Ranges and the Sierra Nevada over the last 200 million years. The United States Department of Agriculture (USDA) Natural Resources Conservation Service Soil Survey reports soils in the Planning area generally consist of three major soils groups: the Hanford, Hesperia and Traver Series of various types of sandy loam ranging from shallow to moderately deep as shown in Figure 4.7-1 (USDA 2019b).

According to the 2007 General Plan the Hanford series consists of soils that are well-drained, fertile, moderately coarse textured, and are derived from recent granitic alluvium (Kerman 2007). The Hanford soils are generally located on nearly level alluvial fans. The Hesperia series consists of soils that are well-drained, moderately textured and are formed from granitic alluvium. Some of the soils in this series are saline-alkaline affected. They are generally found on alluvial fans. The Traver series consists of soils that are well-drained that are typically saline-alkali affected. These soils are deep to moderately deep over compact silt. This series occupies young alluvial fans of the San Joaquin and Kings Rivers.

b. Seismic Hazards

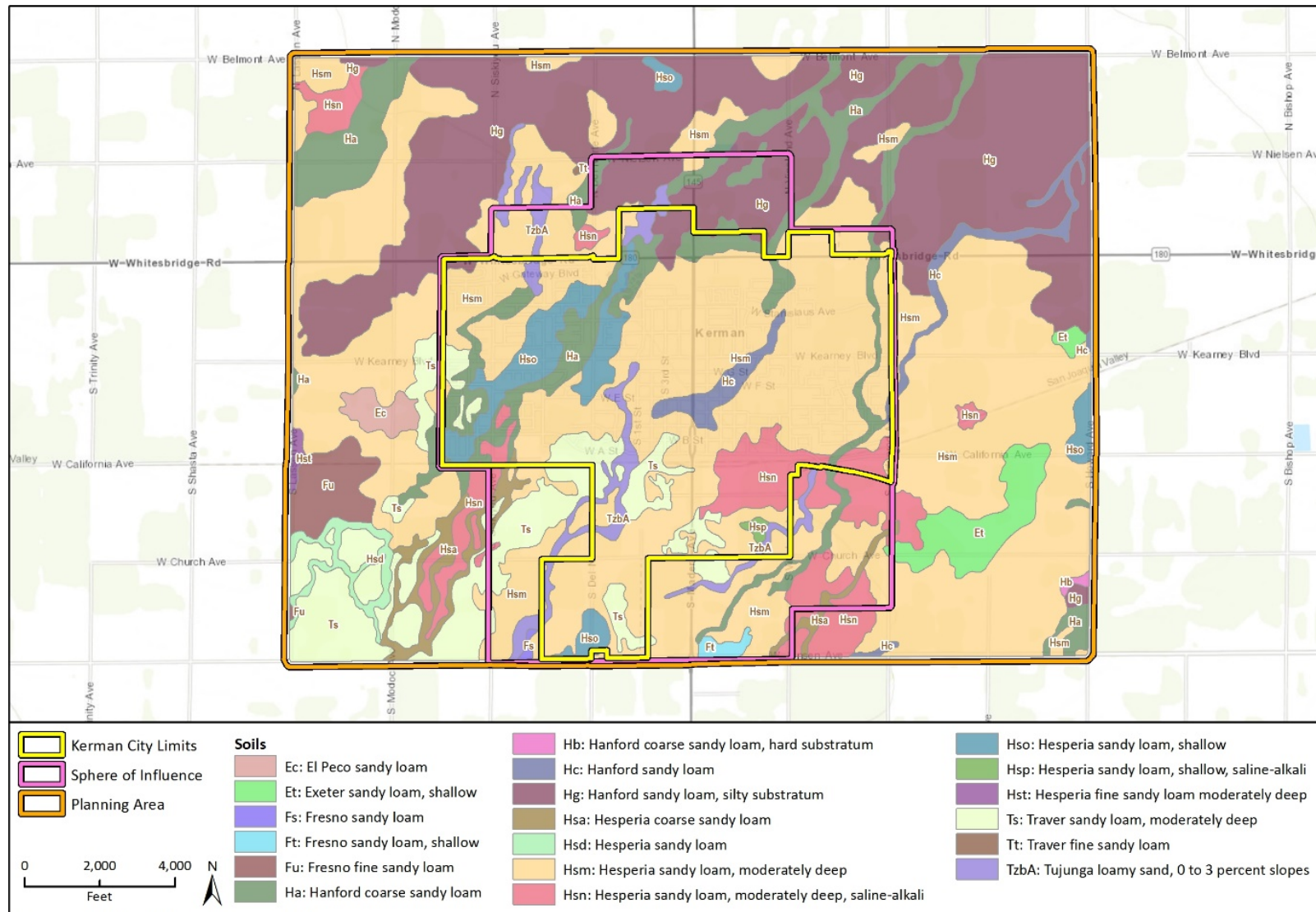
Faults

The City of Kerman is not underlain by a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map. However, there are a number of active and potentially active faults in and adjacent to Fresno County, as shown in Figure 4.7-1.

As shown in Figure 4.7-2, active fault zones are located west and east ends of the county, along the southern California Coastal Range and the Sierra Nevada Range.

The nearest active or potentially active earthquake fault zones to the city of Kerman are the Nunez fault and the Ortigalita fault, located 38 miles to the southwest and 45 miles to the northwest respectively. The Nunez fault is a historically active and relatively minor oblique-slip fault that dips steeply eastward and is located in the southwest part of the county, northwest of the city of Coalinga. The Ortigalita fault is a complex zone of reverse, normal, and right-lateral strike-slip faults located in the northwesternmost corner of the county in the Panoche Valley area that is considered a Quaternary active. In addition to these active faults, the Clovis fault (not considered active) is a concealed fault believed to be northwest trending, located approximately 30 miles east of Kerman, extending from approximately the San Joaquin River to Fancher Creek.

Figure 4.7-1 Soils and Planning Area

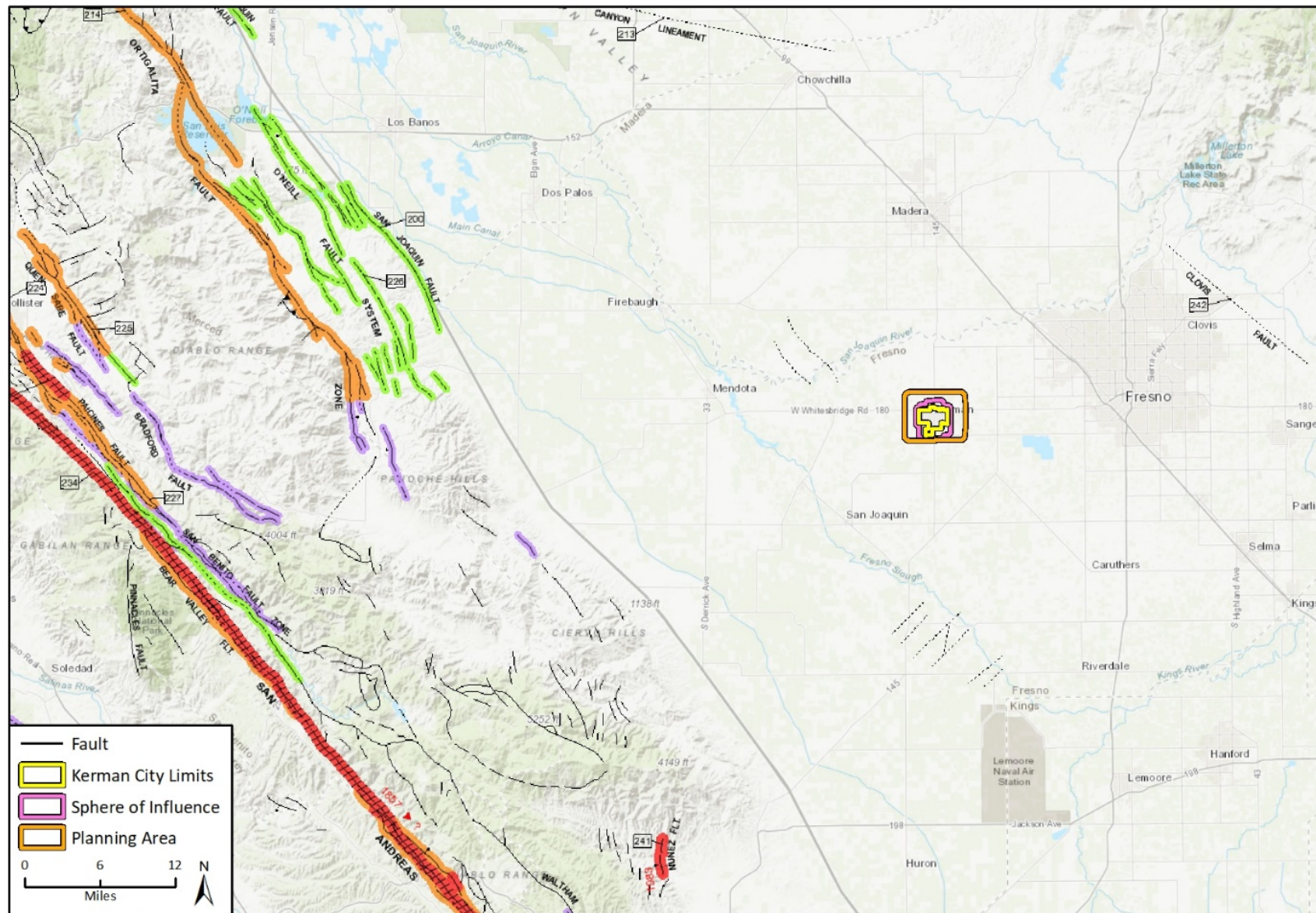


Imagery provided by Microsoft Bing and its licensors © 2019.

Soils data provided by Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Soil Survey Geographic (SSURGO) Database 2019.

Fig 4.6-2 Soils

Figure 4.7-2 Active Faults in the Planning Area



Basemap provided by ESRI and its licensors © 2019.
Fault data provided by CA CGS <https://spatialservices.conservation.ca.gov/arcgis/rest/services/CGS/FaultActivityMap/CA>

Fig 4.7-2 Faults

The San Andreas Fault Zone trends northwest through the Coastal Range roughly parallel to the western boundary of Fresno County. The San Andreas Fault is located approximately 56 miles southwest of Kerman. The San Andreas Fault is considered active and is of primary concern in evaluating seismic hazards throughout Fresno County. The Sierra Nevada Fault Zone, primarily defined by the Owens Valley Fault, lies east of the county, along the eastern slope of the Sierra Nevada. This is a lengthy and complex fault system containing both active and potentially active faults.

c. Groundshaking and Surface Rupture

Groundshaking

The major cause of structural damage from earthquakes is groundshaking. The intensity of ground motion expected at a particular site depends on the magnitude of the earthquake, the distance to the epicenter, and the geology of the area between the epicenter and the property. Greater movement can be expected at sites located on poorly consolidated material, such as alluvium, in proximity to the causative fault, or in response to a seismic event of great magnitude. The city of Kerman is located in an area characterized by a relatively thin section of sedimentary rock overlying a granitic basement. Ground motion resulting from an earthquake would be high, but the distance from Kerman to the regional fault zones greatly decreases risk of strong ground shaking within the city of Kerman. Historic earthquakes, such as one centered in the City of Coalinga in 1983, were felt in Kerman, however no damage was sustained in the city.

Surface Rupture

Surface rupture represents the breakage of ground along the surface trace of a fault. No faults are located in the Planning Area, therefore there is no risk of surface rupture.

d. Secondary Seismic Effects

Liquefaction

Liquefaction is a seismic phenomenon in which loose, saturated granular and non-plastic, fine-grained soils lose their structure or strength when subjected to high-intensity ground shaking. Liquefaction occurs when three general conditions exist: 1) shallow groundwater, within the top 50 feet of the ground surface; 2) low-density non-plastic soils; and 3) high-intensity ground motion. No specific assessments to identify liquefaction hazards in Fresno County have been performed. However, groundwater depths for the city of Kerman have been mapped and range from 110 feet below ground surface to 80 feet below ground surface. Soils in the city consist of a variety of sandy loam which are generally not conducive to liquefaction. This would minimize potential for liquefaction.

Settlement

Settlement can occur in poorly consolidated soils during groundshaking. During settlement, groundshaking physically rearranges the soil materials to result in a less stable alignment of the individual minerals. Settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils or improperly founded or poorly compacted fill. Areas susceptible to earthquake-induced settlement include those areas underlain by thick

layers of colluvial material or un-engineered fill. Kerman is not affected by settlement as the City generally consists of various types of sandy loam ranging from shallow to moderately deep.

e. Soil Hazards

Some soil hazards, such as expansive soils and erosion, occur independently of seismic events. Hazards associated with soils are described below.

Soil Erosion

Erosion refers to the removal of soil by water or wind. Factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover. None of the soils underlying the city of Kerman have been identified as having moderate to high erosion potential.

Subsidence

Subsidence occurs below the surface when subsurface pressure is reduced by the withdrawal of fluids (e.g., groundwater, natural gas, oil) resulting in sinking of the ground. Subsidence is common in parts of the Central Valley where subsidence in excess of 20 feet has occurred in the past 50 years. Areas susceptible to subsidence are typically composed of open-textured soils that become saturated. Groundwater pumping has led to ground subsidence in areas of Fresno County, increased groundwater pumping during drought conditions tends to exacerbate this phenomenon. Despite the city's location in an area susceptible to subsidence, according to a map of Areas of Land Subsidence in California produced by the United States Geological Service, Kerman is not listed as an area of concern for land subsidence (Kerman 2019).

f. Paleontological Setting

Paleontological resources (fossils) are the remains and/or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils is a result of the sedimentary history of the geologic units within which they occur. Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on a number of factors. Although it is not possible to determine whether a fossil will occur in any specific location, it is possible to evaluate the potential for geologic units to contain scientifically significant paleontological resources, and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they do occur during construction.

Known Paleontological Resources

According to the 2040 General Plan Background Report, unique geological features and paleontological resources are common in the county, including in the geologic formations, quaternary fan, and basin deposits, in which Kerman is situated.

g. Regulatory Setting

Federal

Clean Water Act

Congress enacted the Clean Water Act (CWA), formerly the Federal Water Pollution Control Act of 1972, with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). Kerman is within a watershed administered by the Central Valley Regional Water Quality Control Board, Region 5.

Disaster Mitigation Act of 2000

Congress passed the Disaster Mitigation Act of 2000 to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act by invoking new and revitalized approaches to mitigation planning. Section 322 of the Act emphasized the need for state and local government entities to closely coordinate on mitigation planning activities, and makes the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for federal mitigation grant funds. Communities with an adopted and federally-approved hazard mitigation plan thereby become pre-positioned and more apt to receive available mitigation funds before and after the next declared disaster.

To implement the new Stafford Act provisions, FEMA published requirements and procedures for local hazard mitigation plans in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 201.6. These regulations specify minimum standards for developing, updating, and submitting local hazard mitigation plans for FEMA review and approval at least once every five years.

State

California Building Code

The CBC, Title 24, Part 2 provides building codes and standards for the design and construction of structures in California. The 2016 California Building Code is based on the 2015 International Building Code with the addition of more extensive structural seismic provisions. Chapter 16 of the California Building Code contains definitions of seismic sources and building standards to address seismic risks. The CBC requires addressing soil-related hazards, such as treating hazardous soil conditions involving removal, proper fill selection, and compaction. In cases where soil remediation is not feasible, the CBC requires structural reinforcement of foundations to resist the forces of expansive soils.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 was passed into law following the destructive February 9, 1971 M6.6 San Fernando earthquake. The Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of

active faults that constitute a potential hazard to structures from surface faulting or fault creep. This Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (the Act) of 1990 was passed into law following the destructive October 17, 1989 M6.9 Loma Prieta earthquake. The Act directs the CGS to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

Local

City of Kerman Municipal Code

The Kerman Municipal Code (Title 15, Chapter 15.04 Building Code) adopts the 2016 California Building Code by reference with no amendments related to earthquake hazards (Kerman 1990).

4.7.2 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

This section describes the potential environmental impacts from the 2040 General Plan relevant to geology and soils. The impact analysis is based on an assessment of baseline conditions for the Planning Area, including topography, geologic and soil conditions, and seismic hazards, as described above under Subsection 4.7.1, *Setting*. This analysis identifies whether project development under the 2040 General plan increases or exposes people and property to risks directly or indirectly caused by seismic activity or geology, or impact paleontological resources, and recommends mitigation measures, if and when necessary, to avoid or minimize impacts.

Significance Thresholds

The following thresholds of significance are based on Appendix G of the *CEQA Guidelines*. For the purposes of this EIR, implementation of the 2040 General Plan may have a significant adverse impact if it would do any of the following:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
 - b. Strong seismic ground shaking
 - c. Seismic-related ground failure, including liquefaction
 - d. Landslides

2. Result in substantial soil erosion or the loss of topsoil;
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater;
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Threshold 1d pertaining to landslides and Threshold 4 are discussed in Section 4.18, *Effects Found Not to be Significant*, as there are no landslide or expansive soil hazards present in the Planning Area. Threshold 5 is also discussed in Section 4.18, *Effects Found Not to be Significant*, as new development in the City would be required to connect to existing wastewater systems, therefore not necessitating the need for alternative wastewater systems where soils could be inadequate. All other thresholds are discussed in detail below.

Paleontological Resources

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits (formations) within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such impacts have the potential to be significant and, under the California Environmental Quality Act (CEQA) guidelines, may require mitigation. Sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological rock units having the potential to contain vertebrate fossils are considered the most sensitive.

The Society of Vertebrate Paleontology (SVP) outlines in their Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. The SVP (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and those which add to an existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally. While these standards were specifically written to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines. Rincon has

evaluated the paleontological sensitivity of the Plan Area according to the following SVP (2010) categories; the results are discussed below:

High Potential (Sensitivity)

Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to: sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.

Low Potential (Sensitivity)

Sedimentary rock units that are potentially fossiliferous, but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic, phylogenetic species and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations. However, as excavation for construction gets underway it is possible that significant and unanticipated paleontological resources might be encountered and would require a change of classification from Low to High Potential and, thus, require monitoring and mitigation if the resources are found to be significant.

Undetermined Potential (Sensitivity)

Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

No Potential

Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

In general terms, for geologic units with high sensitivity, full-time monitoring typically is recommended during any project-related ground disturbance. For geologic units with low sensitivity, protection or salvage efforts typically are not required. For geologic units with undetermined sensitivity, field surveys by a qualified paleontologist are usually recommended to specifically determine the paleontological potential of the rock units present within the study area. For geologic units with no sensitivity, a paleontological monitor is not required.

Paleontological Sensitivity of Geologic Units within the Plan Area

According to the Fresno County General Plan, unique geological features and paleontological resources are common in the county, including in the geologic formations, quaternary fan, and basin deposits, in which the city of Kerman is situated.

b. Project Impacts and Mitigation Measures

Threshold 1a:	Would the General Plan directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?
Threshold 1b:	Would the General Plan directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?
Threshold 1c:	Would the General Plan directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?
Threshold 3:	Would the General Plan be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Impact GEO-1 CONSTRUCTION AND OCCUPANCY OF NEW STRUCTURES FACILITATED BY THE 2040 GENERAL PLAN COULD DIRECTLY OR INDIRECTLY RISK EXACERBATING HAZARDS TO PEOPLE OR STRUCTURES TO A RISK OF LOSS, INJURY, OR DEATH FROM SEISMIC RELATED HAZARDS. ADHERENCE TO THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, KERMAN MUNICIPAL CODE, AND IMPLEMENTATION OF THE GOALS AND POLICIES OF THE 2040 GENERAL PLAN WOULD MINIMIZE THE POTENTIAL FOR LOSS, INJURY, OR DEATH FOLLOWING A SEISMIC EVENT AND/OR NON-SEISMIC HAZARDS, AND WOULD REDUCE THESE IMPACTS TO A LESS-THAN-SIGNIFICANT LEVEL.

No known faults traverse the City or Planning Area. Therefore, implementation of the 2040 General Plan would not result in exposing people or structures related to fault rupture.

The likelihood of development facilitated by the 2040 General Plan to expose residents and employees to seismic-related ground shaking or ground failure from local and regional earthquakes is relatively low. This is due to the Planning Area's location from major local and regional active faults. As shown in Figure 4.7-2 the nearest active faults are the Ortigalita Fault, located approximately 38 miles southwest and the San Andreas Fault located approximately 56 miles southwest. The 2040 General Plan would encourage infill development, which would in many cases replace older buildings subject to seismic damage with newer structures built to current seismic standards that could better withstand the adverse effects of strong ground shaking. Potential structural damage and the exposure of people to the risk of injury or death from structural failure would be minimized by required compliance with CBC engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking and liquefaction in accordance with CBC requirements. In addition, the Public Health and Safety Element of the 2040 General Plan contains Goal PH-4 and

associated policies, listed below, related to minimizing the risks associated with natural and man-made hazards in order to protect public health and safety, property, and the environment.

The 2040 General Plan would encourage infill development, which would in many cases replace older buildings subject to seismic damage with newer structures built to current seismic standards that could better withstand the adverse effects of strong ground shaking. Potential structural damage and the exposure of people to the risk of injury or death from structural failure would be minimized by compliance with CBC engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking and liquefaction in accordance with CBC requirements.

The 2040 General Plan Public Health and Safety contains goals, policies and programs related to, related to minimizing the risks associated with seismic hazards in order to protect public health and safety, property, and the environment. Policy PH-4.3 requires that all new development be constructed in accordance with the current seismic safety design standards at the time of initial building plan submittal. Other goals and policies are listed below:

Public Health and Safety Element Goals and Policies

Goal PH-4. To prevent the loss of life and personal property by reducing the risk and magnitude of hazards from natural and man-made hazards, including earthquakes, floods, and fires.

- **Policy PH-4.1: Hazard Mitigation Plan.** The City shall continue to actively participate in and implement the Fresno County Multi-Hazard Mitigation Plan to reduce risks from natural disasters.
- **Policy PH-4.2: Mitigation Funding.** The City shall continue to pursue funding opportunities to implement Kerman projects that are identified in the Fresno County Multi-Hazard Mitigation Plan.
- **Policy PH-4.3: Building Regulations for Seismic Safety.** The City shall require all new development to be constructed in accordance with the current seismic safety design standards at the time of initial building plan submittal.

Goal PH-5. To protect residents and employees from potential hazards from unreinforced masonry buildings and other substandard buildings.

- **Policy PH-5.1: Abate/Rehabilitate Unreinforced Masonry Buildings.** The City shall continue to abate or rehabilitate unreinforced masonry buildings, as defined by the Uniform Housing Code.

Policies referenced above would ensure that the City continues to reduce exposure to hazards from earthquakes and other natural disasters, as well as reinforcing existing buildings that are structurally unsafe. Implementation Program C of the Land Use Element and Program P of the Housing Element specifically require that the City shall actively enforce the State Housing Code to ensure that unsafe, dilapidated residential structures are rehabilitated or demolished and that City's Code Enforcement Officer will be in charge of enforcing the City's building codes with the objective of protecting the health and safety of residents. Implementation Program B of the Public Health and Safety Element requires that the City shall use the vulnerability assessment in the Fresno Multi-Hazard Mitigation Plan to identify critical at-risk facilities and implement related mitigation measures to reduce exposure to potential damage caused by a disaster.

Based on the nature of the subsurface materials and the relatively low to moderate seismicity of the region, seismic settlement and/or lateral spread are not anticipated to represent a substantial hazard within the Planning Area during seismic events. As each development project is proposed, implementation of the 2040 General Plan Goal PH-4 and Policies PH-4.1 through PH-4.3, and the Kerman Municipal Code, including Chapter 15.04, Building Code and Regulations, would reduce potential settlement and lateral spread impacts to less than significant levels.

Implementation of the goals, policies and programs, in addition to compliance with applicable laws and regulations, would minimize the potential for loss, injury, or death following a seismic event and would reduce potential seismic related impacts to a less than significant level.

Non-Seismic Hazards

LIQUEFACTION, SUBSIDENCE AND COLLAPSE

The predominant soils within the Planning Area consist of a varying combination of loose/very soft to very dense/hard silts, clays, sands, and gravels. Kerman is primarily underlain by Hesperia sandy loam and Hanford coarse sandy loam, both of which have moderate infiltration rates which generally have low susceptibility to liquefaction and liquefaction-related phenomena. No specific assessments to identify liquefaction hazards in Kerman have been performed. However, due to deep groundwater depths for the city of Kerman, and soils that are not conducive to liquefaction, liquefaction hazards are minimal in the City. Groundwater pumping has led to ground subsidence in areas of Fresno County, increased groundwater pumping during drought conditions tends to exacerbate this phenomenon. Despite the city's location in an area susceptible to subsidence, according to a map of Areas of Land Subsidence in California produced by the United States Geological Service (USGS), the city of Kerman is not listed as an area of concern for land subsidence or collapse (City of Kerman 2019). The 2040 General Plan goals and policies, in addition to the Kerman Municipal Code, provide standards to reduce potential liquefaction, subsidence and collapse impacts. This includes Goal PH-4, Policy PH-4.1 to Policy PH-4.3 and Kerman Municipal Code Chapter 16.48, Soil Reports, which would require a preliminary soils report, prepared by a civil engineer registered in California for every subdivision for which a tentative and final map is required. Therefore, with the implementation of the 2040 General Plan goals and policies, and the municipal code, potential exposure to soil liquefaction, subsidence, and collapse impacts would be less than significant.

LANDSLIDES

The 2040 General Plan Planning Area is within an area that consists of mostly flat topography within the Central Valley. There are no substantial slopes on or near the Planning Area. The Planning Area is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Therefore, the opportunity for slope failure in response to the long-term geologic cycle of uplift, mass wasting, and difference of slopes is unlikely. Site conditions preclude the possibility of earthquake-induced landsliding on site. Accordingly, there is no risk of exposure to large landslides in the majority of the Planning Area. Therefore, impacts are less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan result in substantial soil erosion or the loss of topsoil?

Impact GEO-2 CONSTRUCTION OF NEW DEVELOPMENT FACILITATED BY THE 2040 GENERAL PLAN WOULD INCLUDE GROUND DISTURBANCE SUCH AS EXCAVATION AND GRADING THAT WOULD RESULT IN LOOSE OR EXPOSED SOIL. THIS DISTURBED SOIL COULD BE ERODED BY WIND OR DURING A STORM EVENT, WHICH WOULD RESULT IN THE LOSS OF TOPSOIL. COMPLIANCE WITH APPLICABLE REGULATIONS, INCLUDING THE CLEAN WATER ACT, AND THE CITY MUNICIPAL CODE WOULD MINIMIZE THE POTENTIAL FOR EROSION AND LOSS OF TOPSOIL. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Development under the 2040 General Plan would involve construction activities such as stockpiling, grading, excavation, paving, and other earth-disturbing activities. Loose and disturbed soils are more prone to erosion and loss of topsoil by wind and water.

Construction activities that disturb one or more acres of land surface are subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ) adopted by the State Water Resources Control Board (SWRCB). Compliance with the permit requires each qualifying development project to file a Notice of Intent with the SWRCB. Permit conditions require development of a storm water pollution prevention plan (SWPPP), which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-storm water management controls. Inspection of construction sites before and after storms is also required to identify and implement erosion controls, where necessary. For projects subject to the state's CGP, project applicants may submit a SWPPP developed pursuant to the CGP in lieu of submitting an erosion and sediment control plan.

All individuals undertaking ground disturbing activities must take steps to prevent discharge of pollutants and regulate erosion. The City Municipal Code requires adherence to the California Building Code, which regulates grading activities, including drainage and erosion control. In conjunction with obtaining coverage under the CGP, the City may require an erosion and sediment control plan for projects subject to a grading permit which would reduce the potential for erosion through the implementation of Best Management Practices (BMPs) or Low Impact Development practices. The implementation of BMPs are required for construction activity, new development and redevelopment, to prevent the discharge of construction wastes or contaminants from construction materials, tools and equipment from entering the storm drain system or watercourse. Erosion control BMPs may include scheduling and timing of grading activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Adherence to the requirements of the Kerman Municipal Code and CBC would reduce the potential for construction under the 2040 General Plan to cause erosion or the loss of topsoil by ensuring proper management of loose and disturbed soil.

Implementation of these programs would ensure that future development minimizes soil erosion and the loss of topsoil. Implementation of these goals and policies, in addition to compliance with applicable laws and regulations, would minimize the potential for erosion and loss of topsoil and would reduce this impact to a less-than-significant level.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 6: Would the General Plan directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact GEO-3 INDIVIDUAL DEVELOPMENT PROJECTS FACILITATED BY THE 2040 GENERAL PLAN MAY RESULT IN GROUND DISTURBANCE THAT HAS THE POTENTIAL TO DIRECTLY OR INDIRECTLY DESTROY A PALEONTOLOGICAL RESOURCE OR GEOLOGIC FEATURE. 2040 GENERAL PLAN POLICY COS-3.5 WOULD ENSURE THAT INDIVIDUAL DEVELOPMENT PROJECTS ARE REVIEWED, DESIGNED, AND MITIGATED TO REDUCE POTENTIAL IMPACTS TO PALEONTOLOGICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

According to the Fresno County General Plan, unique geological features and paleontological resources are common in the county, including in the geologic formations, quaternary fan, and basin deposits, in which the City of Kerman is situated. The Conservation, Open Space, Parks and Recreation Element would provide policies specific to ensuring that development facilitated by the 2040 General Plan would protect paleontological resources in the City of Kerman. There are no geologic features within the City.

Conservation, Open Space, Parks and Recreation Element Goals and Policies

The following Implementation Program shall be added to the 2040 General Plan:

For any development in Kerman that occurs within high sensitivity geologic units, whether they are mapped at the surface or hypothesized to occur in the subsurface, the City shall require a paleontological assessment, and avoidance and/or mitigation for potential impacts to paleontological resources. The City shall require the following specific requirements for projects that could disturb geologic units with high paleontological sensitivity, whether they are mapped at the surface or hypothesized to occur in the subsurface.

1. **Retain a Qualified Paleontologist.** Prior to initial ground disturbance within highly sensitive geologic units, the applicant shall retain a project paleontologist, defined as a paleontologist who meets the SVP (2010) standards for Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources. A qualified paleontologist (Principal Paleontologist) is defined by the SVP standards as an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year.
2. **Paleontological Mitigation and Monitoring Program.** Prior to construction activity a qualified paleontologist should prepare a Paleontological Mitigation and Monitoring Program to be implemented during ground disturbance activity for the proposed project. This program should outline the procedures for construction staff Worker Environmental Awareness Program (WEAP) training, paleontological monitoring extent and duration, salvage and preparation of fossils, the final mitigation and monitoring report, and paleontological staff qualifications.

3. **Paleontological Worker Environmental Awareness Program (WEAP).** Prior to the start of construction, the project paleontologist or his or her designee, shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be fulfilled at the time of a preconstruction meeting at which a qualified paleontologist shall attend. In the event of a fossil discovery by construction personnel, all work in the immediate vicinity of the find shall cease and a qualified paleontologist shall be contacted to evaluate the find before restarting work in the area. If it is determined that the fossil(s) is(are) scientifically significant, the qualified paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources.
4. **Paleontological Monitoring.** Ground disturbing construction activities (including grading, trenching, foundation work and other excavations) at the surface in areas mapped as high paleontological sensitivity and exceeding 5 feet in depth in areas overlying potentially high paleontological sensitivity units should be monitored on a full-time basis by a qualified paleontological monitor during initial ground disturbance. The Paleontological Mitigation and Monitoring Program shall be supervised by the project paleontologist. Monitoring should be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources. The duration and timing of the monitoring will be determined by the project paleontologist. If the project paleontologist determines that full-time monitoring is no longer warranted, he or she may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Monitoring would be reinstated if any new or unforeseen deeper ground disturbances are required and reduction or suspension would need to be reconsidered by the Supervising Paleontologist. Ground disturbing activity that does not occur in areas mapped as high sensitivity or that do not exceed 5 feet in depth in areas overlying potentially high sensitivity units would not require paleontological monitoring.
5. **Salvage of Fossils.** If significant fossils are discovered, the project paleontologist or paleontological monitor should recover them. Typically fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the paleontologist should have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. Work may continue outside of a buffer zone around the fossil, usually 50-100 feet (specific distance may be determined by the project paleontologist).
6. **Preparation and Curation of Recovered Fossils.** Once salvaged, significant fossils should be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the University of California Museum of Paleontology), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the project paleontologist.
7. **Final Paleontological Mitigation Report.** Upon completion of ground disturbing activity (and curation of fossils if necessary) the qualified paleontologist should prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The report should include discussion of the location, duration and methods of the monitoring,

stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated.

As such, development under the 2040 General Plan would not result in ground disturbing activities that could directly or indirectly destroy a unique paleontological resource, site or geologic feature in the City of Kerman. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Cumulative development in the Planning Area and areas of Fresno County surrounding Kerman would gradually increase population and therefore gradually increase the number of people exposed to potential geologic hazards, including effects associated with seismic events such as ground rupture and strong shaking. Potential geologic and seismic hazards are project-level impacts, and are not cumulative in nature. Individual development projects are subject to project-specific review by the City and undergo environmental review when it is determined that the potential for significant impacts exist. In the event that future cumulative development would result in impacts related to geologic or seismic impacts, those potential impacts would be addressed on a case-by-case basis in accordance with the requirements of CEQA. Compliance with the Kerman Municipal Code and 2040 General Plan goals, policies and implementation programs, as well as other laws and regulations mentioned above, would ensure that project-specific impacts associated with geology and soils would be less than significant. Potential impacts associated with geology and soils would not be cumulatively considerable, and cumulative impacts related to geologic hazards would be less than significant.

4.8 Greenhouse Gas Emissions

This section discusses the potential effects of the 2040 General Plan on emissions of greenhouse gases (GHG) and climate change. Traffic projections used in emissions estimates are based on the traffic modeling and analysis prepared by Fresno Council of Governments (FCOG) dated August 2019 (Appendix D). Air Quality impacts are discussed in Section 4.3 *Air Quality*.

4.8.1 Environmental Setting

a. Climate Change and Greenhouse Gases

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases or GHGs. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills.

Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and SF₆ (California Environmental Protection Agency [CalEPA] 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as “carbon dioxide equivalent” (CO₂e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane CH₄ has a GWP of 25, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule per molecule basis (IPCC 2007).

b. Greenhouse Gas Emissions Inventory

Federal Emissions Inventory

U.S. GHG emissions for 2015 totaled 6,586.7 million metric tons (MMT) of CO₂e (United States Environmental Protection Agency [USEPA] 2017). Total U.S. GHG emissions have increased by 3.5 percent since 1990; however, GHG emissions decreased by 2.3 percent from 2014 to 2015 (USEPA 2017). The decrease from 2014 to 2015 was a result of multiple factors, including: substitution from coal to natural gas consumption in the electric power sector, warmer winter conditions in 2015 resulting in a decreased demand for heating fuel in the residential and commercial sectors, and a slight decrease in electricity demand (USEPA 2017). Since 1990, national GHG emissions have increased at an average annual rate of 0.2 percent. In 2015, the industrial and transportation end-use sectors accounted for 29 percent and 27 percent of CO₂ emissions (with electricity-related emissions distributed), respectively. Meanwhile, the residential and commercial end-use sectors accounted for 16 percent and 17 percent of CO₂ emissions, respectively (USEPA 2017).

California Emissions Inventory

Based on the California Air Resources Board (CARB) California Greenhouse Gas Inventory for 2000-2014, California produced 441.5 MMT CO₂e in 2014 (CARB 2016). The largest single source of GHG in California is transportation, contributing 37 percent of the state's total GHG emissions. Industrial sources are the second largest source of the state's GHG emissions, contributing 24 percent of the state's GHG emissions (CARB 2016). California emissions are due in part to its large size and large population compared to other states. However, the state's mild climate reduces California's per capita fuel use and GHG emissions as compared to other states. CARB has projected statewide unregulated GHG emissions for the year 2020 will be 509.4 MMT CO₂e (CARB 2016). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

Local Emissions Inventory

No GHG inventory has been conducted for the city of Kerman, specifically. However, the County of Fresno released a Government Operations Greenhouse Gas Emissions Inventory in December 2012. The inventory presents findings for local government operations, which revealed that the most GHG emissions came from solid waste facilities at 45.4 percent. Other major GHG emissions came from buildings and facilities (22.2 percent), vehicle fleet (18.2 percent), and employee commute (13.4 percent).

c. Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature (GMST) for the decade from 2006 to 2015 was approximately 0.87°C (0.75°C to 0.99°C) higher than the average GMST over the period from 1850 to 1900. Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT as well as sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014 and 2018).

According to California's Fourth Climate Change Assessment, statewide temperatures from 1986 to 2016 were approximately 1°F to 2°F higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include loss in water supply from snow pack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (State of California 2018). While there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. In addition to statewide projections, California's Fourth Climate Change Assessment includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state as well as regionally-specific climate change case studies (State of California 2018). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. As temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have been occurring at higher elevations in the Sierra Nevada Mountains (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality would worsen. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Natural Resources Agency 2009).

Californians experience the worst quality air in the nation. More than 90 percent of California's population lives in an area that has ozone or particulate matter levels above the State air quality standard. Incidents of wildfires in nearby foothills and mountain regions are expected to increase and further contribute to air quality problems. More information about the air quality in Fresno County can be found in Section 4.3, *Air Quality*.

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many California cities have experienced their lowest recorded annual precipitation twice within the past decade (California Climate Change Center [CCCC] 2009). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. However, the average early spring snowpack in the western United States, including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 5.9 inches along the central and southern California coast (State of California 2018). The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. A warmer climate is predicted to reduce the fraction of precipitation falling as snow and result in less snowfall at lower elevations, thereby reducing the total snowpack (DWR 2008; State of California 2018). The State of California projects that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

Hydrology and Sea Level Rise

As discussed above, climate change could potentially affect the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow

events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Climate change has the potential to induce substantial sea level rise in the coming century (State of California 2018). The rising sea level increases the likelihood and risk of flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.6 mm per year (World Meteorological Organization [WMO] 2013). As a result, global mean sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO 2013). Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea-level rise of 10 to 37 inches by 2100 (IPCC 2018). A rise in sea levels could completely erode 31 to 67 percent of southern California beaches, result in flooding of approximately 370 miles of coastal highways during 100-year storm events, jeopardize California's water supply due to salt water intrusion, and induce groundwater flooding and/or exposure of buried infrastructure (State of California 2018). In addition, increased CO₂ emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

According to Cal-Adapt, Fresno County is expected to generally experience a decrease in annual precipitation by 2100 in a high-emissions scenario. While precipitation is projected to fluctuate each decade and varies depending on the emissions scenario, annual precipitation in Fresno County could decrease from an annual average of 12 inches in 2010 to 9 inches in 2100 under the high-emissions scenario.

Agriculture

California has a \$50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food and Agriculture 2018). Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent; water demand could increase as hotter conditions lead to the loss of soil moisture; crop-yield could be threatened by water-induced stress and extreme heat waves; and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the annual average maximum daily temperatures in California could rise by 4.4 to 5.8°F in the next 50 years and by 5.6 to 8.8°F in the next century (State of California 2018). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals related to (1) timing of ecological events; (2) geographic distribution and range; (3) species' composition and the incidence of nonnative species within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018).

d. Regulatory Setting

Federal Regulations

The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the U.S. EPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. In 2012, the U.S. EPA issued a Final Rule that establishes the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court in *Utility Air Regulatory Group v. EPA* (134 S. Ct. 2427 [2014]) held that U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT).

California Regulations

CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. California has numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO₂e. The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction

measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In November 2017, CARB approved a new update to the AB 32 Scoping Plan. CARB's updated 2017 Scoping Plan reflects the new statewide GHG emissions reduction goals called for in SB 32 of 40 percent below 1990 emissions levels by 2030. The update highlighted California is on track to exceed its 2020 climate target defined in the original Scoping Plan, while the economy continues to grow. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2017).

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Natural Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

Senate Bill 375

SB 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPOs) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The 2018 RTP/SCS GHG targets set for the Fresno region in 2010 called for a five percent per capita reduction by 2020, a 10 percent per capita reduction by 2035 and a 12 percent per capita reduction by 2042.

Senate Bill 32

On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017).

Senate Bill 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

The bill also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

California Environmental Quality Act

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted *CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts have adopted quantitative significance thresholds for GHGs.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

Local Regulations

San Joaquin Valley Blueprint

Eight Regional Transportation Planning Agencies representing eight counties within San Joaquin Valley initiated a collaborative planning process in 2005 to develop a regional vision of land use and transportation to guide growth over the next 50 years. The San Joaquin Valley Blueprint was adopted on April 1, 2009, and serves as a guide to implementation in each of the eight counties, including Fresno County. The Blueprint includes Smart Growth Principles and Scenarios such as the

creation of walkable and bikeable neighborhoods, mixed land uses, preservation of open spaces and environmental areas, and provision of a variety of transportation choices.

SJVAPCD CEQA Guidance and Climate Change Action Plan

The SJVAPCD adopted the Climate Change Action Plan (CCAP) in August 2008, which required the District Air Pollution Control Officer to develop guidance for assessing and reducing project-specific GHG emissions.

On December 17, 2009, the SJVAPCD Governing Board adopted Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and the policy, District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project specific GHG emissions have on global climatic change. The SJVAPCD found the effects of project specific emissions to be cumulative, and without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific GHG emissions would have a significant effect. 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. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified final CEQA document.

Best performance standards (BPS) would be established according to performance-based determinations. Projects complying with BPS would not require specific quantification of GHG emissions and would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPS would require quantification of GHG emissions and demonstration that GHG emissions have been reduced or mitigated by 29 percent, as targeted by CARB's AB 32 Scoping Plan. Furthermore, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates BPSs. The SJVAPCD, however, has not yet identified BPSs for development projects.

For stationary source permitting projects, best performance standards are "the most stringent of the identified alternatives for control of GHG emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class." For development projects, best performance standards are "any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project specific GHG emission reductions by at least 29 percent compared with business as usual." The SJVAPCD proposes to create a list of all approved BPSs to help in the determination as to whether a stationary source has reduced its GHG emissions by 29 percent.

For stationary sources, the SJVAPCD also considers implementation of identified Best Performance Standards (BPS) to have a less than significant impact. BPS are defined as the most effective achieved-in-practice means of reducing or limiting GHG emissions from a GHG emissions source. For typical stationary sources, BPS is identified taking into consideration the source type, source design,

and operational and maintenance practices associated with source operations, service, and emissions generated.

The November 30, 2015, *Center for Biological Diversity v. California Department of Fish and Wildlife* (Newhall Ranch) ruling effectively limits use of SJVAPCD's suggested performance metric of a 29 percent reduction in GHG emissions compared to business as usual. This performance criterion is derived from a statewide reduction target, but the court held that substantial evidence must be provided that establishes a nexus between statewide goals and the percent reduction for a specific land use project. In 2018, the *Golden Door Properties v. County of San Diego* ruling also limits the use of SJVAPCD's suggested performance metric for projects without substantial evidence that provides a correlation between a state-based performance metric and local conditions. Fresno Council of Governments 2018 Regional Transportation Plan/Sustainable Communities Strategy.

The 2018 RTP/SCS addresses greenhouse gas emissions reductions and other air emissions related to transportation, with the goal of preparing for future growth in a sustainable manner. The RTP contains eight chapters and charts the 25-year course of transportation to 2042. The 2018 RTP/SCS updates the 2014 GHG regional targets, current targets 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. Fresno COG will be able to meet the targets set by the CARB through its 2018 RTP/SCS.

City of Kerman

The City of Kerman has not adopted a qualified greenhouse gas reduction plan, such as a Climate Action Plan.

4.8.2 Impact Analysis

a. Methodology and Significance Thresholds

Significance Thresholds

Based on Appendix G of the *CEQA Guidelines*, impacts related to GHG emissions from the 2040 General Plan would be significant if the project would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In addition, *CEQA Guidelines* Section 15064.4(b) states that a lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

As discussed under, *SJVAPCD CEQA GHG Guidance*, the Newhall Ranch and Golden Door rulings effectively limit use of SJVAPCD's suggested performance metric of a 29 percent reduction in GHG emissions compared to business as usual as a significance threshold. To date, SJVAPCD has not updated their guidance on how to evaluate GHG emissions impacts from land use projects in response to these rulings. Therefore, the approach detailed below was used to determine a locally-appropriate efficiency metric for determining the significance of the 2040 General Plan's impact on GHG emissions and climate change.

Locally-Appropriate Efficiency Metric

Efficiency thresholds are quantitative thresholds based on a measurement of GHG efficiency for a given project, regardless of the amount of mass emissions. These thresholds identify the emission level below which new development would not interfere with attainment of statewide GHG reduction targets. A project that attains such an efficiency target, with or without mitigation, would result in less than significant GHG emissions. A locally-appropriate 2030 project-specific threshold is derived from CARB's recommendations in the 2017 Climate Change Scoping Plan Update, as discussed below.

With the release of the 2017 Climate Change Scoping Plan Update, CARB recognized the need to balance population growth with emissions reductions and in doing so, provided a new local plan level methodology for target setting that provides consistency with state GHG reduction goals using per capita efficiency thresholds. A project-specific efficiency threshold can be calculated by dividing statewide GHG emissions by the sum of statewide jobs and residents. However, not all statewide emission sources would be impacted by the proposed land use (e.g., agriculture and cap and trade reductions). Accordingly, consistent with the concerns raised in the Golden Door (2018) and Newhall Ranch (2015) decisions regarding the correlation between state and local conditions, the 2030 statewide inventory target was modified with substantial evidence provided to establish a locally-appropriate, evidence-based, General Plan-specific threshold consistent with the SB 32 target.

To develop this threshold, the General Plan Planning Area was first evaluated to determine emissions sectors that are present and would be directly affected by potential land-use changes. A description of major sources of emissions that are included in the State Scoping Plan emissions sectors and representative sources in Kerman can be found in Table 4.8-1.

According to Figure 3-1 Land Use Diagram in the 2040 General Plan Land Use Element, there are no agricultural land uses within the City limits, however agricultural land would be preserved within the Planning Area surrounding the City. Therefore, the Agricultural Emissions Sector was considered locally inappropriate and was removed from the State 2030 emissions forecast. Additionally, Cap and Trade emissions reductions occur independent of any local jurisdictional land use decisions and were also excluded from the locally-appropriate target.

After removing Agricultural and Cap and Trade emissions, the remaining emissions sectors with sources within the 2040 General Plan Planning Area were then summed to create a locally-appropriate emissions total for the city of Kerman. This locally-appropriate emissions total is divided by the statewide 2030 service person population to determine a locally-appropriate, project-level threshold of 4.39 MT of CO₂e per service population that is consistent with SB 32 targets, as shown in Table 4.8-1 and Table 4.8-2.

Table 4.8-1 SB 32 Scoping Plan Emissions Sector Targets

GHG Emissions Sector ¹	2030 State Emissions Target (MMT) ¹	Locally Appropriate ²	Project Specific	Major Sources ³
Residential and Commercial	38	Yes	Yes	Natural gas end uses, including space and water heating of buildings
Electric Power	53	Yes	Yes	Electricity uses, including lighting, appliances, machinery and heating
High GWP	11	Yes	Yes	SF ₆ from power stations, HFCs from refrigerants and air conditioning ⁴
Recycling and Waste	8	Yes	Yes	Waste generated by residential, commercial, and other facilities
Transportation	103	Yes	Yes	Passenger, heavy duty, and other vehicle emissions
Industrial	83	Yes	Yes	The General Plan would allow cement plants, food processors, paper products, wineries, steel plants, and industrial gas, entertainment, technology and software, aerospace, and defense companies within the City.
Agriculture	24	No	No	Enteric fermentation, crop residue burning, and manure management, however, these do not occur substantially within the City.
Cap and Trade Reductions	-60	No	No	Reductions from facilities emitting more than 10,000 MT CO ₂ e per year ⁶
Scoping Plan Target (All Sectors)	260	No	No	All emissions sectors
Locally Inapplicable Sector (Agriculture)	-24	No	No	Enteric fermentation, crop residue burning, and manure management
Locally Inapplicable Sector (Cap and Trade)	60	No	No	Reductions from facilities emitting more than 10,000 MT CO ₂ e per year ⁶
2030 Locally Applicable Emissions Sectors	296	Yes	Yes	Emissions applicable to the local planning area

MMT = million metric tons

¹ All State targets in MMT CO₂e. See the 2017 Climate Change Scoping Plan, page 31 for sector details (CARB 2017).

² Locally-appropriate is defined as having significant emissions in Scoping Plan Categorization categories within the planning area.

³ See CARB GHG Emissions Inventory Scoping Plan Categorization for details, available at: <https://www.arb.ca.gov/cc/inventory/data/data.htm>

⁴ SF₆ is used primarily as an insulator in electrical substations while HFCs can be found in many residential and commercial refrigeration and air conditioning units. HFCs are in the process of being phased out through 2036 in most developed countries.

⁵ Cap and Trade is excluded as reductions will occur independent of local project land use decisions and are therefore not locally appropriate.

Table 4.8-2 SB 32 Locally-Appropriate Project-Specific Threshold

California 2017 Climate Change Scoping Plan	California 2030 Population (persons) ¹	43,939,250
	California 2030 Employment Projection (persons) ²	23,459,500
	Service Population (persons)	67,398,750
Locally-Appropriate 2030 Project Threshold	2030 Locally-Appropriate Emissions Sectors (MT of CO ₂ e)	296,000,000
	2030 Service Population (persons)	67,398,750
	2030 Service Person Target (MT of CO ₂ e per Service Person)	4.39 ³

¹ California Department of Finance 2018

² Average of employment range projections under implementation scenario. See CARB 2017 Climate Change Scoping Plan Update, page 55 (CARB 2017).

³Total of 4.39 has been rounded up per Scoping Plan general methodology. Lead agencies may determine this threshold as they deem appropriate.

At this time, the State has codified a target of reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and has developed the 2017 Scoping Plan to demonstrate how the State will achieve the 2030 target and make substantial progress toward the 2050 goal of an 80 percent reduction in 1990 GHG emission levels set by EO S-3-05. In the recently signed EO B-55-18, which identifies a new goal of carbon neutrality by 2045 and supersedes the goal established by EO S-3-05, CARB has been tasked with including a pathway toward the EO B-55-18 carbon neutrality goal in the next Scoping Plan update.

While State and regional regulators of energy and transportation systems, along with the State’s Cap and Trade program, are designed with limits to achieve most of the reductions needed to hit the State’s long-term targets, local governments can do their fair share toward meeting the State’s targets by siting and approving projects that accommodate planned population growth and projects that are GHG-efficient. The AEP Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of state climate change legislation and assess their “substantial progress” toward achieving long-term reduction targets identified in available plans, legislation, or EOs. Consistent with AEP Climate Change Committee recommendations, GHG impacts are analyzed in terms of whether the anticipated 2040 General Buildout would impede “substantial progress” toward meeting the reduction goal identified in SB 32 and EO B-55-18. As SB 32 is considered an interim target toward meeting the 2045 State goal, consistency with SB 32 would be considered contributing substantial progress toward meeting the State’s long-term 2045 goals. Avoiding interference with, and making substantial progress toward, these long-term State targets is important because these targets have been set at levels that achieve California’s fair share of international emissions reduction targets that will stabilize global climate change effects and avoid the adverse environmental consequences described under Section 4.8.1, *Regulatory Setting*, Executive Order B-55-18.

Service Population

The 2040 General Plan population and employment projections are detailed in Section 4.13, *Population and Housing*. Kerman’s estimated growth within the Planning Area would result in a net new increase of an anticipated 4,170 residents and 780 jobs for a total population of 19,650 and 3,580 jobs by 2040. Therefore, the net new total service population for buildout under the 2040 General Plan is 4,950.

Methodology

The focus of this analysis and the estimate of net new GHG emissions are limited to only those potential emissions that would result from the buildout of the 2040 General Plan. While emissions generated in the City and the region (such as those emissions generated by businesses or individual operations) may contribute to GHG emissions globally, only those emissions that may change compared to existing conditions as a result of the implementation of the 2040 General Plan are included in this EIR as a reasonable approach to estimate GHG/Climate Change impacts for the project (the 2040 General Plan). Emissions not directly resulting from buildout of the 2040 General Plan are considered outside the scope of this CEQA analysis, as it would be speculative to analyze impacts not directly related to the 2040 General Plan.

Buildout associated with the 2040 General Plan would promote development of industrial, commercial, residential, institutional and associated recreational uses. The California Emissions Estimator Model (CalEEMod version 2016.3.2) was used to estimate GHG emissions associated with buildout of the 2040 General Plan (see Appendix A for calculations). See Section 4.3, *Air Quality*, for a detailed discussion of modeling assumptions.

The analysis focuses on CO₂, CH₄, and N₂O because these make up 98.9 percent of all GHG emissions by volume (IPCC 2007) and are the GHG emissions that the 2040 General Plan would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF₆, were also considered for the analysis. However, because the 2040 General Plan would allow development of a mix of land uses including commercial, residential, institutional and associated recreational uses, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent GWP in terms of CO₂ (CO₂e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total calculated CO₂e amounts. Calculations are based on the methodologies discussed in the California Air Pollution Control Officers Association (CAPCOA) CEQA and Climate Change white paper (January 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (January 2009).

Construction Emissions

Although construction activity is addressed in this analysis, CAPCOA does not discuss whether any of the suggested threshold approaches (as discussed above under *Significance Thresholds*) adequately address impacts from temporary construction activity. As stated in the *CEQA and Climate Change* white paper, “more study is needed to make this assessment or to develop separate thresholds for construction activity” (CAPCOA 2008). Nevertheless, air districts have recommended amortizing construction-related emissions over the lifetime of the project in conjunction with the project’s operational emissions. Neither the SJVAPCD nor the City of Kerman has provided guidance on what the amortization period for individual projects should be. The South Coast Air Quality Management District (SCAQMD) recommends a period of 30 years (SCAQMD 2008). Therefore, for the purposes of this analysis, the SCAQMD amortization of 30 years is used.

CalEEMod was used to estimate construction emissions associated with buildout of the 2040 General Plan. Average annual emissions from construction under the 2040 General Plan were calculated, including both on-site and off-site activities. On-site activities would consist of the operation of off-road construction equipment, as well as on-site truck travel (e.g., haul trucks, water trucks, dump trucks, and concrete trucks), whereas off-site sources would be emissions from construction vehicle trips to and from the site. Buildout of the 2040 General Plan was estimated to

begin in January 2020 and end with buildout of the 2040 General Plan in December 2039. Complete results from CalEEMod and assumptions can be viewed in Appendix A.

Operational Emissions

CalEEMod provides operational emissions of CO₂, N₂O, and CH₄. Emissions from energy use include electricity and natural gas use. The emissions factors for natural gas combustion are based on EPA's AP-42 (*Compilation of Air Pollutant Emissions Factors*) and CCAR General Reporting Protocol. Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CAPCOA 2017). The default electricity consumption values in CalEEMod include the California Energy Commission [CEC]-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies. As discussed above, SB 100 requires retail sales of electricity to be generated by 33 percent renewable energy by 2020 and 60 percent renewable energy by 2030. However, PG&E currently sources approximately 78 percent of its electricity from renewable sources and has therefore already achieved the 2030 requirement (CEC 2018). Accordingly, no adjustments were made to the carbon intensity of electricity emissions in light of the SB 100 requirements.

Emissions associated with VMT were calculated in CalEEMod, based on Traffic Analysis Zones (TAZ) calculations from FCOG traffic modeling data. The estimated net increase of daily VMT from 2018-2040 is 298,501 and net yearly VMT is approximately 108,953,014. Total daily VMT for 2040 General Plan buildout is approximately 781,939 or 285,407,694 yearly. These estimates projected higher population, jobs and land use targets than the 2040 General Plan buildout projections and are therefore a conservative estimate of VMT for the City. These estimates do not account for the proposed VMT and GHG reduction policies or measures within the 2040 General Plan.

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from CARB, U.S. EPA, and emission factor values provided by the local air district (CAPCOA 2017).

Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for northern and southern California.

For mobile sources, CO₂ and CH₄ emissions from vehicle trips to and from the project site were quantified using CalEEMod based on the VMT projections based on TAZ prepared for the project by FCOG and Rincon Consultants (Appendix D). Because CalEEMod does not calculate N₂O emissions from mobile sources, N₂O emissions were quantified using guidance from CARB (CARB 2013; see Appendix A for calculations), which states the following:

- For gasoline vehicles, use 4.16 percent of NO_x emissions (from CalEEMod) to calculate N₂O for all gasoline vehicles; and
- For diesel vehicles, use 0.3316 grams of NO_x per gallon fuel used.

CalEEMod does not list the percentage breakdown of gasoline and diesel vehicles used in the model's fleet mixes. To determine this percentage, EMFAC2014 Emissions Inventory were obtained in a spreadsheet output for the Fresno County region, for the anticipated 2040 General Plan Buildout's earliest-anticipated operational year (2020), using EMFAC2011 categories (CARB 2019).

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD SUBSTANTIALLY INCREASE GHG EMISSIONS AT BUILDOUT COMPARED TO EXISTING CONDITIONS. IMPLEMENTATION OF 2040 GENERAL PLAN POLICIES FOR REDUCING GHG EMISSIONS WOULD NOT REDUCE IMPACTS TO BELOW THE PROJECTED LOCALLY APPROPRIATE THRESHOLD. THEREFORE, IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Construction activities associated with individual development projects envisioned under the proposed 2040 General Plan would generate temporary short-term GHG emissions primarily due to the operation of construction equipment and truck hauling trips. Construction-related emissions were calculated using CalEEMod (Appendix D) as shown in Table 4.8-3. Due to the temporary nature of construction emissions, they constitute a small proportion of emissions associated with 2040 General Plan Buildout land use development.

Operational emissions due to development facilitated by the 2040 General Plan would generate long-term GHG emissions from new vehicle trips (mobile emissions), combustion of natural gas and use of electricity (energy emissions), solid waste disposal, water use and wastewater generation, and consumer products, architectural coatings, and landscaping equipment (area emissions). Table 4.8-3 summarizes and combines the amortized construction, operational, and mobile GHG emissions associated with the anticipated 2040 General Plan Buildout.

Table 4.8-3 Estimated Cumulative GHG Emissions during Construction

	Emissions (MT of CO ₂ e)
2020 to 2040	26,677.2
Total	26,677.2
Amortized over 30 years	889.2

Notes: All emissions modeling was completed using CalEEMod. See Appendix D for modeling results. Some numbers may not sum exactly due to rounding. Emission data shown is from "mitigated" results, which account for compliance with regulations and project design features.

Table 4.8-4 Combined Annual GHG Emissions

Emission Source	Emissions (MT of CO₂e per year)
Construction	889.2
Operational	
Area	2,529.1
Energy	3,426.1
Solid Waste	1,631.0
Water	276.5
Mobile	
CO ₂ and CH ₄	123,203.1
N ₂ O	0.0
Total Emissions	131,954.9
Service Population	4,950
Emissions per Service Population (MT CO₂e/SP/year)	26.7
Locally-Appropriate 2030 Project Threshold (MT CO ₂ e/SP/year)	4.39
Exceed Project-Specific Threshold?	Yes
See Appendix A for CalEEMod results and Appendix D N ₂ O mobile emissions data sheets.	

Buildout under the 2040 General Plan would anticipate the growth of 4,170 residents and 780 jobs. This land-use scenario concentrates the forecasted growth in population and employment within City limits and along major streets. As shown in Table 4.8-4, combined annual GHG emissions from the anticipated new development would be approximately 26.7 MT of CO₂e per service person per year, which would exceed the locally-appropriate, 2030 project-specific threshold of 4.39 MT of CO₂e per service person per year. This accounts for a significant increase of 508 percent above the locally appropriate threshold. These calculations provide a conservative estimate of emissions associated with buildout of the 2040 General Plan because they do not take into account emission reductions that would result from 2040 General Plan goals and policies aimed at promulgating clean fuels, reducing VMT, and improving energy efficiency. Nor do the calculations take into account the Circulation Plan Implementation Plan J, which would direct the City of Kerman to prepare an active transportation plan.

However, the increase in overall land use intensity and associated population and employment growth within the 2040 General Plan Planning Area are primarily responsible for the increased GHG emissions. Under the 2040 General Plan, the City shall strive to achieve VMT reductions consistent with the California Air Resources Board (CARB) 2017 Scoping Plan statewide greenhouse gas (GHG) emission reduction goals of 40 percent below 1990 emissions levels by 2030.

Future development projects would be processed under separate CEQA evaluation and may on a project-level not result in a significant GHG impact; however, development facilitated by the 2040 General Plan would cumulatively exceed the locally-appropriate 2030 Project Threshold's therefore, buildout of the General Plan would result in a potentially significant increase in GHG emissions.

Relevant policies included in the Circulation, Conservation, Open Space and Recreation Element, and Public Health and Safety Element are listed below.

Circulation Element

Goal CIRC-2: To ensure the design, construction, and maintenance of a safe, efficient, and complete roadway system that is well designed, visually attractive, and provides access to all parts of Kerman.

- **Policy CIRC-2.3: Vehicle Trip Length and Travel Time Reduction.** The City shall continue to improve the street network to be efficient and provide multiple routes that are efficient to reduce trip length, travel time, idling time, intersection delays, and other emissions producing activities.
- **Policy CIRC-2.4: Greenhouse Gas Reduction.** The City shall strive to achieve VMT reductions consistent with the California Air Resources Board (CARB) 2017 Scoping Plan statewide greenhouse gas (GHG) emission reduction goals of 40 percent below 1990 emissions levels by 2030.
- **Policy CIRC-2.5: Vehicle Miles Traveled (VMT) Standards.** The City shall establish a 15 percent below baseline conditions as a clear and realistic VMT threshold of significance to determine impacts on the environment related to development projects. The City will develop the baseline using the Fresno Council of Governments (FCOG) Regional Transportation Model.
- **Policy CIRC-2.6: Mitigation of Vehicle Miles Traveled (VMT) Transportation Impacts.** The City shall require projects having potentially significant VMT transportation impacts under CEQA to implement feasible mitigation measures necessary to reduce the VMT for or induced by the project to the applicable performance metrics. Such mitigation measures may include, but are not limited to:
 - Provide infrastructure and facilities for walking and bicycling, particularly those that connect with and ensure access to existing active transportation infrastructure and transit;
 - Include on-site EV charging capabilities;
 - Incorporate traffic-calming measures;
 - Unbundle parking (separate/optional cost) from residential units in multifamily housing developments;
 - Provide incentives to carpool or use active transportation; and/or
 - Provide payment into an in-lieu fee program to reduce VMT.

Goal CIRC-5: To promote bicycling, walking, and using public transit, as functional alternatives to single-passenger automobile travel.

- **Policy CIRC-5.1: Alternative Modes of Transportation.** The City shall encourage project site designs and subdivision street and lot designs that support alternative modes of transportation, including public transit, bicycling, and walking.
- **Policy CIRC-5.2: Active Transportation.** The City shall encourage bicycling, walking, taking public transit, and carpooling as alternatives to driving single-passenger vehicles to reduce VMT, traffic congestion, and associated emissions from additional automobile use.
- **Policy CIRC-5.3: Continuous Bicycle Network.** The City shall design a safe and logical bicycle path network that links key destinations within the planning area to promote the use of bicycles as a mode of transportation to reduce greenhouse gas emissions and to encourage exercise.
- **Policy CIRC-5.8: Electrical Vehicle Charging Stations.** The City shall support the installation of electric vehicle charging stations at County facilities, parking lots, park-and-ride lots, and truck stops.

Conservation, Open Space, and Recreation Element

Goal COS-5: To minimize energy consumption and reduce greenhouse gas emissions as part of the statewide effort to combat climate change.

- **Policy COS-5.1: Reduction of Fossil Fuels Reliance.** The City shall promote the development and use of renewable energy resources (e.g., solar, thermal, wind, tidal) to reduce dependency on petroleum-based energy sources.
- **Policy COS-5.2: GHG Reduction in Coordination with Regional Agencies.** The City shall work with FCOG and the San Joaquin Valley Air Pollution Control District to develop and implement regional plans for the reduction of GHG emissions.
- **Policy COS-5.3: Sustainable Building Practices.** The City shall promote sustainable building practices that incorporate a “whole systems” approach to design and construction that consumes less energy, water, and other non-renewable resources, such as facilitating passive ventilation and effective use of daylight.
- **Policy COS-5.4: Renewable Energy Features in New Projects.** During the development review process, the City shall encourage projects to integrate features that support the generation, transmission, efficient use, and storage of renewable energy sources.
- **Policy COS-5.5: Energy-Efficient Municipal Buildings.** The City shall consider CALGreen Tier 1 energy performance, along with LEED Silver or Gold equivalent status for new municipal buildings to maximize energy efficiency.
- **Policy COS-5.6: Electric Vehicle Charging.** The City shall encourage and support expanding Electric Vehicle (EV) charging stations and the purchase of electric vehicles.
- **Policy COS-5.7: Energy Conservation Awareness.** The City shall increase awareness about energy efficiency and conservation to encourage residents, businesses, and industries to conserve energy.

Public Health and Safety Element

- **Policy PH-7.4: CEQA Compliance.** The City shall review projects for compliance with the California Environmental Quality Act (CEQA), including the requirements outlined in Table A-1 in Appendix A to reduce adversity to environmental impacts. (See Appendix A of 2040 General Plan, Off-Road Construction Equipment and Project Operation GHG Reduction Plan)
- **Policy PH-7.5: Public Education and Awareness.** The City shall support programs that educate the public on climate change and encourage residents and businesses to become involved in activities and lifestyle changes that will aid in reduction of greenhouse gas emissions.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

It is highly unlikely implementation of the 2040 General Plan policies specifically for GHG reduction emissions and impacts related to short-term GHG emissions would be capable of a 20 MT CO₂e/SP/year reduction to below the locally-appropriate threshold. Therefore, impacts would be significant and unavoidable.

Threshold 2: Would the General Plan conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-2 THE 2040 GENERAL PLAN WOULD SUBSTANTIALLY INCREASE GHG EMISSIONS AT BUILDOUT COMPARED TO EXISTING CONDITIONS TO A SIGNIFICANT AND UNAVOIDABLE LEVEL (GHG-1). HOWEVER, THE GOALS, POLICIES AND PROGRAMS OF THE 2040 GENERAL PLAN WOULD BE CONSISTENT WITH THE GHG REDUCTION GOALS AND OBJECTIVES OF THE FCOG 2040 RTP-SCS AND THE 2017 SCOPING PLAN. THEREFORE, THE 2040 GENERAL PLAN WOULD NOT CONFLICT WITH REGIONAL AND STATE PLANS, POLICIES OR REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As discussed under Section 4.8.1, *Setting*, a number of plans have been adopted to reduce GHG emissions in the region and at the state level. The project's consistency with the FCOG 2018 RTP/SCS and the 2017 Scoping Plan are discussed below.

FCOG 2040 RTP-SCS

FCOG's 2040 RTP-SCS provides land use and transportation strategies to reduce regional GHG emissions. The project's consistency with applicable goals and objectives from the 2040 RTP/SCS are discussed in Table 4.8-5.

Table 4.8-5 Consistency with Applicable FCOG 2018 RTP/SCS Goals and Objectives

Goals and Objectives	Project Consistency
Environment	
<p>Goal 1: A multimodal regional transportation network compatible with adopted land use plans and consistent with the intent of SB375 (Senate Bill 375 also known as the Sustainable Communities Protection Act of 2008).</p> <p>Objective 1: Development of a regional transportation network which is environmentally sensitive, fosters sustainable regional growth, and helps reduce greenhouse gas emissions wherever possible</p> <p>Goal 2: An integrated and efficient highways, streets and roads network.</p> <p>Objective 2: Develop and implement an integrated highways, streets and roads network that meets mobility needs for both urban and rural residents and the movement of goods.</p> <p>Goal 3: A coordinated policy for public transportation that complements land use and air quality/climate change policies.</p> <p>Objective 3: Support transportation investments that work toward accomplishing air quality and climate change goals, optimizing the utilization of land and encourage a stable economic base</p>	<p>Consistent. The 2040 General Plan would be consistent with the environmental objectives of the 2018 FCOG RTP/SCS, specifically Circulation Element Policies CIRC-1.1 to CIRC-1.4 that would ensure land use and transportation planning are cohesive, consistent, mutually supportive, and strive to reduce VMT. Whereas, Policies CIRC-5.1 to CIRC-5.3 promote use of public and alternative forms of transportation. There are two public transit systems that service Kerman: the Fresno County Rural Transit Agency (FCRTA) and the Westside Transit service. Therefore, Kerman would promote a transportation network that is environmentally sensitive, fosters sustainable growth in the region, and reduces per capita GHG emissions by concentrating development within City limits, so that residents can reduce travel time for goods, services, and jobs.</p> <p>Goal CIRC-2, Policies CIRC-2.3 to CIRC-2.6, and Implementation Programs (Section 4.7 of the Circulation Element) H through L would reduce greenhouse gas emissions by encouraging an efficient street network that would reduce VMT and travel time in addition to setting city-wide goals to reach VMT reductions consistent with the 2017 Scoping Plan and GHG emission levels to 1990 levels by 2030. For future increases in VMT, the 2040 General Plan provides CEQA guidelines and mitigation measures for future development. Therefore, the 2040 General Plan would be consistent with Goal 1 and 3 and Objective 1 and 3.</p>

Goals and Objectives	Project Consistency
	<p>There are two proposed Terminal Access route realignments within the 2040 General Plan. The realignment would move SR-145 and SR-180 (Caltrans project) north of the City limits to the SOI, and thereby increasing VMT and GHG to potentially significant levels. Though impacts could be potentially significant to VMT and GHG emissions within the City, these proposed transportation projects would also require a project-specific EIR to address the potential environmental impacts in addition, the realization of the realignments would span beyond the 20-year planning horizon of the 2040 General Plan.</p> <p>Goal CIRC-3 and Policies CIRC-3.1 to CIRC-3.4 would coordinate efforts with Caltrans, FCOG, and the City of Kerman to ensure potential impacts to the goods movement and Terminal Access truck routes are reduced and thereby consistent with Goal 2 and Objective 2.</p>
Mobility & System Reliability	
<p>Goal 1: Maximize bicycling and walking through their recognition and integration as valid and healthy transportation modes in transportation planning activities.</p> <p>Objective 1: Increase bicycling and pedestrian trips as a percentage of all trips.</p> <p>Goal 2: Safe, convenient, and continuous routes for bicyclists and pedestrians of all types which interface with and complement a multimodal transportation system</p> <p>Objective 2: Increase connections between bicycling and pedestrian facilities and other modes of transportation.</p> <p>Goal 3: Improved bicycle and pedestrian safety through education, engineering and enforcement.</p> <p>Objective 3: Reduce the number of bicycling and pedestrian injuries and deaths</p>	<p>Consistent. Implementation Program J would direct the City of Kerman to prepare an active transportation plan; the 2040 General Plan (Figure 4-3 Active Transportation Facilities of the Circulation Element) provides a map of the existing and proposed bicycle facilities as well as planning bicycle parking. The bicycle facilities proposed in the 2040 General Plan would construct a combination of Class I, II, and III bikeways both within City limits and along major streets within the Planning Area.</p> <p>The upgraded bike facilities in addition to Circulation Element Goal CIRC-5 and Policies CIRC-5.1 to CIRC 5.6 would encourage active and alternatives form of transportation by enhancing the existing bicycle facilities and pathways as well as improve sidewalks and create pedestrian-friendly streets through design and safety elements. Therefore, the 2040 General Plan implementation program and policies are consistent with Goals 1 to 3 and Objectives 1 to 3.</p>

Source: FCOG 2018

As summarized in Table 4.8-5 the 2040 General plan would not conflict with the goals and objectives of the FCOG 2040 RTP-SCS due to the consistency of shared environmental, mobility, and system reliability goals that would encourage active transportation and reduce greenhouse gas impacts.

In addition, as mentioned in Impact GHG-1, the Circulation Element; Conservation, Open Space, and Recreation Element; and Public Health and Safety Element contain policies that reduce VMT and GHG impacts through improvements to the roadway system to decrease trip times, through efficient and safe roadway design.

2017 Scoping Plan and EO B-55-18

The 2017 Scoping Plan outlines a pathway to achieving the reduction targets set under SB 32, which is considered an interim target toward meeting the State's long-term 2045 goal established by

Executive Order (EO) B-55-18. Table 4.8-6 demonstrates the 2040 General Plan would enable infill, transit-oriented development and provide transit improvement goals and therefore be consistent with the goals and objectives of the 2017 Scoping Plan and EO B-55-18. This impact would be less than significant.

Table 4.8-6 Consistency with California's 2017 Climate Change Scoping Plan

Goals and Objectives	Project Consistency
Vibrant Communities and Landscapes/VMT Reduction Goals	
<p>Promote all feasible policies to reduce VMT, including:</p> <ul style="list-style-type: none"> ▪ Land use and community design that reduce VMT, ▪ Transit oriented development, ▪ Complete street design policies that prioritize transit, biking, and walking, and ▪ Increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities 	<p>Consistent. The 2040 General Plan would improve transit, bicycle, and pedestrian improvements that would promote transit-oriented, infill development within the City limits and higher density multi-family housing within the Planning area that would also include a mix of land uses. The 2040 General Plan improvements to existing transit, pedestrian, and bicycle infrastructure, as well as new infrastructure would support and promote complete streets design policies.</p>

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

GHG emissions and climate change are by definition cumulative impacts, as they affect the accumulation of greenhouse gases in the atmosphere. As indicated above in Impact GHG-1 emissions associated with the 2040 General Plan would be considered significant and unavoidable; and therefore cumulatively considerable and significant.

As shown in Table 2-1 in Section 2, *Project Description*, the City currently anticipates population increase of 4,170 residents and 780 new jobs by 2040 buildout. New development within the 2040 General Plan would involve primarily infill, commercial, industrial and residential development within the City limits and SOI which would be consistent with the surrounding suburban and urban nature of development within the city.

New development in the 2040 General Plan falling below the impact thresholds discussed above would have a less than significant impact, both individually and cumulatively. As discussed in Impact GHG-2, the project would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. These impacts would not be considered cumulatively considerable and impacts would be less than significant.

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4.9 Hazards and Hazardous Materials

This section addresses impacts associated with exposure to hazards and hazardous materials from implementation of the 2040 General Plan. Specifically, this analysis addresses impacts related to hazardous materials use and transportation, the accidental release of hazardous materials, new development or re-development on contaminated sites, and interference with emergency response and evacuation plans.

4.9.1 Setting

a. Definition of Hazardous Materials

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations as follows:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (California Code of Regulations, Title 22, Section 66261.10).

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosiveness, and reactivity. California Code of Regulations, Title 22, Sections 66261.20 through 66261.24 defines the aforementioned properties. The release of hazardous materials into the environment has the potential to contaminate soils, surface water, and groundwater supplies.

b. Land Use Patterns

Small quantities of hazardous materials in Kerman are routinely used, stored, and transported in commercial and retail businesses as well as in educational facilities, hospitals, and households. Hazardous materials users and waste generators in the City include businesses, public and private institutions, and households. Federal, State, and local agency databases maintain comprehensive information on the locations of facilities using large quantities of hazardous materials, as well as facilities generating hazardous waste. Some of these facilities use certain classes of hazardous materials that require accidental release scenario modeling and risk management plans to protect surrounding land uses.

Past and present land use patterns are good predictors of the potential for past contamination by hazardous materials and the current use and storage of hazardous materials. Industrial sites and certain commercial land uses, such as dry cleaners, are more likely to use and store large quantities of hazardous materials than residential land uses. Land use patterns are also useful for identifying the location of sensitive receptors, such as schools, day-care facilities, hospitals, and nursing homes. Commercial uses are concentrated along the major transportation corridors of Madera Avenue (SR 145) and Whitesbridge Road (SR 180), as well as some service commercial along the railroad. Industrial uses are concentrated south of the railroad, along with some limited areas of service commercial uses.

c. Existing Hazardous Material Contamination

The Fresno County Environmental Health Division implements the Hazardous Waste Generator Program and the Hazardous Waste Treatment/Tiered Permit Program to ensure that all hazardous waste generated by Fresno County businesses is properly handled, recycled, treated, stored, and disposed.

Hazardous waste generators in Kerman include industrial operations on the south side of the city and the wastewater treatment plant. As of August 2018, there are two permitted Underground Storage Tank (UST) sites and no active Leaking Underground Storage Tank (LUST) sites in Kerman. There are no Superfund hazardous waste cleanup sites in the city. The U.S. EPA has identified 14 small-quantity hazardous waste generators (between 100 and 1,000 kilograms of hazardous waste per month) and three large-quantity hazardous waste generators (greater than 1,000 kilograms of hazardous waste per month) in Kerman.

These hazardous waste generation sites are clustered in the industrial area south of the rail line and along SR 145 and SR 180. The nearest facility for disposal of hazardous waste is the Regional Permanent Household Hazardous Waste Management Facility, which is operated by Fresno County. This facility is located south of city limits on American Avenue. Hazardous waste in Fresno County is also disposed at a collection facility operated by the Safety-Kleen Corporation in Fresno.

Hazardous Materials Transportation

Hazardous materials are transported through Kerman by two methods: truck and rail. Kerman has two State highways (SR 145 and SR 180) that carry a large amount of truck traffic. SR 145 is a north-south route that connects with Madera to the north, and SR 180 is an east-west route that connects with Fresno to the east and Mendota to the west. The Westside Branch of the Union Pacific Railroad passes through the city and provides rail service eastward to Fresno.

The Department of Transportation (DOT) has established nine hazardous materials classifications: explosive, compressed gases, flammable/combustible liquids, flammable solids, oxidizers, poisons, corrosive, radioactive, and miscellaneous. Transporters of such materials must adhere to routing requirements that are enforced by the California Highway Patrol. Transportation must take the most direct route, using State or interstate highways whenever possible, and only roadways with sufficient width and load-bearing capacity. Materials that are poisonous by inhalation, explosive, or have a high radioactive level may be transported on certain State routes, including SR 180, but are subject to restrictions.

Agricultural Chemicals

As the City continues to support agricultural production, risks associated with agricultural chemicals such as pesticides and inorganic fertilizers are a consideration. Sensitive receptors, such as residential or school uses, in the proximity of agricultural uses that use pesticides increase the chance of health risks. Agricultural operations including permanent crops and irrigated field crops occupy 76 percent (5,940 acres) of Kerman's Planning Area. Pesticide and herbicide application permits are renewed on an annual basis by the County Agricultural Commissioner. Regulated commercial applications of pesticides are documented only on a monthly basis in an annual report submitted to the County. Disturbance of soils with residual quantities of agricultural chemicals because of historic agricultural use can also pose health threats.

d. Emergency Response Plans

Presidential Directive HSPD 5 identifies steps for improved coordination in response to incidents and requires a National Response Plan (NRP) and a National Incident Management System (NIMS). NIMS is a comprehensive, national approach to incident management developed to improve the coordination of federal, State and local emergency response nationwide. The State of California's NIMS Advisory Committee issued "California Implementation Guidelines for the National Incident Management System" to assist local governments and other entities to incorporate NIMS into already existing programs, plans, training and exercises.

The foundation of California's emergency planning and response is a statewide mutual aid system which is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation.

The California Disaster and Civil Defense Master Mutual Aid Agreement (California Government Code Sections 8555–8561) requires signatories to the agreement to prepare operational plans to use within their jurisdiction, and outside their area. These plans include fire and non-fire emergencies related to natural, technological, and war contingencies. The State of California, all state agencies, all political subdivisions, and all fire districts signed this agreement in 1950.

California Government Code Section 8568, the "California Emergency Services Act," states that "the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." The Act provides the basic authorities for conducting emergency operations following the proclamations of emergencies by the Governor or appropriate local authority, such as a City Manager. The provisions of the act are further reflected and expanded on by appropriate local emergency ordinances. The Act further describes the function and operations of government at all levels during extraordinary emergencies, including war.

All local emergency plans are extensions of the State of California Emergency Plan. The State Emergency Plan conforms to the requirements of California's Standardized Emergency Management System (SEMS), which is the system required by Government Code 8607(a) for managing emergencies involving multiple jurisdictions and agencies (CalEMA 2009a). The SEMS incorporates the functions and principles of the Incident Command System (ICS), the Master Mutual Aid Agreement (MMAA), existing mutual aid systems, the operational area concept, and multi-agency or inter-agency coordination (CalEMA 2009b). Local governments must use SEMS to be eligible for funding of their response-related personnel costs under state disaster assistance programs (CalEMA 2009b). The SEMS consists of five organizational levels that are activated as necessary, including: field response, local government, operational area, regional, and state (CalEMA 2009b).

In an emergency, governmental response is an extension of responsibility and action, coupled with normal day-to-day activity. Normal governmental duties will be maintained, with emergency operations carried out by those agencies assigned specific emergency functions.

The City of Kerman is part of the Fresno County Multi-Hazard Mitigation Plan (LHMP), which focuses on mitigating hazards to reduce the impacts of disasters by identifying effective and feasible actions to reduce the risks of potential hazards.

e. Regulatory Setting

The management of hazardous materials and hazardous wastes is regulated at federal, state, and local levels, including through programs administered by the U.S. EPA; agencies within the California

Environmental Protection Agency (CalEPA), such as the DTSC; Federal and State occupational safety agencies; and the Fresno County Hazardous Materials Certified Unified Program Agency (CUPA).

Federal

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA)

These acts established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (enacted 1980), amended by the Superfund Amendments and Reauthorization Act (SARA) (1986)

This law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled revision of the National Contingency Plan (NCP), which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List (NPL).

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

FIFRA (7 USC 136 et seq.) provides Federal control of pesticide distribution, sale, and use. EPA was given authority under FIFRA not only to study the consequences of pesticide usage, but also to require users (farmers, utility companies, and others) to register when purchasing pesticides. Later amendments to the law required users to take exams for certification as applicators of pesticides. All pesticides used in the United States must be registered (licensed) by EPA. Registration assures that pesticides will be properly labeled and that, if used in accordance with specifications, they will not cause unreasonable harm to the environment.

Lead-Based Paint Elimination Final Rule 24 Code of Federal Regulations

Regulations for Lead-Based Paint (LBP) are contained in the Lead-Based Paint Elimination Final Rule 24 Code of Federal Regulations (CFR) 33, governed by the U.S. Housing and Urban Development (HUD), which requires sellers and lessors to disclose known LBP and LBP hazards to perspective purchasers and lessees. Additionally, all LBP abatement activities must be in compliance with California and Federal OSHA and with the State of California Department of Health Services requirements. Only LBP trained and certified abatement personnel are allowed to perform abatement activities. All lead LBP removed from structures must be hauled and disposed of by a transportation company licensed to transport this type of material at a landfill or receiving facility licensed to accept the waste.

U.S. Environmental Protection Agency

The U.S. EPA is the agency primarily responsible for enforcement and implementation of Federal laws and regulations pertaining to hazardous materials. Applicable Federal regulations pertaining to hazardous materials are contained in the Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. The management of hazardous materials is governed by the following laws:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [USC] 6901 et seq.); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC 9601 et seq.);
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 USC 136 et. Seq.); and
- Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99 499).

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. EPA provides oversight and supervision for Federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

Disaster Mitigation Act (2000-Present)

Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) requires a state mitigation plan as a condition of disaster assistance. There are two different levels of state disaster plans: “Standard” and “Enhanced.” States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Act has also established new requirements for local mitigation plans.

State

Department of Toxic Substances Control

As a department of the California EPA, the Department of Toxic Substances Control (DTSC) is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the U.S. EPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered a hazardous waste if it exceeded specific criteria in Title 22 of the California Code of Regulations. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

Hazardous Waste Control Act

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in CCR Title 26. The State program is similar to, but more stringent than, the Federal program under RCRA. The regulations list materials that may be hazardous, and establish criteria for their identification, packaging, and disposal. Environmental health standards for management of hazardous waste are contained in California Code of Regulations (CCR) Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the State called the Cortese List.

California Department of Pesticide Regulation, Department of Food and Agriculture, and the Department of Public Health

The California Department of Pesticide Regulations (DPR), a division of CalEPA, in coordination with the California Department of Food and Agriculture (CDFA), a division of Measurement Standards and the California Department of Public Health (CDPH) have the primary responsibility to regulate pesticide use, vector control, food, and drinking water safety. CCR Title 3 requires the coordinated response between the County Agricultural Commissioner and SBDEH to address the use of pesticides used in vector control for animal and human health on a local level. DPR registers pesticides, and pesticide use is tracked by the County. Title 22 is used also to regulate both small (less than 200 connections regulation by the SBC Water District) and large CDPH water systems.

California State Multi-Hazard Mitigation Plan, draft (updated 2013)

The purpose of the State Multi-Hazard Mitigation Plan (SHMP) is to significantly reduce deaths, injuries, and other losses attributed to natural and human-caused hazards in California. The SHMP provides guidance for hazard mitigation activities emphasizing partnerships among local, state, and federal agencies as well as the private sector. The California Office of Emergency Services (OES) prepares the State of California Multi-Hazard Mitigation Plan (SHMP). The SHMP identifies hazard risks, and includes a vulnerability analysis and a hazard mitigation strategy. The SHMP is federally required under the Disaster Mitigation Act of 2000 in order for the State to receive federal funding. The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

California Fire and Building Code (2016)

The 2016 Fire and Building Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement

enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

Local

Fresno County Multi-Jurisdictional Local Hazard Mitigation Plan

The goal of the Fresno County MJ-LHMP is to maintain and enhance a disaster-resistant region by reducing the potential for loss and damage resulting from natural disasters. The purpose of the MJ-LHMP is to better protect the people and property of the county from the effects of hazard events. The Plan includes a number of hazard mitigation strategies, and in 2008, Kerman adopted the MJ-LHMP as its Local Hazard Mitigation Plan and the associated City of Kerman Annex document. The Annex Document includes discussion and analysis specific to Kerman, as well as a number of mitigation strategies.

Kerman 2007-2027 General Plan, Safety Element

The Safety Element of the most recent General Plan includes goals and policies aimed at reducing wildfire risk. Goals related to reducing wildfire risk include: Prevent the loss of life and property due to natural and manmade hazards; safeguarding economic resources of the city from losses due to natural and manmade hazards including fires; and promoting citizen awareness of the implications of natural and manmade hazards that exist in the region.

4.9.2 Impact Analysis

a. Methodology and Thresholds of Significance

Methodology

This section describes the potential environmental impacts of the 2040 General Plan relevant to hazards and hazardous materials. The impact analysis is based on an assessment of baseline conditions for the Planning Area, including locations of hazardous materials use and storage, existing contaminated sites, emergency response and evacuation plan requirements, as described in Subsection 4.9.1, *Setting*. This analysis identifies potential impacts based on the predicted interaction between the affected environment and construction, operation, and maintenance activities related to the predicted development that would occur under the 2040 General Plan. This section describes impacts in terms of location, context, duration, and intensity.

Significance Thresholds

The following thresholds of significance are based on Appendix G of the state *CEQA Guidelines*. For the purposes of this EIR, implementation of 2040 General Plan may have a significant adverse impact if it would do any of the following:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
5. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Thresholds 5 and 7 are discussed in Section 4.18, *Effects Found Not to be Significant*, as there are no airports or wildlands in or adjacent to the Planning Area. All other thresholds are discussed in detail below.

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the General Plan create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Threshold 2:	Would the General Plan create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Impact HAZ-1 IMPLEMENTATION OF THE 2040 GENERAL PLAN COULD RESULT IN AN INCREMENTAL INCREASE IN THE OVERALL ROUTINE TRANSPORT, USE, STORAGE, AND DISPOSAL OF HAZARDOUS MATERIALS WITHIN THE CITY AND INCREASE THE RISK OF RELEASE OF HAZARDOUS MATERIALS. HOWEVER, COMPLIANCE WITH APPLICABLE REGULATIONS RELATED TO THE HANDLING AND STORAGE OF HAZARDOUS MATERIALS AND COMPLIANCE WITH 2040 GENERAL PLAN POLICIES WOULD MINIMIZE THE RISK OF SPILLS AND THE PUBLIC'S POTENTIAL EXPOSURE TO THESE SUBSTANCES TO A LESS THAN SIGNIFICANT LEVEL.

Implementation of 2040 General Plan would facilitate development in the City consistent with development forecasts, including conversion of uses in response to market demand, and more intense use of land in several locations throughout the City. As discussed in Section 2, *Project Description*, the focus of the 2040 General Plan's growth would be on infill development. Development projected by the 2040 General Plan would be primarily residential, commercial, office space, and industrial land uses. Residential and office space land use typically do not use or handle large quantities of hazardous materials.

The 2040 General Plan could result in a buildout potential of 720 new households, approximately 16.4 acres of commercial and approximately 100 jobs in industrial jobs. New residential development could be introduced in close proximity to existing and/or future commercial development, such as in the northeastern portion of the City.

The precise increase in hazardous materials transported within Kerman as a result of implementation of 2040 General Plan cannot be predicted because specific development projects are not identified in the 2040 General Plan at a level of detail allowing such analysis. This analysis

focuses on the potential nature and magnitude of risks associated with the accidental release, storage, transportation, and use of hazardous materials used during operations of typical residential, industrial, and retail-commercial development projects. As described below, compliance with applicable federal and State laws related to the transport, storage and handling of hazardous materials would reduce the likelihood and severity of accidents associated with the use of hazardous materials.

Exposure of persons to hazardous materials could occur in the following ways: improper handling or use of hazardous materials or hazardous wastes during construction or operation of future developments, particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; or fire, explosion or other emergencies. The types and amounts of hazardous materials would vary according to the nature of the activity. In some cases, it is the type of material that is potentially hazardous; in others, it is the amount of material that could present a hazard.

Whether a person exposed to a hazardous substance would suffer adverse health effects depends upon a complex interaction of factors that determine the effects of exposure to hazardous materials: the exposure pathway (the route by which a hazardous material enters the body); the amount of material to which the person is exposed; the physical form (e.g., liquid, vapor) and characteristics (e.g., toxicity) of the material; the frequency and duration of exposure; and the individual's unique biological characteristics such as age, weight, and general health. Adverse health effects from exposure to hazardous materials may be short-term (acute) or long-term (chronic). Acute effects can include damage to organs or systems in the body and possibly death. Chronic effects, which may result from long-term exposure to a hazardous material, can also include organ or systemic damage, but chronic effects of particular concern include birth defects, genetic damage, and cancer. Existing hazardous materials regulations were established at the State level to ensure compliance with federal regulations in order to reduce the risk to human health and the environment from the routine use of hazardous substances.

Although the overall quantity of hazardous materials and waste generated in the City could incrementally increase as a result of implementation of the 2040 General Plan, all new developments that handle or use hazardous materials would be required to comply with the regulations, standards, and guidelines established by the U.S. EPA, State, Fresno County, and City of Kerman related to storage, use, and disposal of hazardous materials.

As discussed in Section 4.2, *Agricultural Resources*, buildout of the 2040 General Plan would result in new development adjacent to agricultural production. The regulation of pesticide storage, application, and waste disposal is under the jurisdiction of the County Agricultural Commissioner. The Fresno County Agricultural Commissioner regulates agriculture and pesticide use in the General Planning Area and pesticide application permits must be renewed yearly. In addition, regulated commercial applications of pesticides are documented on a monthly basis in an annual report submitted to the County. Agriculture production within and adjacent to the Planning Area must comply with all Cal-DPR pesticide regulations including pesticide registration and work requirements.

The transport of hazardous materials can result in accidental spills, leaks, toxic releases, fire, or explosion. It is possible that licensed vendors could bring some hazardous materials to and from new residential and retail-commercial sites in the City under the 2040 General Plan. However, appropriate documentation for all hazardous waste transported in connection with specific project-site activities would be provided as required for compliance with existing hazardous materials regulations codified in Titles 8, 22, and 26 of the California Code of Regulations, and their enabling

legislation set forth in Chapter 6.95 of the California Health and Safety Code. In addition, individual developers would be required to comply with all applicable federal, State, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste, including but not limited to, Title 49 of the Code of Federal Regulations.

California Building Code requirements prescribe safe accommodations for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards. Compliance with applicable federal and State laws related to the storage of hazardous materials would maximize containment (through safe handling and storage practices described above) and provide for prompt and effective cleanup if an accidental release occurs.

For those employees that would work with hazardous materials, the amounts of hazardous materials that are handled at any one time are generally relatively small, reducing the potential consequences of an accident during handling. Further, site-specific project activities would be required to comply with federal and State laws to eliminate or reduce the consequence of hazardous materials accidents. For example, employees who would work around hazardous materials would be required to wear appropriate protective equipment, and safety equipment is routinely available in all areas where hazardous materials are used.

The Fresno County Environmental Health Division implements the Hazardous Waste Generator Program and the Hazardous Waste Treatment/Tiered Permit Program to ensure that all hazardous waste generated by Fresno County businesses is properly handled, recycled, treated, stored, and disposed. Major hazardous materials accidents associated with residential, industrial, and retail-commercial uses are fairly infrequent, and additional emergency response capabilities are not anticipated to be necessary to respond to the potential incremental increase in the number of incidents that could result from implementation of the 2040 General Plan. Further, adherence to applicable regulations as discussed above would be required to reduce any potential consequences of a hazardous materials operational accident.

Goals and policies in the Public Health and Safety Element of the 2040 General Plan would minimize any impacts related to the use, storage, transport, and release of hazardous materials in the City. Goal PSH-5 emphasizes the need to protect residents from exposure to hazardous materials and wastes, and Policy PH-6.2 states that new hazardous uses shall be located in the industrial area of the City, in order to separate these uses from residential and commercial areas.

Goal PH-6: To protect residents from exposure to hazardous materials and wastes.

- **Policy PH-6.2: Location of New Hazardous Uses.** The City shall require that proposed activities and land uses that use, store, or dispose of hazardous materials or wastes be located in the industrial area in the southern portion of the city.
- **Policy PH-6.3: Emergency Preparedness Plan for New Projects with Hazardous Materials.** The City shall require new projects that are using, producing, or generating hazardous materials, such as cold storage facilities, prepare an emergency preparedness plan.
- **Policy PH-6.4: Household Hazardous Waste Education.** The City shall support educational programs that inform the public about household hazardous waste and proper disposal methods.

Compliance with existing applicable regulations and 2040 General Plan policies would ensure that risks from routine use, transport, handling, storage, disposal, and release of hazardous materials would be minimized. Oversight by the appropriate federal, State, and local agencies and compliance

by new development with applicable regulations related to the handling and storage of hazardous materials would minimize the risk of the public's potential exposure to these substances. Therefore, impacts from a hazard to the public or the environment through routine transport, use or disposal of hazardous materials would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3: Would the General Plan allow the emitting of hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

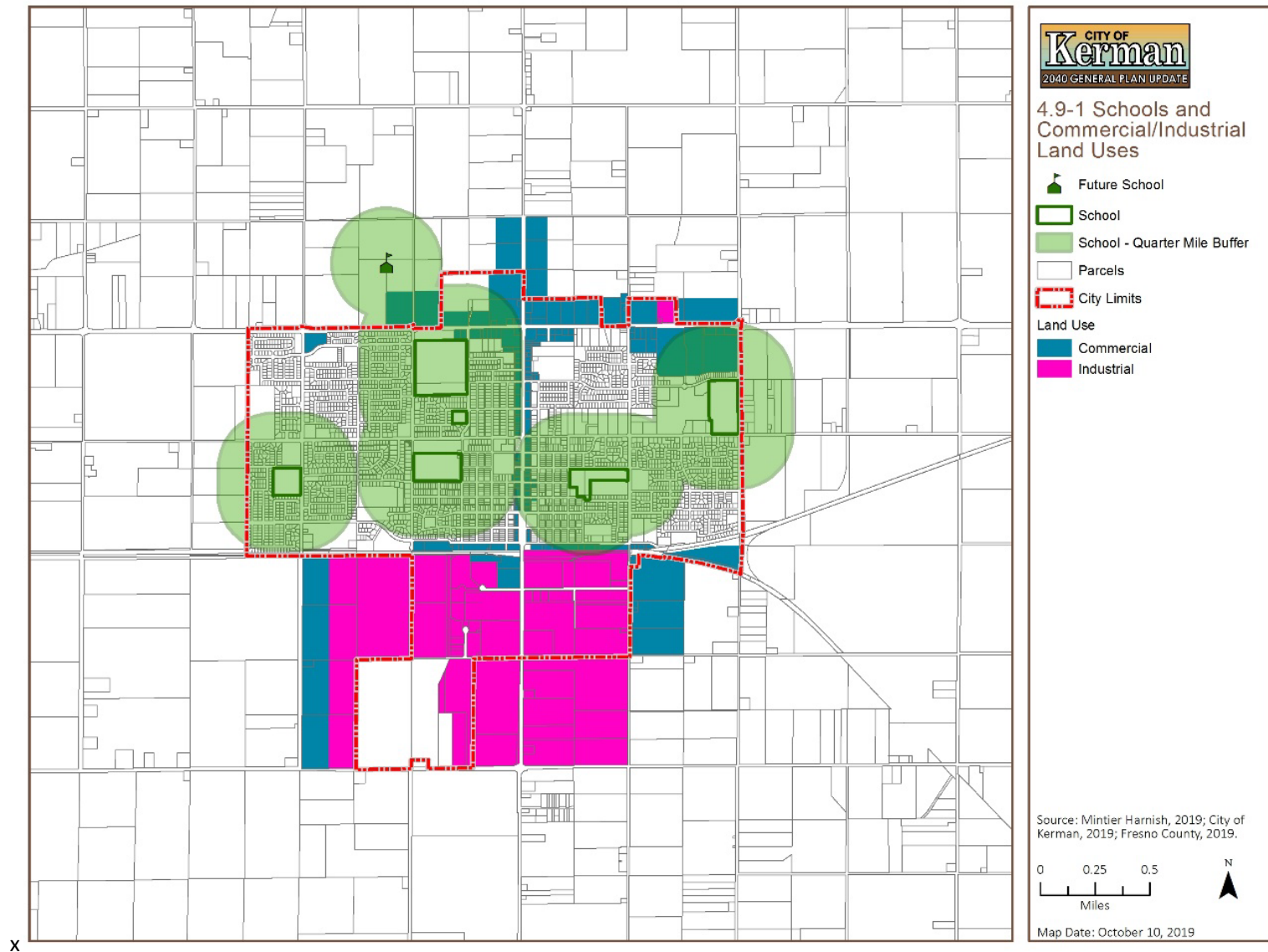
Impact HAZ-2 IMPLEMENTATION OF THE 2040 GENERAL PLAN COULD RESULT IN HAZARDOUS EMISSIONS OR HANDLING OF HAZARDOUS OR ACUTELY HAZARDOUS MATERIALS, SUBSTANCES, OR WASTE WITHIN ONE-QUARTER MILE OF AN EXISTING OR PROPOSED SCHOOL, BUT COMPLIANCE WITH EXISTING REGULATORY REQUIREMENTS WOULD MINIMIZE RISKS TO SCHOOLS AND STUDENTS, RESULTING IN A LESS THAN SIGNIFICANT IMPACT.

New commercial development, including gas stations, dry cleaners, and auto-body shops, could occur within one-quarter mile of an existing or potential future school. Consequently, sites utilizing hazardous materials may be located within one-quarter mile from school sites. Figure 4.9-1 illustrates one-quarter mile buffer areas around existing and proposed schools and commercial/industrial land uses in the Planning Area.

Since the 2040 General Plan does not include any specific development projects, the quantity and type of hazardous materials proposed for use by future commercial developments within the City is currently unknown. Accidental release or combustion of hazardous materials at new commercial and industrial developments could endanger residents or students in the surrounding community. It is possible that future development and redevelopment associated with the 2040 General Plan may result in an increase in hazardous emissions and handling of hazardous materials and wastes within one-quarter mile of an existing or future proposed school. However, the California Education Code (Section 17210 et seq.) outlines the requirements for siting school facilities near or on known or suspected hazardous materials sites, or near facilities that emit hazardous air emissions, handle hazardous or acutely hazardous materials, substances, or waste.

Hazardous materials and waste generated from future development would not pose a health risk to nearby schools because businesses that handle or have on-site storage of hazardous materials would be required to comply with the provisions of the California Fire Code adopted by the City (Chapter 15.04.010 of the City Municipal Code) and any additional elements as required in the California Health and Safety Code Article 1 Chapter 6.95 for Business Emergency Plan. As described in the Regulatory Setting above, both the federal and State governments require all businesses that handle more than a specified amount of hazardous materials to submit a business plan to a regulating agency. As such, compliance with the provisions of the California Fire Code and existing applicable State and federal regulations would minimize the risks associated with exposure of schools to hazardous materials and impacts would be less than significant.

Figure 4.9-1 Schools and Commercial/Industrial Land Uses



Mitigation Measures

No mitigation measures are required.

Threshold 4: Would the General Plan be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

Impact HAZ-3 IMPLEMENTATION OF THE 2040 GENERAL PLAN COULD RESULT IN DEVELOPMENT ON SITES CONTAMINATED WITH HAZARDOUS MATERIALS. HOWEVER, COMPLIANCE WITH APPLICABLE REGULATIONS RELATING TO SITE CLEANUP AND 2040 GENERAL PLAN GOALS AND POLICIES WOULD MINIMIZE IMPACTS FROM DEVELOPMENT ON CONTAMINATED SITES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Existing sites that may potentially contain hazardous land uses in the City can include large and small-quantity generators of hazardous waste, such as gas stations. Hazardous waste generators in Kerman also include industrial operations on the south side of the city and the wastewater treatment plant. As of August 2018, there are two permitted Underground Storage Tank (UST) sites and no active Leaking Underground Storage Tank (LUST) sites in Kerman. There are no Superfund hazardous waste cleanup sites in the city. The U.S. EPA has identified 14 small-quantity hazardous waste generators (between 100 and 1,000 kilograms of hazardous waste per month) and three large-quantity hazardous waste generators (greater than 1,000 kilograms of hazardous waste per month) in Kerman. These documented hazardous waste generation sites are clustered in the industrial area south of the rail line and along SR 145 and SR 180. The nearest facility for disposal of hazardous waste is the Regional Permanent Household Hazardous Waste Management Facility, which is operated by Fresno County.

New development occurring on documented hazardous materials sites would be preceded by remediation and cleanup under the supervision of the DTSC before construction activities could begin. In addition, the 2040 General Plan contains policies related to contaminated sites. Specifically, Policy LU-5.2 requires the City consider potential adverse health and safety impacts associated with land use decisions that may potentially generate negative impacts upon residents from hazardous materials, industrial activities, facility locations, design features, and other aspects that may negatively impact health or quality of life for affected county residents. Specific goals and policies from the 2040 General Plan that pertain to reducing exposure to hazardous materials sites are listed below:

Goal PH-6: To protect residents from exposure to hazardous materials and wastes.

- **Policy LU-5.3: Environmental Justice Considerations.** The City shall consider potential adverse health and safety impacts associated with land use decisions to reduce negative impacts upon residents from hazardous materials, industrial activities, facility locations, design features, and other aspects that may negatively impact health or quality of life for affected county residents.
- **Policy LU-5.5: New Incompatible Land Uses.** The City shall prohibit the introduction of new incompatible land uses and environmental hazards into existing residential areas.
- **Policy LU-5.6: Placement of New Residential Uses.** The City shall prohibit the establishment of new residential and other sensitive land uses near industrial land uses, the wastewater treatment plant, and other existing land uses that would be incompatible with adjacent residential uses.

- **Policy LU-5.7: Negative Impacts from Potential Hazards.** The City shall work to reduce or prevent negative impacts associated with environmental hazards, including industrial and roadway-generated pollution.
- **Policy LU-5.8: Brownfield Remediation.** The City shall promote the remediation and reuse of contaminated brownfield sites to spur economic development, expand natural open spaces and parks, community gardens, and other similar health-promoting community revitalization activities.

It is also possible that underground storage tanks (USTs) that were in use prior to permitting and record keeping requirements may be present in the City. If an unidentified UST were uncovered or disturbed during construction activities, it would be closed in place or removed. Removal activities could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Potential risks, if any, posed by USTs would be minimized by managing the tank according to existing Fresno County standards as enforced and monitored by the Environmental Health Division. The extent to which groundwater may be affected, if at all, depends on the type of contaminant, the amount released, and depth to groundwater at the time of the release. If groundwater contamination is identified, remediation activities would be required by the RWQCB prior to the commencement of any new construction activities. If contamination exceeds regulatory action levels, the developer would be required to undertake remediation procedures prior to grading and development under the supervision of the County or RWQCB (depending upon the nature of any identified contamination). Compliance with existing state and local regulations as well as implementation of the 2040 General Plan goals and policies would reduce impacts to less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 6: Would the General Plan impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Impact HAZ-4 THE 2040 GENERAL PLAN POLICIES AND IMPLEMENTATION PROGRAMS ADDRESS PARTICIPATION IN THE FRESNO COUNTY HAZARD MULTI-HAZARD MITIGATION PLAN AND EMERGENCY ACCESS AND RESPONSE PLAN IMPLEMENTATION. THEREFORE, THE PROPOSED PROJECT WOULD NOT RESULT IN INTERFERENCE WITH THESE TYPES OF ADOPTED PLANS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The Circulation and Public Health and Safety Elements of the 2040 General Plan direct the City to accommodate safety needs when planning and designing, while increasing the resiliency of the City's residents and businesses to respond to and be prepared for potential emergencies. This would include identifying hazards and preparing emergency response plans and identifying emergency facilities and utilities to ensure adequate function in the event of a disaster. Specific goals and policies from the Elements are included below:

Goal CIRC-3: To establish safe and efficient truck routes and truck facilities with minimal impacts on residents or business in Kerman.

- **Policy CIRC-3.1: Designated Truck Routes.** To avoid the adverse impacts associated with truck traffic, the City shall continue to designate truck routes on the following streets: Whitesbridge Avenue, Madera Avenue, and Church Avenue, as well as all existing and proposed streets located within the Kerman industrial park.
- **Policy CIRC-3.2: Direct Traffic Away from Kerman to Preserve Community Character.** The City shall coordinate with Caltrans to direct interregional traffic to Federal and interstate highways to ensure safety of Kerman residents and preserve the city's suburban character.
- **Policy PH-3.2: Communications Systems.** The City shall maintain rapid, reliable, and redundant communication systems for emergency response and community alerts, and actively educate residents and businesses on its use. The City will look toward new technologies for rapid communication through mobile devices and other developing technologies.
- **Policy PH-3.5: Social Support Networks.** The City shall support residents' and community organizations' efforts to cultivate social support networks to improve community preparedness, response, and recovery from hazards and disasters to minimize injury and loss of life.
- **Policy PH-4.1: Hazard Mitigation Plan.** The City shall continue to actively participate in and implement the Fresno County Multi-Hazard Mitigation Plan to reduce risks from natural disasters.
- **Policy PH-4.2: Mitigation Funding.** The City shall continue to pursue funding opportunities to implement Kerman projects that are identified in the Fresno County Multi-Hazard Mitigation Plan.
- **Policy PH-6.3: Emergency Preparedness Plan for New Projects with Hazardous Materials.** The City shall require new projects that are using, producing, or generating hazardous materials, such as cold storage facilities, prepare an emergency preparedness plan.

In addition to the goals and policies listed above, the 2040 General Plan includes a Implementation Program, Program A in the Public Safety Element, which states that the City shall encourage and support responsible agencies/organizations to regularly update all emergency response plans to ensure that they are current, accurate, and that relevant staff understand its protocols. These updates shall consider potential impacts from changes in the frequency and severity of future natural and man-made disasters. The North Central Fire Protection District reviews and approves projects to ensure that emergency access meets fire safety standards. Implementation of the 2040 General Plan policies associated with emergency planning and response, in addition to Fire District Review would ensure that potential impacts from implementation of the 2040 General Plan on emergency response and evacuation would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

There are no known contaminated sites at this time located outside of the Planning Area and no new major contaminated sites have been identified (Fresno County 2000). Cumulative development in the County of Fresno surrounding the City of Kerman in combination with development proposed under the 2040 General Plan would increase density exposing additional residences to hazardous materials but would not impair an emergency response plan. Therefore, implementation of the 2040 General Plan Public Health and Safety Element policies and compliance with existing laws and regulations would reduce potential exposure with hazardous materials and maintain consistency with emergency response plans. Thus, the 2040 General Plan would have an incremental contribution to cumulative impacts associated with hazards and hazardous materials but would not be cumulatively considerable. Cumulative impacts would be less than significant.

4.10 Hydrology and Water Quality

This section evaluates the potential environmental effects related to hydrology and water quality associated with implementation of the proposed project. It discusses the regional and local watershed characteristics, including water quality, drainage and infiltration patterns, and flood hazards. The analysis includes a review of surface water, groundwater, flooding, storm water, and water quality. Water supply and wastewater conveyance are discussed in Section 4.17, *Utilities and Service Systems*. Issues regarding wetlands and potentially jurisdictional waters are discussed in Section 4.4, *Biological Resources*.

4.10.1 Setting

The city of Kerman is in the San Joaquin Valley groundwater basin and the Kings Subbasin. The Kings Subbasin is bound by the San Joaquin River to the north, the Delta-Mendota and Westside-Subbasins to the west, the Empire West Side Irrigation District to the south, and the eastern boundary of the subbasin is the alluvium-granitic rock interface of the Sierra Nevada foothills.

The two principal rivers within and bordering the subbasin are the San Joaquin and Kings rivers. Average annual precipitation in the Kings Subbasin ranges from 7-10 inches per year. The San Joaquin River is located 5.5 miles north of the city of Kerman and runs from east to northwest from the Sierra Nevada Range to the Sacramento-San Joaquin Delta. The Kings River runs east from the Sierra Nevada Range toward the community of Hanford before splitting into a pair of distributaries, the North Fork and South Fork. The North Fork turns abruptly north and converges with the San Joaquin River near the city of Mendota. The South Fork flows into the old Tulare Lake bed in wet years, where it historically flowed. At its closest point, the Kings River is located nine miles from the city of Kerman.

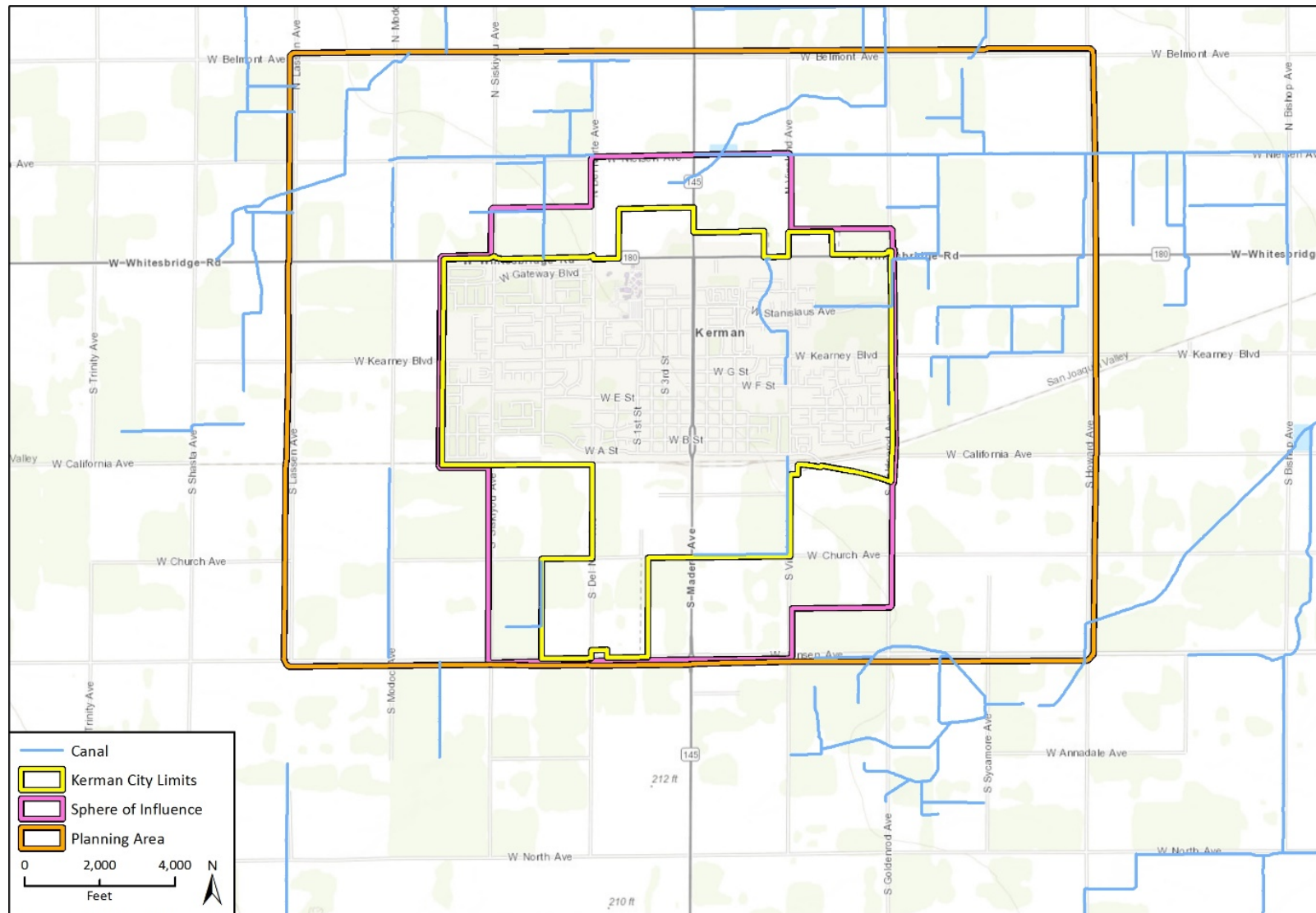
a. Surface Water

The California Department of Water Resources (DWR) divides surface watersheds in California into 10 hydrologic regions. Kerman lies within the Tulare Lake Hydrologic Region that includes all of Kings and Tulare counties and most of Fresno and Kern counties. The largest river in this region is the Kings River, which flows west from the Sierra Nevada. The California Aqueduct extends the entire length of the west side of the region, delivering water to the State Water Project (SWP) and Central Valley Project (CVP) contractors in the region. Significant surface waters include the Kings, Kaweah, Tule, and Kern rivers, which drain into the valley floor of this hydrologically closed region (DWR, 2014). Figure 4.10-1 shows the Kings Basin Proximity Canals & Weirs which surround the City of Kerman. Currently, Kerman is solely reliant on groundwater to service the community. The closest surface water source to the City is the Kings River, as stated above (Kerman, 2019a).

b. Groundwater

Groundwater resources within the Tulare Lake region are divided into 12 groundwater basins and 7 subbasins recognized by the California Department of Water Resources (DWR) *Bulletin 18-2003* (CDWR, 2003). Groundwater pumping from the basins in the region accounted for 38 percent of California's total average annual groundwater extraction in 2013. The most heavily used groundwater basins in the region include the Kings, Westside, Kaweah, Tulare Lake, Tule, and Kern County. The DWR 2013 Update to the California Water Plan included the Tulare Lake Regional Report. This report identified that 54,300 wells have been installed in the region between 1977 and

Figure 4.10-1 Kings Basin Canals and Weirs



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Additional data provided by USGS NHD 2018.

Fig 4.10-X Kings Basin Proximity Canals & Weirs

2010, with roughly 27,100 in Fresno County alone. These numbers are likely under-reported as many wells could have been drilled prior to 1977 or without submitting logs (DWR, 2014). DWR estimates that the groundwater storage for the entire Kings Subbasin is about 93 million acre-feet (AF) to a depth of more than 1,000 feet (DWR Bulletin 118, 2003). It is also estimated that about 6 million AF of groundwater was mined from the Kings Basin from 1961 to 2010. Well yields in the basin were an average of 500-1,500 gallons per minute (gpm) with the maximum being 3,000 gpm in 2003 (DWR, 2003).

The Kings Basin Water Authority (KBWA), previously known as the Upper Kings Basin Integrated Regional Water Management Authority, was formed in 2009 under a Joint Powers Agreement (JPA) between 17 member agencies within the subbasin and 40 interested parties to manage water usage within the subbasin. The KBWA adopted the Kings Basin Integrated Regional Water Management Plan (IRWMP) in 2018 (KBWA, 2019). The IRWMP is a collaborative effort between the public, private, and non-governmental agencies to manage the water resources of the subbasin which includes 610,000 acres with an irrigated land area of 480,000 acres spanning Fresno, Kings, and Tulare counties. The City of Kerman is a member agency within the KBWA. The IRWMP sets goals and objectives for managing the groundwater and surface water within the Kings Subbasin.

The Sustainable Groundwater Management Act (SGMA) of 2014 requires groundwater basins in high and medium priority status to develop and implement a plan that sustainably manages the shared groundwater resources for the benefit of communities, agriculture, and the environment. Specifically SGMA requires that these basins halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. As defined by SGMA, “A basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts.” In February 2019, the DWR ranked the Kings Subbasin (5-022.08) as one of the 21 most over-drafted groundwater basins in California (DWR, 2019). Accordingly, the Kings Subbasin is a “high priority” groundwater subbasin for corrective action.

The North Kings Groundwater Sustainability Agency (NKGSA) is a Joint Powers Authority formed in December of 2016, one of six agencies formed in the Kings Subbasin in response to SGMA. Figure 4.10-2 below shows the boundaries of each GSA in the Kings Subbasin. The NKGSA is governed by a seven member Board of Directors selected from among the agency’s members and encompasses the area shown in Figure 4.10-3 below (NKGSA, 2019a).

Through its various surface water resources and several decades of proactive groundwater recharge activities, this portion of the Kings Basin has not experienced significant overdraft conditions experienced elsewhere in the basin. Drought and other challenges, however, have contributed to a gradual decline in overall groundwater conditions that will be addressed through development of a sustainability plan for the North Kings region. The NKGSA is developing a Groundwater Sustainability Plan targeted for completion before the legislated deadline of January 31, 2020. This document will be developed in compliance with the California Department of Water Resources’ Groundwater Sustainability Plan Emergency Regulations. Developed pursuant to Water Code Section 10733.2, the regulations describe the components of groundwater sustainability plans, intra-basin coordination agreements, and the methods and criteria to be used by DWR to evaluate those plans and coordination agreements. The City of Kerman is a founding member of the NKGSA and occupies one of the shared board seats with the Bakman Water Co., Biola Community Services District, and Fresno Metropolitan Flood Control District (NKGSA, 2019b).

Figure 4.10-2 Kings Groundwater Subbasin SGMA GSAs

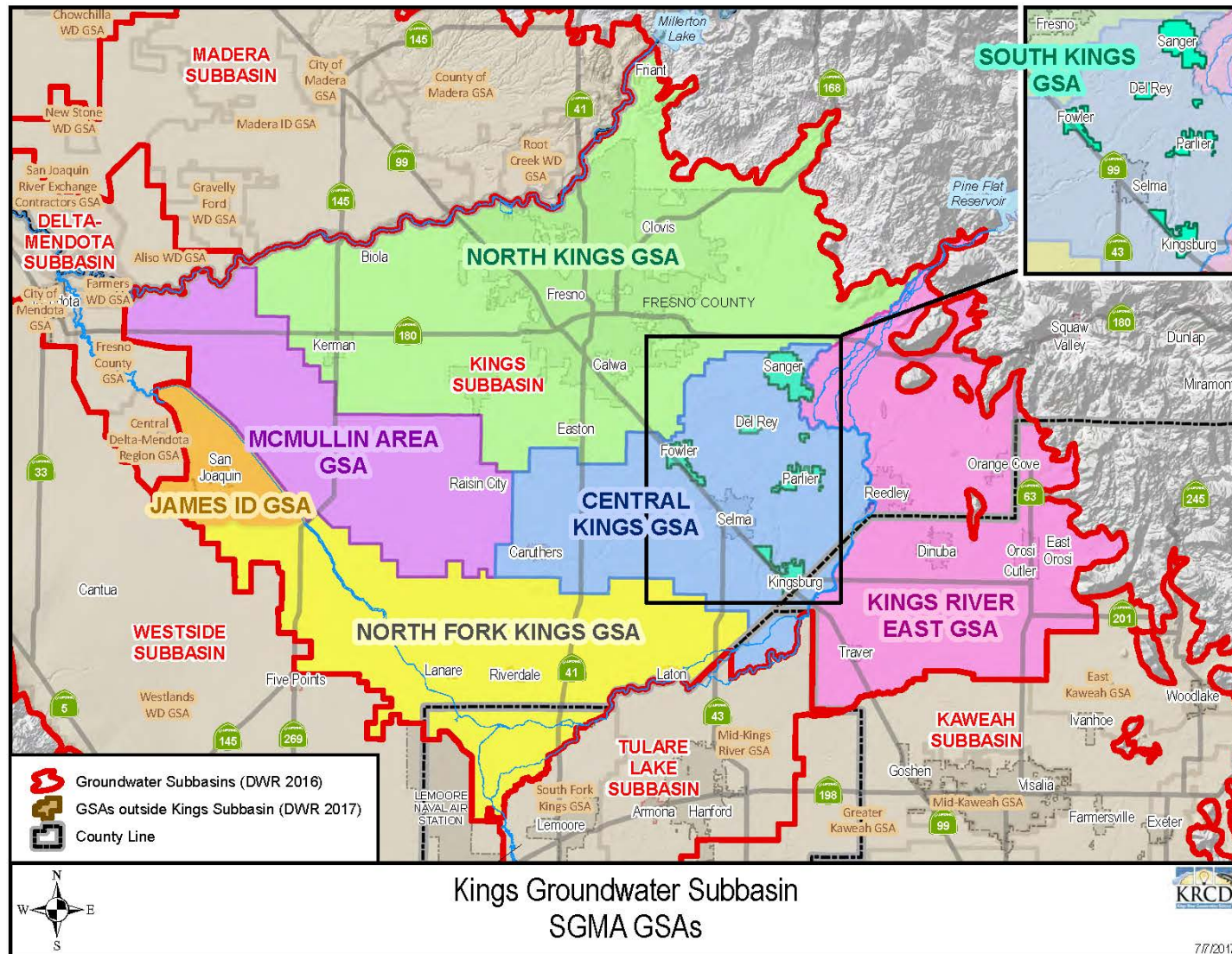
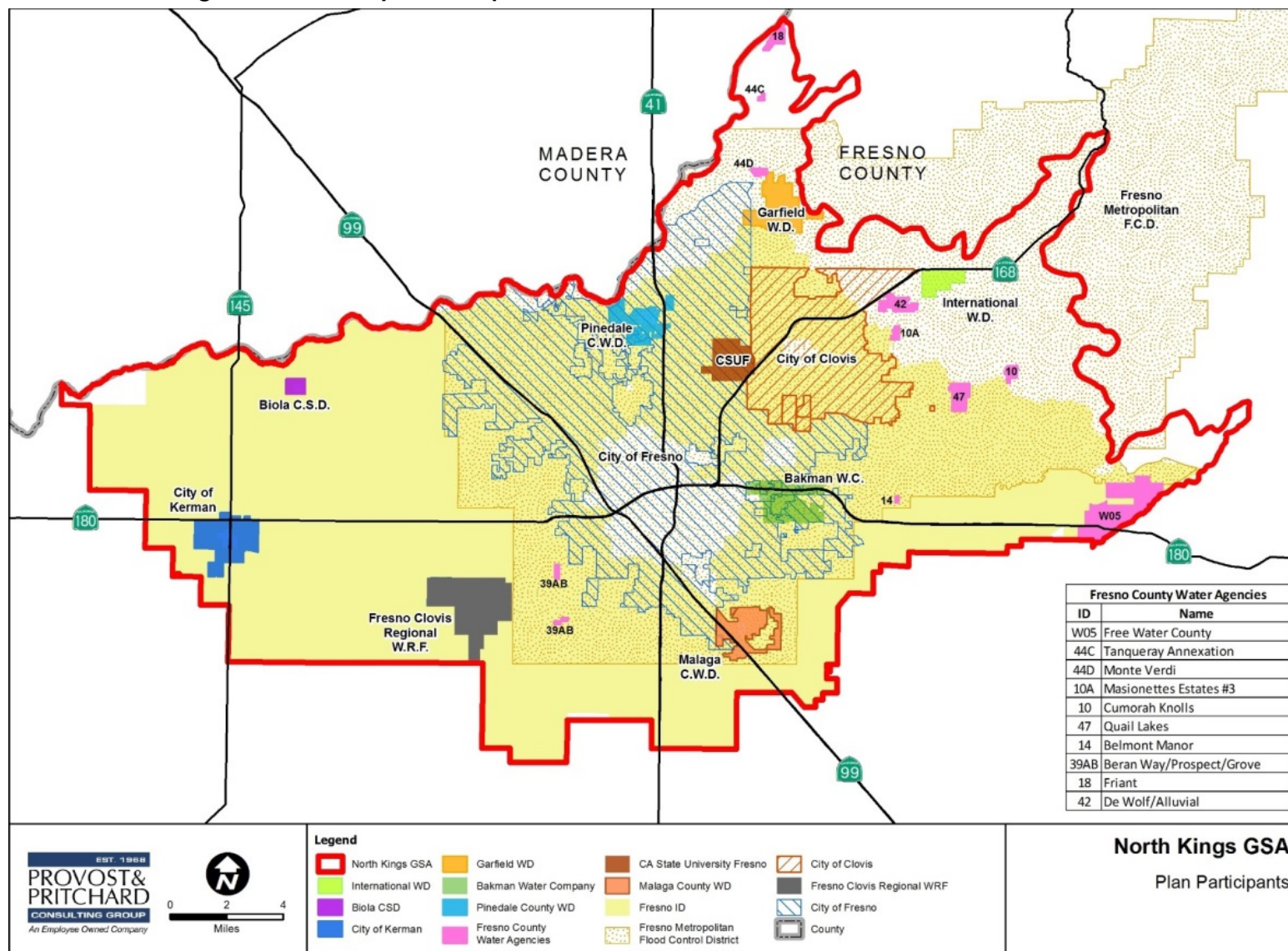


Figure 4.10-3 North Kings GSA Boundary & Participants



5/8/2017 : G:\North Kings GSA-2643\264317001-Groundwater Sustainability Plan\GIS\Map\Presentation\participants.mxd

c. Water Supply

One hundred percent of the City's water supply is groundwater pumped from the Kings Subbasin. The City withdraws groundwater from six deep wells. The wells penetrate underlying aquifers, located at depths from 300 to 900 feet. The total production capacity of these wells is approximately 6,700 gallons per minute (gpm) (Kerman, 2019a).

As mentioned above, the City of Kerman is located in the Tulare Lake Hydrologic Region (groundwater basin) and extracts water from the Kings Subbasin. According to the Department of Water Resources (DWR), the estimated storage in the subbasin is approximately 93 million AF. Well depths range from 100 to 500 feet, with an average depth of 210 feet (DWR, 2014). Although the City is not restricted to a specific volume of groundwater, the City is engaged in groundwater recharge projects and activities that reduce the consumptive use of groundwater and are intended to relieve and eliminate long-term overdraft of the Kings Subbasin.

On May 3, 2016, the State Water Board approved funding for the City of Kerman to connect the Double L Mobile Ranch Park to the City's water supply. This consolidation project will address Uranium in the community's drinking water, and provide the severely disadvantaged community with a safe, reliable water source. Staff from the Office of Sustainable Water Solutions will be working with the City and the community to provide technical assistance throughout the construction project (Kerman 2019).

Figure 8-7 from the 2040 General Plan Background Report shows well locations throughout Kerman.

d. Water Quality

The City exclusively utilizes groundwater to supply the community. The City manages six active wells, Well No.'s 09A, 10, 12, 14, 15, and 17. There are no surface water sources near the City of Kerman.

Stormwater and Urban Runoff

The City maintains stormwater facilities within existing right-of-ways. The City's stormwater system consists of a system of drains and ponding basins located throughout the City. The stormwater ponding basins consist of eleven percolation basins that provide groundwater recharge. The percolated stormwater is subsequently pumped as groundwater for local crop irrigation. Figure 8-6 from 2040 General Plan Background Report identifies storm drainage facilities in Kerman.

The Clean Water Act (CWA) 303(d) list is a register of impaired and threatened waters which states submit for U.S. Environmental Protection Agency (U.S. EPA) approval. The list identifies all waters where pollution control measures have so far been unsuccessful in reaching or maintaining water quality standards. Waters that are listed are known as "impaired." There are no waterways listed near the City of Kerman where pollution control measures have been unsuccessful (SWRCB, 2019a).

Storm water runoff may play a role in the water quality impairments. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually percolating into the groundwater table or evaporating. Because the City of Kerman is located within a closed water system, any pollutants within storm water could possibly enter the groundwater table. Possible sources of storm water pollution in the City include permitted industrial facilities. According to the California Water Board, there are three permitted industrial facilities: 1) Dreams Recycling, a recycling facility in Kerman; 2) Mid Valley Disposal - the City's solid waste transfer facility and composting services; and 3) Helena

Industries, a Phosphatic Fertilizer manufacturer (SWRCB, 2019a). As water percolates into the ground, most, if not all of the contaminants “bind” with various soil particles and organic matter as the water moves toward the underlying aquifer. Because City wells are drilled to the lower aquifer at depths from 300 to 900 feet, it is unlikely for any contaminants to impact the water quality.

Drinking Water Quality

As described under *Water Supply*, Kerman sources its potable drinking water primarily from six groundwater wells. All six have periodically exceeded the maximum contaminant level (MCL) for Hexavalent chromium, or chromium 6, and one well, No. 10, has exceeded the MCL for uranium.

Table 4.10-1 below shows chromium 6 levels in 2017 and total chromium levels in 2018 for the City’s wells. More recent levels on Chromium 6 are not available due to the court judgement described below reversing the need to test for Chromium 6 levels separate from total chromium after 2017.

Table 4.10-1 Hexavalent Chromium (Chromium 6) Levels, 2017 and Total Chromium Levels, 2018 for City of Kerman Wells

Well No.	Date Sampled	Total Chromium Levels (µg/L)	Date Sampled	Hexavalent Chromium Levels (µg/L)
09A	2/7/2018	23	7/5/2017	28
10	2/7/2018	18	7/5/2017	6.5
12	2/7/2018	11	7/5/2017	26
14	2/7/2018	26	7/5/2017	29
15	2/7/2018	25	7/5/2017	27
17	2/7/2018	15	7/5/2017	18

Source: California Water Board - GAMA Groundwater Information System

Sections 116365 and 116365.5 of the California Safe Drinking Water Act (Health and Safety Code, div. 104, pt. 12, chp. 4 §116270 et seq) requires the State to adopt a maximum containment level for hexavalent chromium in drinking water. A drinking water maximum contaminant level (MCL) is a standard applied to public water systems intended for human consumption, including drinking, cooking, bathing and oral hygiene. Established MCL’s are enforceable under the California Safe Drinking Water Act. Contaminants regulated by maximum contaminant levels are harmful and may be biological, chemical or mineral in nature, and may be naturally occurring or the result of human activities. State and regional water quality control boards have the authority to regulate contamination of groundwater, including hexavalent chromium contamination of groundwater which occurred as a result of business or industrial practices.

The California Department of Public Health (CDPH) as well as the U.S. Environmental Protection Agency work to establish drinking water standards that protect public health and require public water systems to provide safe, potable, reliable, and protective drinking water. A drinking water standard specific for hexavalent chromium currently does not exist at the national or state level. However, in 2013 the State began the process for establishing an MCL for hexavalent chromium through the CDPH establishing a public health goal (PHG) for hexavalent chromium as follows:

Objectives (Goals): Broad objectives of this proposed regulatory action are to:

- Adopt a drinking water MCL for hexavalent chromium for the protection of public health and the environmental quality of drinking water, consistent with statutory requirements.

The CDPH, in response to the California Office of Environmental Health and Hazard Assessment (OEHHA) establishing a PHG for chromium 6 of 0.02 micrograms per liter ($\mu\text{g/L}$) (over a lifetime of exposure to chromium 6), also took into account the “technological and economic feasibility of compliance” in order to determine an appropriate MCL. The CDPH proposed an MCL for chromium 6 of 10 $\mu\text{g/L}$ based on the criteria of the MCL corresponding as closely as feasible to the corresponding public health goal and based on a cost benefit analysis for water suppliers to detect, monitor, treat, and remove hexavalent chromium from contaminated water supplies. This MCL standard came into effect on September 4, 2015 with Senate Bill 385 (SB385). The primary purpose of this bill was to provide public water systems time to come into compliance without being deemed in violation of the MCL if they have sources that produce water with hexavalent chromium concentration above the State’s adopted MCL (SWRCB, 2013).

On May 31, 2017, the Superior Court of Sacramento County issued a judgement invalidating the hexavalent chromium MCL for drinking water. The change became effective on September 11, 2017. The court’s primary reason for finding the MCL invalid was that the California Department of Public Health failed to properly consider the economic feasibility of complying with the new MCL. The court did not make a determination whether the MCL adequately protected public health just that the department did not adequately document why the MCL was economically feasible. As a result, the State Water Board has reverted to the MCL for total chromium at 50 $\mu\text{g/L}$ (SWRCB, 2018).

The State is currently revisiting the economic feasibility component for establishing an MCL for chromium-6 through the development of a white paper that is anticipated to be posted for public review at the end of August, 2019. This white paper will act as a foundational piece to allow the State to move forward with presenting a package on this subject to the SWRC Board. It is anticipated that a new MCL for chromium-6 will be established by the beginning of 2021 (SWRCB, 2019c).

In 2017, all of the City’s wells, apart from Well No. 10, did not meet the SB385 chromium 6 MCL of 10 $\mu\text{g/L}$. As shown in Table 4.10-1 above, in 2018, the City’s wells were well within the total chromium MCL limit of 50 $\mu\text{g/L}$. Due to the unknown future of the MCL for chromium 6, and the fact that the court’s decision did not make a determination on the new MCL level as it pertains to public health, the City is pursuing funding to evaluate treatment options to reduce chromium 6 below the 10 $\mu\text{g/L}$ MCL.

In addition to the chromium contamination, Well No.10 has a history of producing higher levels of uranium. Though Well No. 10 is still connected to the City’s water distribution system, the water is only in emergency situations with plans to use Well No. 10 only for purple pipe sometime in the future (City of Kerman 2019). This reduces the system’s maximum production capacity to 5,200 gpm. The City, as of 2018, is pursuing construction of a new well to remove Well No.10 from service.

e. Flood Hazards

Flood hazards can occur when the amount of rainfall exceeds the infiltration capacity of the surrounding landscape or the conveyance capacity of the storm water drainage system. Flood risk is defined as an annual percent-chance of flooding, or the probability that flooding would occur in any given year. Although a 100-year flood will, on average, occur once every 100 years, the probability

of a 100-year flood is one percent for any particular year. Two 100-year floods could occur in the same year or even in the same month, but the likelihood that two 100-year flood events would occur consecutively is very small.

The Federal Emergency Management Agency (FEMA) is charged with mapping flood prone areas throughout the United States. FEMA's Flood Insurance Rate Maps (FIRMs) are the basis for establishing premium rates for flood coverage offered through the National Flood Insurance Program (NFIP). The primary risk classification is the likelihood of a 100-year flood event (i.e., one-percent-annual-chance flood event), a 500-year flood event (0.2-percent-annual-chance flood event), and areas of minimal flood risk.

According to the most recent FIRM, there are no currently-identified flood prone areas in the city of Kerman. However, certain areas in the city are subject to localized flooding and ponding of stormwater. Furthermore, new development, if not designed properly, can magnify drainage problems. New development must conform to standards and plans contained in the Kerman Stormwater Drainage Master Plan which directs the location of new stormwater drainage lines, mains, and ponding facilities. Figure 7-2 of the 2040 General Plan Background Report is based on the updated and improved FEMA FIRMs and presents FEMA flood zones in Kerman.

f. Regulatory Setting

Federal

Clean Water Act

Congress enacted the Clean Water Act (CWA) with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the National Pollution Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB). Kerman is in a watershed administered by the Central Valley RWQCB (CVRWQCB).

As part of Section 402 of the CWA, the U.S. EPA has established regulations under the NPDES program to control both construction and operation (occupancy) stormwater discharges. Individual projects in the City that would disturb at least one acre of land must provide stormwater treatment during construction and would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ or 2009-0009-DWQ General Permit). The Stormwater Pollution Prevention Plan (SWPPP) must contain stormwater and erosion control Best Management Practices (BMP), a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment. Future projects projected by the 2040 General Plan would be subject to the SWRCB Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004, Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s), and the provisions set forth in Section E.12, *Post Construction Stormwater Management Program*. Provision E.12 of the NPDES MS4 permit addresses post-construction stormwater requirements for new development and redevelopment projects that add and/or replace 5,000 square feet or more of impervious area, including 1)

incorporate site design, source control, and stormwater treatment measures into the project design; 2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and 3) minimize increases in runoff flows as compared to pre-development conditions. In addition, Low Impact Development (LID) requirements apply. Projects that create and/or replace between 2,500 and 5,000 square feet of impervious surface must implement site design measures, including stream setbacks and buffers, soil quality improvement and maintenance, tree planting and preservation, rooftop and impervious area disconnection, porous pavement, green roofs, vegetated swales, and rain barrels and cisterns (SWRCB 2013).

Section 401 of the CWA requires that any activity that would result in a discharge into waters of the U.S. be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. Section 404 of the CWA authorizes the U.S. Army Corps of Engineers to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Discharges to waters of the U.S. must be avoided where possible, and minimized and mitigated where avoidance is not possible. Section 303(d) of the CWA requires states to establish TMDL programs for streams, lakes and coastal waters that do not meet certain water quality standards.

National Flood Insurance Act/Flood Disaster Protection Act

The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas. These laws are relevant because they led to mapping of regulatory floodplains and to local management of floodplain areas according to guidelines that include prohibiting or restricting development in flood hazard zones.

State

California Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act of 1967 requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for State waters within the City are contained in the Water Quality Control Plan for the Tulare Lake Basin. The Water Quality Control Plan, or Basin Plan, protects designated beneficial uses of State waters through the issuance of Waste Discharge Requirements (WDRs) and through the development of TMDLs. Anyone proposing to discharge waste that could affect the quality of the waters of the State must make a report of the waste discharge to the RWQCB or SWRCB as appropriate, in compliance with Porter-Cologne.

California Streambed Alteration Agreement

Sections 1600–1616 of the California Fish and Game Code require that any entity that proposes an activity that would substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or, deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, must notify the California Department of Fish and Wildlife (CDFW). The CDFW would require a Lake or Streambed Alteration Agreement if the Department determines that the alteration may adversely affect fish and wildlife

resources. The Agreement includes conditions necessary to protect those resources. The Agreement applies to any stream, including ephemeral streams and desert washes.

Assembly Bill 70

Assembly Bill 70 requires cities and counties that have “unreasonably approved” development in an area with known flood risks to share liability for flood control damage with State entities.

Assembly Bill 162

Assembly Bill 162 requires cities and counties to address flood-related matters in the land use, conservation, safety, and housing elements of their General Plans (DWR 2007). The General Plan must contain a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals. The land use element shall identify and annually review those areas covered by the plan that are subject to flooding identified by flood plain mapping prepared by FEMA or DWR. The conservation element shall identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for the purposes of groundwater recharge and stormwater management. The safety element shall identify information regarding:

- Flood hazards, including flood hazard zones
- National Flood Insurance Program maps published by FEMA
- Information about flood hazards that is available from the United States Army Corps of Engineers
- Dam failure inundation maps
- Awareness Floodplain Mapping Program maps
- Levee protection zone maps
- Historical data on flooding
- Existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities
- Local, state, and federal agencies with responsibility for flood protection.

The safety element must establish a set of comprehensive goals, policies, objectives, and feasible implementation measures based on the information identified above for the protection of the community from unreasonable risks of flooding, including but not limited to:

- Avoiding or minimizing the risks of flooding to new development
- Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in a flood hazard zone
- Maintaining the structural and operational integrity of essential public facilities during flooding
- Locating, when feasible, new essential public facilities outside of flood hazard zones
- Establishing cooperative working relationships among public agencies with responsibility for flood protection.

Sustainable Groundwater Management Act, 2014

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). For the first time in its history, California has a framework for sustainable, groundwater management - “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.”

SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline.

SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California. Kerman is a member of the North Kings Groundwater Sustainability Agency that was formed as a result of the SGMA.

Regional

Multi-Jurisdictional Local Hazard Mitigation Plan (MJ-LHMP)

The goal of the Fresno County MJ-LHMP is to maintain and enhance a disaster-resistant region by reducing the potential for loss and damage resulting from natural disasters, including flooding. The purpose of the MJ-LHMP is to better protect the people and property of the county from the effects of hazard events. The Plan includes a number of hazard mitigation strategies, including strategies specifically related to flood hazard mitigation.

In 2008, Kerman adopted the MJ-LHMP as its Local Hazard Mitigation Plan and the associated City of Kerman Annex document. The Annex Document includes discussion and analysis specific to Kerman, as well as a number of mitigation strategies. However, this document does not include any mitigation actions specifically addressing flood hazards in the city. Adoption of the MJ-LHMP ensures the City’s eligibility in FEMA’s Hazard Mitigation Grant Program and Pre-Disaster Mitigation, and its continued eligibility for Severe Repetitive Loss and Flood Mitigation Assistance flood grants.

4.10.2 Impact Analysis

a. Methodology and Thresholds of Significance

Methodology

This section describes the potential environmental impacts of the proposed project relevant to hydrology and water quality. The impact analysis is based on an assessment of baseline conditions for the Planning Area, including climate, topography, watersheds and surface waters, groundwater, and floodplains, as described above under Subsection 4.8.1, *Setting*. This analysis identifies potential impacts based on the predicted interaction between the affected environment and construction, operation, and maintenance activities related to the development that would occur under the 2040 General Plan, and recommends mitigation measures, when necessary, to avoid or minimize impacts.

Significance Thresholds

The following thresholds of significance are based on CEQA Guidelines Appendix G. For the purposes of this EIR, implementation of the proposed project may have a significant adverse impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - a. Result in substantial erosion or siltation on- or off-site;
 - b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - c. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - d. Impede or redirect flood flows?
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Threshold 1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Threshold 3a: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Impact HWQ-1 THE 2040 GENERAL PLAN WOULD NOT VIOLATE ANY CURRENT WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUND WATER QUALITY. IN ADDITION, IT WOULD NOT SUBSTANTIALLY ALTER EXISTING DRAINAGE PATTERN OF THE AREA IN A MANNER THAT WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION DUE TO POLICIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As mentioned in section d. above, the City of Kerman relies solely on groundwater for its water supply. All nine active wells are, as of 2018, over SWRCB 2014 and SB 385 established MCL levels for Hexavalent chromium, or chromium 6. When swallowed, hexavalent chromium can upset the gastrointestinal tract and damage the liver and kidneys. In recent scientific studies of laboratory animals, hexavalent chromium has been linked to cancer when ingested (SWRCB, 2017).

Though the MCL for hexavalent chromium at 10 micrograms per liter ($\mu\text{g/L}$) was withdrawn by SWRCB in August 2017 due to the court ruling in May of 2017, the court only ruled on the issue of

the California Department of Public Health's failure to comply with one of the requirements in the Safe Drinking Water Act for adoption of the MCL. The court did not make any finding on the MCL level 10 µg/L, nor if it adequately protected public health. The State Water Board is working to expedite the process of adopting a new MCL and it is unclear at this time if the SWRCB would pursue the same MCL of 10 µg/L in the future or another level under the current standard of 50 µg/L.

The California State Water Board had approximately 300 funding requests totaling approximately \$2.8 billion for drinking water planning and construction funding on its Comprehensive List for 2019. The Comprehensive list identified Public Water Systems (PWSs) seeking financial assistance for specific drinking water infrastructure projects. Placement of a project on the Comprehensive List, however, does not constitute a commitment to provide financing. The City of Kerman was placed on the Draft Comprehensive List January 30, 2017 under Project Number 1010018-003P for the Kerman Hexachromium Planning project estimated to cost \$2.7 million (SWRCB 2019d).

The City of Kerman would currently be in violation for water quality standards if the MCL of 10 µg/L is reinstated. Any new development as proposed under the 2040 General Plan would continue to utilize existing drinking water in violation of the State's anticipated water quality standards for chromium 6. However, the 2040 General Plan has policies listed below that would require the City to install and update infrastructure to meet current water quality standards including a policy for the City to actively seek additional funding to start the process of providing water treatment to the City's water supply in anticipation of a new MCL for hexavalent chromium by 2021.

Goal PFS-2: To ensure a quality and reliable water supply to meet the needs of residents, businesses, and the agricultural industry

- **Policy PFS-2.1: Water, Sewer, and Storm Drainage Infrastructure.** The City shall continue to install and upgrade water, sewer, and storm drainage infrastructure to meet current and projected growth demand, as well as current water quality standards.
- **Policy PFS-2.2: Secondary Water Supply System.** The City shall pursue a secondary water supply system that is effective and cost-efficient to service urban-level development.

The State Water Resources Control Board has identified remediation and treatment technologies available to reduce and/or remove hexavalent chromium from water supplies. There are opportunities for in-situ treatment and above-ground treatment. If the SWRCB were to reinstate the new MCL for hexavalent chromium, the City would be legally required to meet the new water quality standards, which could be achieved by the acquisition of a secondary water supply system as referenced in Policy PFS-2.2. Therefore, impacts are less than significant. The environmental effects of the secondary water supply system would be evaluated at time of project consideration. Due to the uncertain project components, location, and timing, an evaluation of the environmental effects of such a system would be speculative.

The 2040 General Plan would not violate waste discharge requirements as the City's newly updated wastewater treatment plant has adequate capacity to meet 2040 General Plan buildout and does not have any known violations for water quality standards that could impact groundwater in the Kings Subbasin. Policies listed below, in addition to the policies listed above, would ensure that impacts would be less than significant. Policy PFS-2.3, requiring new industrial development to mitigate impacts, would reduce impacts regarding waste discharge from new industrial development to less than significant.

Goal PFS-1: To provide quality public facilities and services that enhance social opportunities and quality of life

- **Policy PFS-2.3: Wastewater from New Industrial Development.** The City shall discourage industrial uses that are high water users and that generate high strength wastewater, unless the industrial use can mitigate this adverse impact through ample fees, investment in public infrastructure, and/or pretreatment of its wastewater

Development of the 2040 General Plan would occur on currently or previously developed sites and undeveloped sites. Development on current or previously developed sites is unlikely to substantially change the hydrological conditions of the site that was graded and engineered to convey on-site flows to local storm drains or water ponding basins in accordance with the City standard requirements for drainage and flood control. Development on currently undeveloped sites would be required to connect to the City's stormwater drainage system. The City maintains stormwater facilities within existing right-of-ways consisting of drains and ponding basins located throughout the City. The 2040 General Plan includes policies that reduce the potential for substantial erosion or siltation as listed above. The General Plan Map 17 shows that the City and surrounding SOI would be served by the City's storm drainage system. With the implementation of General Plan policies listed below and existing regulations, impacts due to changes to drainage patterns would be less than significant.

- **Policy PFS-1.4: Storm Drainage.** The City shall continue providing a safe and environmentally-sensitive storm drainage system that protects people and property.

Goal COS-4: To effectively manage water resources by adequately planning for the development, conservation, and protection of water resources for present and future generations

- **Policy COS-4.6: Water Use Efficiency for New Development.** The City shall encourage new development and majority retrofits of existing development to incorporate water conservation techniques. Such techniques include requiring low-flow plumbing fixtures in new construction that meet or exceed the California Plumbing Code, use of graywater for landscaping, retention of stormwater runoff for groundwater recharge, use of reclaimed water for outdoor irrigation (where available), and landscape water efficiency standards that meet or exceed the standards in the California Model Water Efficiency Landscape Ordinance
- **Policy COS-4.2: Stormwater Retention Basins.** The City shall incorporate stormwater retention basins into recreational areas or wildlife habitat areas for groundwater recharge.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2:	Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
Threshold 5:	Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact HWQ-2 THE 2040 GENERAL PLAN WOULD NOT SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE DUE TO THE CITY'S POLICIES TO RECHARGE THE BASIN. THE 2040 GENERAL PLAN WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A SUSTAINABLE GROUNDWATER MANAGEMENT PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

All of the City's water supply is groundwater pumped from the Kings Subbasin. The City withdraws groundwater from six deep wells. The wells penetrate underlying aquifers, located at depths from 300 to 900 feet. The total production capacity of these wells is approximately 6,700 gallons per minute (gpm). According to the Department of Water Resources (DWR), the estimated storage in the Kings Subbasin is approximately 93 million AF. Well depths range from 100 to 500 ft, with an average depth of 210 ft. Although the City is not restricted to a specific volume of groundwater, the City is engaged in groundwater recharge projects and activities that reduce the consumptive use of groundwater and are intended to relieve and eliminate long-term overdraft of the Kings Subbasin. The 2040 General Plan Policies COS-4.2, COS-4.6, and PFS-2.1 listed above under impact HWQ-1, ensure storm drainage facilities and water recharge practices are incorporated in new development in the City. In addition, wastewater from the City's Wastewater Treatment Plant is discharged into disposal ponds where it is allowed to evaporate and percolate into the soil and recharge the groundwater table.

According to the North Kings Groundwater Sustainability Agency (GSA), through its various surface water resources and several decades of proactive groundwater recharge activities, the portion of the Kings Basin underlying Kerman has not experienced significant overdraft conditions as experienced elsewhere in the basin. Drought and other challenges, however, have contributed to a gradual decline in overall groundwater conditions that would be addressed through development of a sustainability plan for the North Kings region (NKGSA, 2019b). A new policy in the General Plan, PFS-2.7, would require the City to continue to work with the North Kings GSA in developing the Sustainable Groundwater Management Plan as part of the Sustainable Groundwater Management Act of 2014.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3b: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Threshold 3d: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Impact HWQ-3 THE 2040 GENERAL PLAN WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE, NOR ALTER THE COURSE OF A STREAM OR RIVER IN A MANNER WHICH WOULD SUBSTANTIALLY INCREASE THE RATE OR AMOUNT OF RUNOFF THAT COULD RESULT IN FLOODING, OR IMPEDE OR REDIRECT FLOOD FLOWS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

According to the most recent FIRM, there are no currently identified flood prone areas in the City of Kerman. Areas of the City located to the northwest and to the east of Kerman, within the Planning Area identified in the 2040 General Plan, are located in Flood Zone A. Areas in Zone A are subject to 1 percent annual flood (100-year flood). This land is designated as Urban Reserve in the 2040 General Plan Land Use Element. The Urban Reserve designation identifies areas that are outside of City limits but within the SOI. These are undeveloped, open space areas that are used for natural open space and agricultural production. Because no development is anticipated to occur in this area, impacts would be less than significant. There are no rivers or streams within or near the City of Kerman that could be impacted by development of the 2040 General Plan.

Certain areas in the City are subject to localized flooding and ponding of stormwater. Localized flooding has occurred in an approximately 16-square block area bound by West D Street to the north, the Southern Pacific railroad tracks to the south, South 11th Street to the east, and SR 145 to the west. New development, if not designed properly, can magnify drainage problems. New development must conform to standards and plans contained in the Kerman Stormwater Drainage Master Plan, which directs the location of new stormwater drainage lines, mains, and ponding facilities. In addition, the 2040 General Plan has specific policies in place to ensure stormwater measures are taken into account during development to avoid increasing flooding. Under 8.5 Implementation Programs, Program B states that the City shall construct a parallel storm drainage line along California Avenue within the 16-square block localized flooding area, to prevent flooding as part of Policy PFS-1.4 which requires the City to continue providing a safe and environmentally-sensitive storm drainage system that protects people and property. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3c: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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?

Impact HWQ-4 THE 2040 GENERAL PLAN WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OR CREATE OR CONTRIBUTE TO RUNOFF WATER IN A MANNER WHICH WOULD EXCEED THE CAPACITY OF THE CITY'S STORMWATER PLAN OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF. IMPACTS ARE LESS THAN SIGNIFICANT.

The City has stormwater facilities within existing right-of-ways that consists of a system of drains and ponding basins located throughout the City. The stormwater ponding basins consist of eleven percolation basins that provide groundwater recharge. The percolated stormwater is subsequently pumped as groundwater for local crop irrigation. The 2040 General Plan Public Facilities and Services Element Policy PFS-2.1 requires the installation of water, sewer, and storm drainage infrastructure to meet current and the demand of future growth. General Plan Map 17 shows that the City and surrounding SOI would be served by the City's storm drainage system. Impacts due to the effects of changes in drainage patterns would be less than significant with implementation of existing regulations and 2040 General Plan Policies.

New development has the potential to add additional sources of polluted runoff. Because the City of Kerman is located within a closed water system, any pollutants within storm water could possibly enter the groundwater table. Possible sources of storm water pollution in the City include permitted industrial facilities.

Public Facilities and Services Element Goals and Policies

Goal PFS-2: To ensure a quality and reliable water supply to meet the needs of residents, businesses, and the agricultural industry

- **Policy PFS-2.5: Pollutants from Water Run-off.** During the development review process, the City shall require new development to provide facilities and/or measures to reduce pollutants in water run-off prior to entering the city's stormwater collection system. Options could include bioswales and other best management practices currently available at time of development.

Policy PFS-2.5 would ensure that future development would not result in substantial additional sources of polluted runoff. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 4: In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?
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Impact HWQ-5 THE 2040 GENERAL PLAN DESIGNATES THE AREA OF LAND IN FLOOD ZONE A WITHIN THE CITY'S PLANNING AREA AS THE URBAN RESERVE WHICH WOULD REMAIN UNDEVELOPED. DEVELOPMENT WOULD NOT RESULT IN THE POSSIBILITY TO RELEASE POLLUTANTS DUE TO INUNDATION. THEREFORE THERE ARE NO IMPACTS.

As mentioned in Impact HWQ-3, there are no currently identified flood prone areas in the City of Kerman. Areas of the City located to the northwest and to the east of Kerman, within the Planning Area identified in the 2040 General Plan, are located in Flood Zone A. Areas in Zone A are subject to one percent annual flood (100-year flood). This land is designated as Urban Reserve in the 2040 General Plan Land Use Element. The Urban Reserve designation identifies areas that are outside of City limits but within the SOI. The purpose and application of this designation in the 2040 General Plan is as follows: "This designation identifies areas that are outside of City limits but within the SOI. These are undeveloped, open space areas. Typical Uses: Natural open space areas." Because no development would be authorized on this land designation that could risk the release of pollutants due to inundation, there would be no impact.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Cumulative development in Fresno County surrounding Kerman in combination with development projected by the 2040 General Plan would gradually increase population and therefore gradually increase the potential for impacts to hydrology and water quality, including increased stormwater runoff, erosion, pollutant discharge to waterbodies, flooding, and decreased groundwater infiltration capacity. However, compliance with the State Groundwater Management Act, the Kerman Municipal Code, and 2040 General Plan policies, as well as other laws and regulations mentioned above, would ensure that individual project-specific impacts associated with hydrology and water quality would be less than significant. Potential General Plan 2040 impacts associated with hydrology and water quality would not be cumulatively considerable. Cumulative impacts related to hydrology and water quality would be less than significant.

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4.11 Land Use and Planning

This section addresses the City's land use characteristics, including the overall land use pattern as well as a more detailed analysis by major land use type, and analyzes existing plans and focus areas with development potential in order to determine the land use and planning effects of the 2040 General Plan. The area of analysis is the Plan Area as described in Section 2, *Project Description*.

4.11.1 Setting

a. Current Land Use Pattern

Existing land uses that make up Kerman's built environment are shown in Figure 2-3 of Section 2, *Project Description*, and are summarized in Table 4.11-1 below. The City of Kerman is characterized as a suburban residential community. There are many fully-developed residential neighborhoods that include schools and parks throughout the city with well-kept single-family homes. Single-family residential is the most common land use in Kerman. Approximately 35 percent (or 586 acres) of the land within city limits is used for single-family homes. In comparison, 8 percent of land within the Planning Area is developed as single-family residential.

Industrial land is the second most prevalent land use within the city limits, at 19.6 percent, with 8.4 percent in the Planning Area. Commercial and Mixed Use uses make up a combined 7.4 percent of land in the city limits and 1.7 percent in the Planning Area. Agriculture land is 3.9 percent of land in the city limits but is over 68 percent of the planning area. Approximately 9 percent of land within the city limits and 2.3 percent of land in the Planning Area is vacant.

Table 4.11-1 Existing Land Use

Land Use	City Limits		SOI		Planning Area	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
Rural Estate	43.9	2.6%	18.6	1.9%	369.8	5.2%
Single Family	585.7	34.5%	0.0	0.0%	585.7	8.3%
Multifamily	65.2	3.8%	0.0	0.0%	65.2	0.9%
General Commercial	115.0	6.8%	0.0	0.0%	115.0	1.6%
Office	5.1	0.3%	0.0	0.0%	5.1	0.1%
Mixed Use	9.4	0.6%	0.0	0.0%	9.4	0.1%
Industrial	331.7	19.6%	214.0	22.1%	593.8	8.4%
Public/Quasi-Public/Utility	272.9	16.1%	0.0	0.0%	272.9	3.9%
Parks and Open Space	47.0	2.8%	0.0	0.0%	49.7	0.7%
Vacant	155.1	9.1%	2.7	0.3%	160.4	2.3%
Agriculture	65.4	3.9%	734.7	75.7%	4,856.5	68.6%
Total	1,696.4	100.0%	969.9	100.0%	7,083.4	100.0%

Source: City of Kerman, 2018; Mintier Harnish, 2018

b. Existing Plans and Studies

2007 City of Kerman General Plan

The current City of Kerman General Plan was adopted in 2007. The 2007 General Plan includes 15 land use designations as shown in Figure 2-3 of Section 2, *Project Description*, which are relatively broad and intended to indicate the general type of activity that may occur on a site.

It is important to note that the planning area in the 2007 General Plan differs from the new planning area. The City expanded the planning area for the 2040 General Plan to include approximately 1,540 additional acres, mainly to include S. Lassen and S. Howard avenues within its Sphere of Influence as potential future alignments of SR 145 and to square-off the City boundaries to maintain the City Center in the center. This land is primarily Agriculture and Rural Estate and expands to the north, east, and west of current city limits. The 2040 General Plan Planning Area designates 446 acres of Undesignated land and 11 acres are Ponding Basins which were not evaluated in the 2007 General Plan. This land is south of Jensen Avenue. The 2007 planning area is identical to the 2027 Urban Growth Boundary as is identified in the 2007 General Plan.

The following Land Use goals are set in the 2007 General Plan:

1. Enhance the identity and image of Kerman and preserve its Central California character.
2. Protect the health, safety, and welfare of residents by insuring that Kerman is well-planned.
3. Protect the environment against negative impacts to water, air, and energy by promoting economic and industrial development of a business- and industry-friendly community that creates local jobs, thus reducing negative impacts caused by commutes to other areas for employment.
4. Protect natural resources in Kerman, including prime agricultural land and air and water quality (promote an “ag value added” policy) and proceed with plans for development of a secondary water supply system.
5. Increase major retail shopping and service commercial opportunities in Kerman.
6. Provide a public service system that is efficient and enhances the ‘quality of life’ in Kerman.
7. Provide an infrastructure system that includes a secondary water supply system that is effective and cost-efficient in terms of servicing orderly urban development.
8. Promote urban growth patterns and land use arrangements in Kerman that minimize land use conflicts.
9. Enhance the scenic quality and environmental setting of Kerman.
10. Structure an action program that effectively and financially implements the objectives and policies of the land use element.
11. Preserve Kerman’s single family residential neighborhood atmosphere.
12. Enhance Kerman’s ability to attract long-term revenues to the city through the expansion of local and attraction of new businesses to Kerman.
13. Create a “hometown” atmosphere in Kerman.

Madera Avenue Streetscape Master Plan

The Madera Avenue Streetscape Master Plan contains an evaluation of existing conditions of the Madera Avenue Corridor as of January 2012 regarding safety, mobility, and access; proposes recommendations for improvement; and sets forth standards for landscaping, wayfinding signage,

street furniture, lighting, and hardscape features. The plan addresses six components of the corridor:

- Pedestrian improvements
- Traffic calming
- Bicycle network
- Landscaping and frontage
- Gateways and wayfinding
- Parking

The Streetscape Master Plan concludes with an Implementation strategy in Chapter 6 that includes recommendations, associated costs, and next steps for the City.

c. Regulatory Setting

State

General Plan Law (California Government Code Section 65300)

California Government Code Section 65300 regulates the substantive and topical requirements of general plans. State law requires each city and county to adopt a general plan “for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning.” The California Supreme Court has called the general plan the “constitution for future development.” The general plan expresses the community’s development goals and embodies public policy relative to the distribution of future land uses, both public and private.

California Government Code Section 65301

Section 65301 of the California Government Code requires a general plan to address the geographic territory of the local jurisdiction and any other territory outside its boundaries that bears relation to the planning of the jurisdiction. The jurisdiction may exercise their own judgment in determining what areas outside of its boundaries to include in the Planning Area. The State of California General Plan Guidelines state that the Planning Area for a city should include (at minimum) all land within the city limits and all land within the city’s SOI.

California Government Code Section 65860

In counties, general law cities, and charter cities with a population of more than two million, zoning provisions must be consistent with the general plan. Charter cities with a population of under two million are exempt from the zoning consistency requirement unless their charters provide otherwise. The City of Kerman is a general law city and is, therefore, required to have zoning consistency with its General Plan.

Cortese Knox Hertzberg Local Government Reorganization Act of 2000 (CKH Act)

The CKH Act established procedures for local agency changes of organization, including city incorporation, annexation to a city or special district, and consolidation of cities or special districts (Section 56000, et seq.). Under the CKH Act, LAFCOs are granted power to act on local agency boundary changes and to adopt SOIs for local agencies. The law also states that in order to update a SOI, LAFCOs are required to first conduct a review of the municipal services provided by the local

agency. The CKH Act also requires LAFCOs to update the SOI for every city and special district every five years. Every SOI update must be accompanied by an update of the municipal services review.

Regional

Fresno Council of Governments 2018 – 2042 Regional Transportation Plan/ Sustainable Communities Strategy

The Regional Transportation Plan (RTP) is a comprehensive assessment of all forms of transportation available in Fresno County and of the needs for travel and goods movement. Fresno Council of Governments (COG) adopted the existing RTP on June 26, 2014. The 2014 RTP is the first to contain a Sustainable Communities Strategy (SCS) as required by California Senate Bill (SB) 375. Enacted in 2008, SB 375 requires that each Metropolitan Planning Organization include an SCS that provides an integrated land use and transportation plan for meeting greenhouse gas emission reduction targets set forth by the California Air Resources Board (CARB).

The Fresno COG adopted the 2018-2042 RTP/SCS adopted in July 2017. The 2018-2042 RTP/SCS charts the 25-year course of transportation to 2042 to address greenhouse gas emissions reductions and other air emissions. The RTP also contains a chapter that establishes the SCS to show how integrated land use and transportation planning can lead to lower greenhouse gas emissions from autos and light trucks, as well as improve overall quality of life in the region.

The Fresno COG 2018-2042 RTP/SCS only recommends one alternative scenario, which is Scenario D. This preferred alternative promotes a “balanced” multimodal transportation system by calling for increased investments in alternative transportation modes, while accommodating a necessary amount of new highway capacity. The 2018-2042 RTP/SCS outlines a list of financially-constrained projects that FCOG considered as part of the preferred alternative. This list includes two projects for widening Madera Avenue from two lanes to a four-lane conventional highway from Whitesbridge to Nielsen and from Church to Jensen.

Local

City of Kerman General Plan

Decisions involving the future growth of a state are made and will continue to be made at the local level, and should be guided by effective planning processes, including the general plan. Decisions should precede within the framework of officially approved statewide goals and policies directed toward land use, population growth and distribution, development, open space, resource preservation and utilization, air and water quality, and other related physical, social and economic factors. (California Government Code 65030.1).

City of Kerman Zoning Ordinance

The Kerman Zoning Ordinance is the primary tool used for implementing the General Plan. The Zoning Ordinance divides the community into zoning districts and specifies the uses that are permitted, conditionally permitted, and in some instances prohibited within each district. The Zoning Ordinance applies to all areas within the municipal boundaries of Kerman, whether owned, leased, or operated by private persons, farms, corporations, or organizations.

The purpose of the Zoning Ordinance is to protect and to promote the public health, safety, and general welfare of residents, and to facilitate growth and expansion of the city in a precise and orderly manner. To fulfill these purposes, it is the intent of the Zoning Ordinance to:

1. Assure that the public and private lands are ultimately used for purposes which are appropriate and most beneficial for the city;
2. Implement the goals, policies and map of the general plan;
3. Assure the appropriate location of community facilities;
4. Promote a safe, effective traffic circulation system;
5. Require adequate off-street parking and loading areas;
6. Prevent the overbuilding of land by development through the regulation of lot coverage, setbacks, height, and lot density and dimensions;
7. Promote a well designed city through the regulation of signing, landscaping and other improvements associated with development;
8. Promote and protect commercial and industrial development within the city, in order to strengthen its economic base;
9. To conserve the city's natural resources and community assets.

The City establishes 15 zoning districts that are divided into Residential, Non-Residential, and Combining District categories.

▪ **Residential**

- RR Rural Residential
- R-1-12 Single-Family Residential Estate
- R-1 Single Family Residential
- R-2 Two-Family Residential
- R-3 Multiple-Family Residential

▪ **Non-Residential**

- UR Urban Reserve
- O Open Space, Recreation and Public Facilities
- PA Professional and Administrative Office
- CN Neighborhood Commercial
- CG General Commercial
- CS Service Commercial
- M-1 Light Manufacturing (Light Industry)
- M-2 Heavy Manufacturing (General Industry)

▪ **Combining Districts**

- SD Smart Development Combining District
- IC Industrial Corridor Combining District

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds

The analysis in this section focuses on the compatibility of land uses identified in the proposed project with existing and planned land uses within the Planning Area, as well as consistency with any applicable land use plans, policies, or regulations. The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the proposed 2040 General Plan may have a significant adverse impact if it would do any of the following:

1. Physically divide an established community
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, and local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan physically divide an established community?
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Impact LU-1 IMPLEMENTATION OF THE 2040 GENERAL PLAN CONTAINS GOALS AND POLICIES THAT WOULD PROVIDE FOR ORDERLY DEVELOPMENT IN THE CITY OF KERMAN AND WOULD NOT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Much of the land within the City limits is developed with focus on lands available in the southern industrial area. The 2040 General Plan does not contain substantial land use or circulation changes that would physically divide an established community. No major roads or other infrastructure will be constructed in established areas. Policy CIRC-3.3 identifies realignment or re-designation of truck routes through Kerman. The realignment of SR 180 north of the Belmont alignment would reduce the existing effect of SR 180 on Whitesbridge Avenue dividing the City of Kerman along its alignment. The 2040 General Plan incorporates the identified new alignment for SR 180 into its expanded land use plan for the area.

CIRC-3.3: Support SR-145 Realignment or Re-designation through Kerman. The City will work with Caltrans and FCOG to identify a preferred option to route trucks west or east around Kerman off of Madera Avenue (SR-145). These options could include designating a route alignment for SR-145 around the city near or on the Lassen Avenue or Howard Avenue alignment as a new route or route swap, or via a relinquishment of Madera Avenue as SR-145 through Kerman. The relinquishment could be through a legislative process or by Caltrans with the selection of an alternative route.

This policy would not divide an established community as the identified routes, Lassen Avenue or Howard Avenue, are outside of the City limits and surrounded by agricultural uses.

The 2040 General Plan includes many growth management strategies that would: 1) direct new growth to areas within already existing or planned development, 2) encourage new development at infill sites, and 3) support intergovernmental cooperation to achieve the City's slow growth management goals and policies. The 2040 General Plan does not include substantial land use or circulation changes that would physically divide an established community, residential, or otherwise

(for example, no major roads or other facilities would be constructed that would physically divide an established community).

Overall the 2040 General Plan would promote orderly development in the planning area by encouraging growth in designated focused areas and at infill sites, and promote the enhancement of the City's multimodal circulation by incorporating Complete Streets practices in planning, design, and operation of the City's circulation network (Policy CIRC-1.2). The 2040 General Plan will therefore not divide established communities in the Planning Area. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan 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.

Impact LU-2 IMPLEMENTATION OF THE 2040 GENERAL PLAN WOULD BE GENERALLY CONSISTENT WITH APPLICABLE LAND USE PLANS, POLICIES, OR REGULATIONS ADOPTED TO AVOID OR MITIGATE ENVIRONMENTAL EFFECTS, SUCH AS FRESNO COG REGIONAL TRANSPORTATION PLAN 2018-2042 AND THE SJVAPCD AIR QUALITY MANAGEMENT PLANS. CONSISTENCY WITH THE SJVAPCD PLAN IMPACTS IS DISCUSSED IN THE AIR QUALITY SECTION OF THIS REPORT. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Development proposed under the 2040 General Plan would intensify some of the existing residential land uses. Based on the anticipated population growth under the 2040 General Plan Update, an estimated 4,170 new residents and 720 new dwelling units would be added to the City of Kerman through 2040. The residential growth is anticipated to result in a mix of single-family and multi-family housing; the 2040 General Plan Planning Area would be able to accommodate at total of approximately 586 acres for single-family dwelling units and 65 acres for multi-family dwelling units. The increased land uses are anticipated to generate 780 new jobs in Kerman for a total of 3,580 jobs by the year 2040 in the retail, service, government, education, and other sectors. This is roughly equivalent to 1.7 million square feet of non-residential uses.

The potential growth associated with the 2040 General Plan is based on development assumptions/projections for residential and non-residential development for all land within the City limits through the year 2040. Vacant and underutilized parcels were identified using existing land use data from the Assessor's Office. Though this General Plan only analyzes development through 2040, the total buildout of the General Plan, which would include the existing uses, development capacity on the vacant and underutilized sites, planned and approved projects, and intensified development for shopping areas and business parks sum up to a total capacity of 38,669 persons with 10,177 housing units and 23,499 new jobs. Due to the slow growth policies of the City, it is not clear when this buildout would occur.

The 2040 General Plan seeks to ensure that development is done in a way that sets a strong community edge, prevents sprawl, protects surrounding agricultural land, boost the local economy, provides housing opportunities, brings jobs and services to the City, and creates quality places that

enhance the experience for residents, workers, and visitors. Growth in the City has been intentionally slow to ensure that the City preserves its small-town, Central Valley charm as well as protect surrounding agricultural and open space lands. The City's 2040 General Plan continues to prioritize orderly growth that directs urban development within City limits, revitalizes the historic commercial core, and supports investment into the southern industrial area while providing a variety of housing types.

The City also recognizes the importance of correlating land uses with the city's transportation system to ensure appropriate growth occurs to anticipate development during the General Plan planning period. The 2040 General Plan emphasizes the integration of land use and transportation with strategies to encourage efficient use of land by placing more intensive development near transit centers, encouraging alternative transportation modes, and increasing development density.

The 2040 General Plan ensures preservation of the surrounding agricultural area to maintain the City's small-town residential atmosphere by promoting infill for new development and increased density and intensity of areas within the City limits. In addition, the 2040 General Plan prevents land use decisions that contribute to sprawl and leapfrog development. The Plan also seeks to preserve open space resource areas, by encouraging and supporting rural and agricultural uses outside the Urban Reserve (UR) boundary, establishing a well-defined community edge.

Both the 2007 and the 2040 General Plan direct new growth to the areas north, west, and east of the city limits in Kerman's SOI, with development within the City limits primarily being infill. New development at the City's edge will continue to provide a sense of transition between active farmland and development within the City. The following 2040 General Plan policies would maintain existing communities within the City of Kerman and would ensure that with implementation of the 2040 General Plan, established communities would not be divided:

Land Use Element

Goal LU-1: To guide the development of a mix of land uses that fulfill resident's daily needs and provide recreational and entertainment amenities.

- **LU-1.2: Location of Neighborhood Commercial Sites.** The City shall designate neighborhood commercial sites in proper locations so that they meet the needs of the neighborhood and do not negatively impact adjacent residential uses.
- **LU-1.3: Mixed Use Development.** The City shall provide for the establishment of offices in existing residential structures, adjacent to Madera Avenue in the original historic townsite.
- **LU-1.4: Limit Residential Development Along Highways.** The City shall limit residential development from fronting State Highway 145 and State Highway 180 to ensure public safety.
- **LU-1.5: High Density Residential Development Near Goods and Services.** The City shall encourage the development of high-density residential uses near commercial uses, parks, and schools.

Goal LU -3: To create a land use pattern that protects agricultural and open space lands by promoting compact and centralized urban growth around the historical Kerman townsite.

- **LU-3.1: Strong Community Edge.** The City shall develop and maintain a strong community edge that clearly separates urban and agricultural uses, including through the use of man-made or natural barriers such as streets, railroads, and canals.

- **LU-3.2: Sphere of Influence Maintenance.** The City shall maintain the Sphere of Influence to proactively plan and logically provide for growth of the community.
- **LU-3.3: Prevent Sprawl Development.** The City shall direct new development to areas that are contiguous to existing or approved development and prevent sprawl development.
- **LU-3.4: Leapfrog Development.** The City shall require the Planning Commission and City Council to make a finding before approving new subdivisions that are more than 1/8 mile from existing urban development.
- **LU-3.5: Increase Density and Intensity within City Limits.** The City shall prioritize increase overall residential densities and building intensities within current City limits to prevent development on surrounding agricultural lands.
- **LU-3.6: Infill and Renovation.** The City shall encourage infill of vacant commercial properties and renovation of existing commercial structures to reduce the rate at which surrounding agricultural land is urbanized and to provide for a more efficient use of existing infrastructure.

Goal LU-4: To protect agricultural resources in Kerman, particularly prime agricultural land.

- **LU-4.1: Agricultural Land Preservation.** The City shall preserve and protect agricultural lands by directing development to areas within City limits that are designated for urban-level development, and away from agriculturally-designated land to preserve open space and agricultural areas.
- **LU-4.2: Agricultural Conservation Easements.** The City shall consider purchasing agricultural conservation easements to mitigate the loss of agricultural land to urban development within the SOI. These easements must be on land of at least equal quality and size to the land being developed.
- **LU-4.3: Agricultural Zoning within SOI.** The City shall continue to encourage Fresno County to apply large-lot agricultural zoning (20-acre minimum) to unincorporated land within Kerman's Sphere of Influence.
- **LU-4.4: Opposition to Projects within SOI.** The City of Kerman shall oppose any development within its Sphere of Influence that creates parcels of less than 20 acres.

Goal LU-5: To ensure that land use decisions benefit Kerman residents, and do not create a disproportionate burden to a community based on location, income, race, color, national origin, or another demographic feature.

- **LU-5.1: Environmental Justice Considerations.** The City shall consider potential adverse health and safety impacts associated with land use decisions to reduce negative impacts upon residents from hazardous materials, industrial activities, facility locations, design features, and other aspects that may negatively impact health or quality of life for affected county residents.
- **LU-5.5: New Incompatible Land Uses.** The City shall prohibit the introduction of new incompatible land uses and environmental hazards into existing residential areas.
- **LU-5.6: Placement of New Residential Uses.** The City shall prohibit the establishment of new residential and other sensitive land uses near industrial land uses, the wastewater treatment plant, and other existing land uses that would be incompatible with adjacent residential uses.
- **LU-5.7: Negative Impacts from Potential Hazards.** The City shall work to reduce or prevent negative impacts associated with environmental hazards, including industrial and roadway-generated pollution.

Circulation Element

Goal CIRC-1: To provide a safe and efficient roadway system that serves all users and enhances the community of Kerman.

- **CIRC-1.1: Consistency between Land Use and Transportation Planning.** The City shall ensure land use and transportation planning are cohesive, consistent, mutually supportive, and strive to reduce VMT. This will include:
 - Maintaining land use patterns that encourage people to walk, bicycle, or use public transit routinely for a significant number of their daily trips;
 - Use the City's provision of public services to direct development to the most appropriate locations; and
 - Promoting the infill of vacant land and redevelopment sites.
- **CIRC-1.2: Complete Streets.** The City shall plan a multimodal transportation system that provides safe, comfortable, and convenient access that accommodates various vehicle types and users, including automobiles, agricultural equipment, public transit, bicyclists, and pedestrians.
- **CIRC-1.4: Inclusive Mobility.** The City shall consider the needs of all segments of the population when improving or expanding the transportation network to provide safe and improved mobility opportunities for all residents and employees, including persons with disabilities, youth, and elderly.
- **CIRC-1.5: ADA Compliance.** The City shall strive to ensure that the circulation system is safe and accessible, consistent with the American with Disabilities Act (ADA), to allow mobility-impaired users, such as disabled persons and seniors, to safely travel within and beyond the city.
- **CIRC-1.6: Safe Routes to School.** The City shall encourage the construction of facilities and provision of programs that ensure children, families, and caretakers can walk, bike, and take public transit to school safely.

Goal CIRC-3: To establish safe and efficient truck routes and truck facilities with minimal impacts on residents or business in Kerman.

- **CIRC-3.2: Direct Traffic Away from Kerman to Preserve Community Character.** The City shall coordinate with Caltrans to direct interregional traffic to Federal and interstate highways to ensure safety of Kerman residents and preserve the city's suburban character.
- **CIRC-3.3: Support SR-145 Realignment or Redesignation through Kerman.** The City will work with Caltrans and FCOG to identify a preferred option to route trucks west or east around Kerman off of Madera Avenue (SR-145). These options could include designating a route alignment for SR-145 around the city near or on the Lassen Avenue or Howard Avenue alignment as a new route or route swap, or via a relinquishment of Madera Avenue as SR-145 through Kerman. The relinquishment could be through a legislative process or by Caltrans with the selection of an alternative route.

Goal CIRC-5: To promote bicycling, walking, and using public transit, as functional alternatives to single-passenger automobile travel.

- **CIRC-5.3: Continuous Bicycle Network.** The City shall design a safe and logical bicycle path network that links key destinations within the planning area to promote the use of bicycles as a mode of transportation to reduce greenhouse gas emissions and to encourage exercise.

- **CIRC-5.5: Pedestrian-Friendly Streets.** The City shall design and improve streets to be “pedestrian-friendly” by incorporating features including wide and unobstructed sidewalks, bulb outs at intersections, narrow traffic lanes at key locations to slow traffic speed, adequate street lighting, and trees for natural shade cover.

The City of Kerman Zoning Ordinance is the primary method of implementing the General Plan. Adoption of the 2040 General Plan would require a review and possible revision of the Zoning Ordinance and Zoning Map to ensure consistency with the updated General Plan. This revision would incorporate any changes to land use, density or intensity, and design and development standards from the 2040 General Plan.

While the City of Kerman controls land use decisions within the City limits, the County makes the land use and development decisions for areas surrounding the City limits. In order to maintain the slow growth management policies established in the 2040 General Plan, the City plans to coordinate closely with the County and the Local Agency Formation Commission (LAFCO). Policies LU-4.2 and LU-4.3 task the City with encouraging LAFCO and Fresno County to apply large-lot agricultural zoning to unincorporated land within Kerman’s SOI. This would preclude high density development from occurring in these areas in the future.

The Fresno Council of Governments Regional Transportation Plan 2018 – 2042 addresses greenhouse gas emissions reductions and other air emissions related to transportation, with the goal of preparing for future growth in a sustainable manner. The Fresno COG RTP applies to development under the City of Kerman 2040 General Plan, comprehensively assessing all forms of transportation available in Fresno County through 2042. The RTP includes a Sustainable Communities Strategy (SCS) that integrates land use and transportation planning to meet the California Air Resources Board’s greenhouse gas reduction targets. The RTP contains 24 goals with supporting objectives and policies. Table 4.11-2 includes the RTP goals, objectives, and policies related to land use and describes consistency of the proposed land use designations and patterns in the 2040 General Plan with these goals and policies.

Table 4.11-2 City of Kerman 2040 General Plan Land Use Consistency with the Fresno COG 2018-2042 RTP/SCS

Fresno COG 2018 – 2042 RTP/ SCS Goals and Policies	General Plan Consistency
Goal: Coordinate planning that is consistent with efforts that affect the region.	
<p>Policy: During planning processes, seek to ensure that planning efforts are consistent and feasible with planning efforts such as: the Blueprint Planning Principles, Health in All Policies, the Senate Bill 375 (also known as the Sustainable Communities Protection Act of 2008), Caltrans’ Complete Streets Program, performance-based planning initiated by MAP-21, California Transportation Plan 2040, and statewide and federal air quality goals, etc.</p>	<p>Consistent. The Land Use Element addresses efforts that are regionally important such as farmland preservation, the Complete Streets Program, and Senate Bill 375. Policies LU-1.3 and LU-1.5 encourage the siting of commercial development near residential uses, which is consistent with the Health in All Policies planning approach, SB 375, and statewide goals. Goal LU-3 supports a land use pattern that centralizes growth and protects agriculture and open space, thereby minimizing the loss of farmland while being consistent with planning efforts in the region and state. Goal LU-4 and its associated policies specifically protect agricultural resources through land preservation, easements, and zoning.</p>
<p>Policy: Planning and programming processes should incorporate performance measures and outcomes as integral components.</p>	
<p>Policy: Minimize the loss of farmland with regard to construction of transportation projects.</p>	

Fresno COG 2018 – 2042 RTP/ SCS Goals and Policies	General Plan Consistency
Goal: Attainment and maintenance of California and National Ambient Air Quality Standards (criteria pollutants) as set by the Environmental Protection Agency and the California Air Resources Board.	
<p>Policy: Support the efforts of the San Joaquin Valley Air Pollution Control District to integrate appropriate policies and implementation measures identified in the Air Quality Guidelines for General Plans into local general plans.</p> <p>Policy: Encourage non-single occupancy and lower/zero emission vehicle as preferred alternatives</p> <p>Policy: Support the development of infrastructure required for alternative fueled vehicles as well as zero emission vehicles.</p> <p>Policy: Consider the air quality impacts of mobile sources when planning transportation systems to accommodate expected growth in the community thereby reducing the consumption and dependence upon non-renewable energy resources.</p>	<p>Consistent. The 2040 General Plan Circulation Element and Public Health and Safety Element addresses efforts to meet regional planning air quality goals and reduce greenhouse gas emissions through the encouragement of alternative modes of transportation, active transportation and support for electric vehicle charging stations. Goal PH-7 and subsequent Policies PH-7.1 – PH-7.4 identify the importance of the City’s local efforts to reduce emissions, particularly by reducing automobile travel, shifting land use patterns to denser and more compact communities, and improving the efficiency of major agricultural and industrial sectors. The City also identifies the need to encourage development that will minimize vehicular emissions by providing an adequate circulation system. Goal CIRC-5 and subsequent policies CIRC-5.1-CIRC-5.8 promote alternative transportation methods. The City acknowledges that automobile travel has been the predominant transportation model for residents and recognizes investment in alternative transportation modes increase options, promote active lifestyle choices, lower household transportation costs, decrease environmental impacts, and enhance a sense of community.</p>
Goal: A multimodal regional transportation network compatible with adopted land use plans and consistent with the intent of SB375 (Senate Bill 375 also known as the Sustainable Communities Protection Act of 2008).	
<p>Policy: Encourage infill development in areas that take advantage of remaining capacity in existing transportation facilities.</p> <p>Policy: Project level decisions should give priority to safety, air pollution reduction, noise impacts and energy conservation considerations.</p> <p>Policy: Encourage jurisdictions to incorporate access management principles into transportation and land use planning.</p>	<p>Consistent. The 2040 General Plan fulfills intent of SB 375 by prioritizing infill development, preserving the surrounding agricultural areas, and coordinating land use and transportation planning. Goal LU-3 promotes the compact and centralized growth with policies LU-3.1 through LU-3.5 which maintain a strong community edge, maintain the City’s SOI, prevent sprawl development, prevent leapfrog development, increase density and intensity of development within City limits and encourage infill of vacant commercial properties and renovation of existing properties. The Circulation Element contains policies to connect land use and transportation planning and improve and enhance the multimodal transportation network. Policies in the Circulation Element related to creating a multimodal regional transportation network consistent with SB 375 include CIRC-1.1-1.3 and 1.6. These policies ensure consistency between land use and transportation planning, require complete streets planning, eliminate gaps in the transportation system, and encourage safe routes to school programs. These goals and policies promote infill development, prioritize VMT reduction, and promote a multimodal transportation network, fulfilling the intent of SB 375.</p>

As shown in Table 4.11-2, the proposed 2040 General Plan would be consistent with the goals and policies contained in the Fresno COG RTP/SCS. As concluded within this impact discussion, as well as discussion in Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, implementation of the 2040 General Plan would be generally consistent with applicable adopted plans, regulations, or policies. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Planned growth in Fresno County surrounding the City of Kerman in combination with development proposed under the 2040 General Plan may have significant cumulative land use impacts related to either physical division of communities or conflicts with land use goals, policies, and plans adopted for the purpose of avoiding or mitigating environment effects. To achieve the growth management policies established in the 2040 General Plan, the City would coordinate closely with other agencies, particularly Fresno County and Fresno LAFCO. Therefore, the 2040 General Plan would not contribute to a significant cumulative impact relative to the physical division of communities or conflicts with County land use goals and policies. The policies contained in the 2040 General Plan, and the plan's consistency with related plans and policies, would reduce cumulative land use impacts to a less than significant level.

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4.12 Noise

This section analyzes noise impacts from buildout of the 2040 General Plan. Impacts related to noise from construction, operation of development, and traffic are addressed.

4.12.1 Setting

a. Overview of Noise and Vibration Measurement

Noise

Noise is defined as unwanted sound. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dBA level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the ambient noise level to be judged as twice as loud. In general, a 3 dBA change in the ambient noise level is noticeable, while 1 to 2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40 to 50 dBA, while areas adjacent to arterial streets are typically in the 50 to 60+ dBA range. Normal conversational levels are usually in the 60 to 65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels from point sources, such as those from individual pieces of machinery, typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from the noise source. Noise levels from lightly traveled roads typically attenuate at a rate of about 4.5 dBA per doubling of distance. Noise levels from heavily traveled roads typically attenuate at a rate of about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures. Generally, a single row of buildings between the receiver and the noise source can reduce noise levels by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 10 dBA. The manner in which homes in California are constructed generally provides a reduction of exterior-to-interior noise levels of approximately 20 to 25 dBA with closed windows (Federal Transit Administration [FTA] 2018).

The duration of noise is important because sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently-used noise metrics that considers both duration and sound power level is the equivalent noise level (L_{eq}). The L_{eq} is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest RMS (root mean squared) sound pressure level within the measurement period, and L_{min} is the lowest RMS sound pressure level within the measurement period.

The time period in which noise occurs is also important since nighttime noise tends to disturb people more than daytime noise. Community noise is usually measured using the Day-Night Average

Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.), or the Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5-dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a 10-dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. The Ldn and CNEL values typically do not differ by more than 1 dBA. In practice, CNEL and Ldn are often used interchangeably.

Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Groundborne vibration related to human annoyance is generally related to RMS velocity levels expressed in vibration decibels (VdB). However, construction-related groundborne vibration in relation to its potential to cause building damage can also be measured in inches per second (in/sec) peak particle velocity (PPV). Vibration levels decrease at a rate of 6 VdB per doubling of distance from the vibration source (FTA 2018).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA 2018). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold at which minor damage can occur to fragile buildings.

b. Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The 2007 Kerman General Plan identifies the following land uses as noise-sensitive receivers:

- Residential development
- Schools
- Hospitals and nursing homes
- Churches
- Libraries

The proposed 2040 General Plan identifies the following additional land uses as noise-sensitive receivers:

- Historic sites
- Cemeteries
- Parks, recreation, and open space areas
- Recreation and community centers
- Sensitive wildlife habitats
- Motels and other short-term lodging

Sensitive land uses generally should not be subjected to noise levels that would be considered intrusive in character. Noise-sensitive land uses adjacent to noise sources such as arterial roadways include residences located adjacent to Whitesbridge Avenue west of Del Norte Avenue (protected by an approximately six-foot-high sound wall) and residences along Kearney Boulevard, Vineland Avenue, and California Avenue. Other sensitive land uses include three schools adjacent to arterial roadways (Liberty Elementary School west of Siskiyou Avenue, Goldenrod Elementary School west of Goldenrod Avenue, and Kerman Christian School south of Whitesbridge Avenue) and the Kerman Branch Library, which is adjacent to Kearney Boulevard to the west of Madera Avenue.

c. Sources of Noise

The predominant source of noise in Kerman, as in most communities, is motor vehicles on City roadways. Other sources of noise include railroad operations, aircraft, and stationary operations from commercial and industrial uses, as described below.

Roadways

Noise levels are generally highest along or adjacent to major roadways. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a sustained noise level, and by proximity to noise-sensitive land uses. Noise levels in Kerman are typically highest along Whitesbridge Avenue and Madera Avenue. Other roadways with high noise levels include, but are not limited to, Kearney Boulevard, Vineland Avenue, and California Avenue. Noise levels along all city roadways are affected by a number of traffic characteristics, including average daily traffic (ADT) volumes, the percentage of truck traffic, vehicle speeds, time distribution of traffic, and gradient of the roadways.

Railroads

The Westside Branch of the Union Pacific Railroad (UPRR) passes through the city. This rail line runs in an east/west direction roughly parallel to California Avenue and connects to the city of Fresno to the east. Land uses adjacent to the Westside Branch are predominantly agricultural and industrial. However, noise-sensitive single-family residences are located adjacent to the rail line on Sheri Street near the southern end of Del Norte Avenue and on Ashli Avenue.

Aircraft

Aircraft overflights are a minor source of noise in Kerman. The nearest airports, Chandler and Sierra Sky Park Airports in Fresno, are located approximately 12 miles east and northeast of the City, respectively. Kerman is located outside of the mapped noise level contours associated with aircraft departures and landings at these airports.

Stationary Sources

Generally, agricultural operations, industrial uses, and service commercial uses such as automotive repair facilities, wrecking yards, tire installation centers, car washes, transfer yards, and loading docks generate noise from stationary equipment. Noise generated by these uses contributes to the ambient noise environment in the immediate vicinity of the noise source. Industrial land uses in Kerman, as identified by the City's existing General Plan Map, are clustered to the south of California Avenue, west of Vineland Avenue, and east of Siskiyou Avenue. The Helena Industries plant, identified in the existing General Plan as a major stationary noise source, is located south of the railroad tracks and west of Vineland Avenue. This plant packages and distributes agricultural

chemicals. Industrial land uses are located as close as 300 feet to noise-sensitive residences to the north of California Avenue.

d. Existing Noise Levels

To characterize peak ambient noise levels along arterial roadways in Kerman, four 15-minute noise measurements were taken during the morning peak hour on Tuesday, July 10, 2018. The measurement locations were selected to reflect traffic noise along Whitesbridge Avenue, Madera Avenue, Kearney Boulevard, and Vineland Avenue. Noise measurements were taken using an ANSI Type II integrating sound level meter. Table 4.12-1 shows the noise measurement results and primary noise sources observed during each measurement, and Figure 4.12-1 shows the locations of the measurements in the Planning Area.

Table 4.12-1 Kerman Noise Measurements

Noise Measurement Location	Primary Noise Source	Distance to Centerline of Roadway (ft)	Average Noise Level (dBA L _{eq})
NM 1 Kearney Boulevard west of Park Avenue	Traffic on Kearney Boulevard	30	63
NM 2 Whitesbridge Avenue east of Del Norte Avenue	Traffic on Whitesbridge Avenue	35	66
NM 3 Madera Avenue north of E Street	Traffic on Madera Avenue	40	68
NM 4 Vineland Avenue south of Whitesbridge Avenue	Traffic on Vineland Avenue	30	64

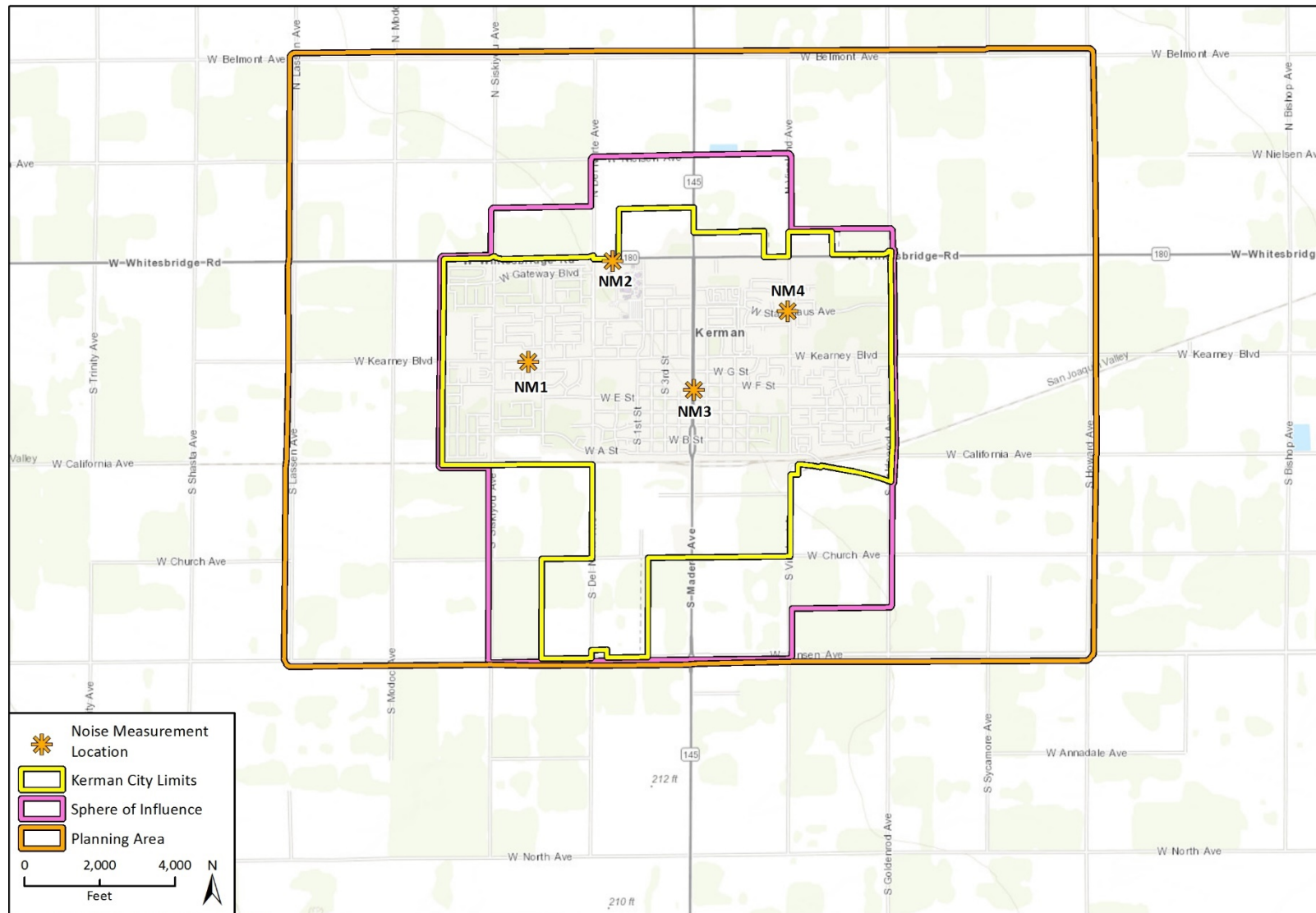
Source: Rincon Consultants, Inc. field measurements on July 10, 2018

e. Existing Noise Level Contours

To estimate existing average daily noise levels from traffic on arterial roadways, noise level contours were mapped based on available traffic counts. Noise level contours represent lines of equal noise exposure. The California Department of Transportation (Caltrans) provided the most recent counts of annual average daily traffic (AADT) and annual average daily truck traffic (year 2016), which were used to estimate traffic noise along Whitesbridge Avenue and Madera Avenue (Caltrans 2016). The City's traffic counts from 2015 and 2017 were used for local arterial roadways including Kearney Boulevard, California Avenue, and Vineland Avenue. No traffic data was available for Del Norte Avenue, Siskiyou Avenue, Goldenrod Avenue, Park Avenue, or other local roadways.

Existing roadway noise levels were quantified using the United States Department of Housing and Urban Development (HUD) Day/Night Noise Level (DNL) Calculator. The HUD DNL Calculator noise level estimates, which are expressed in L_{dn}, are based on traffic volume, vehicle mix, and vehicle speed. These estimates were used to generate the existing roadway noise level contours. For local roadways, the percentage of vehicle trips was assumed to be 95 percent passenger cars, 3 percent medium trucks (2 axles), and 2 percent heavy trucks (3+ axles). The results were mapped as 60 dBA L_{dn}, 65 dBA L_{dn}, 70 dBA L_{dn}, and 75 dBA L_{dn} noise level contours parallel to studied roadways.

Figure 4.12-1 Noise Measurement Locations



Basemap provided by Esri and its licensors © 2019.

Fig 4.12-1 Noise Measurement Locations

Figure 4.12-2 shows existing noise level contours from traffic within Kerman city limits. Roadway noise level estimates do not account for intervening barriers or topography that may shield individual receivers from the noise source. Therefore, the noise level contours depicted in this section represent a reasonable, conservative worst-case estimate of noise levels and do not represent a specific estimate of sound levels at any particular location in the City.

f. Regulatory Setting

Federal

HUD Environmental Criteria and Standards, 24 CFR Part 51

The Federal Department of Housing and Urban Development (HUD) requires new residential construction qualifying for HUD financing proposed in high noise areas (exceeding 65 dBA Ldn) to incorporate noise attenuation features to maintain acceptable interior noise levels. HUD requires that all structures provide sufficient attenuation to achieve an interior level of 45 dBA Ldn or less if the exterior level is 65 dBA Ldn or less. HUD approvals in a "normally unacceptable noise zone" (exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn) requires a minimum of 5 dB additional noise attenuation for buildings if the day-night average is greater than 65 dBA Ldn but does not exceed 70 dBA Ldn, or minimum of 10 dB of additional noise attenuation if the day-night average is greater than 70 dBA Ldn but does not exceed 75 dBA Ldn.

State

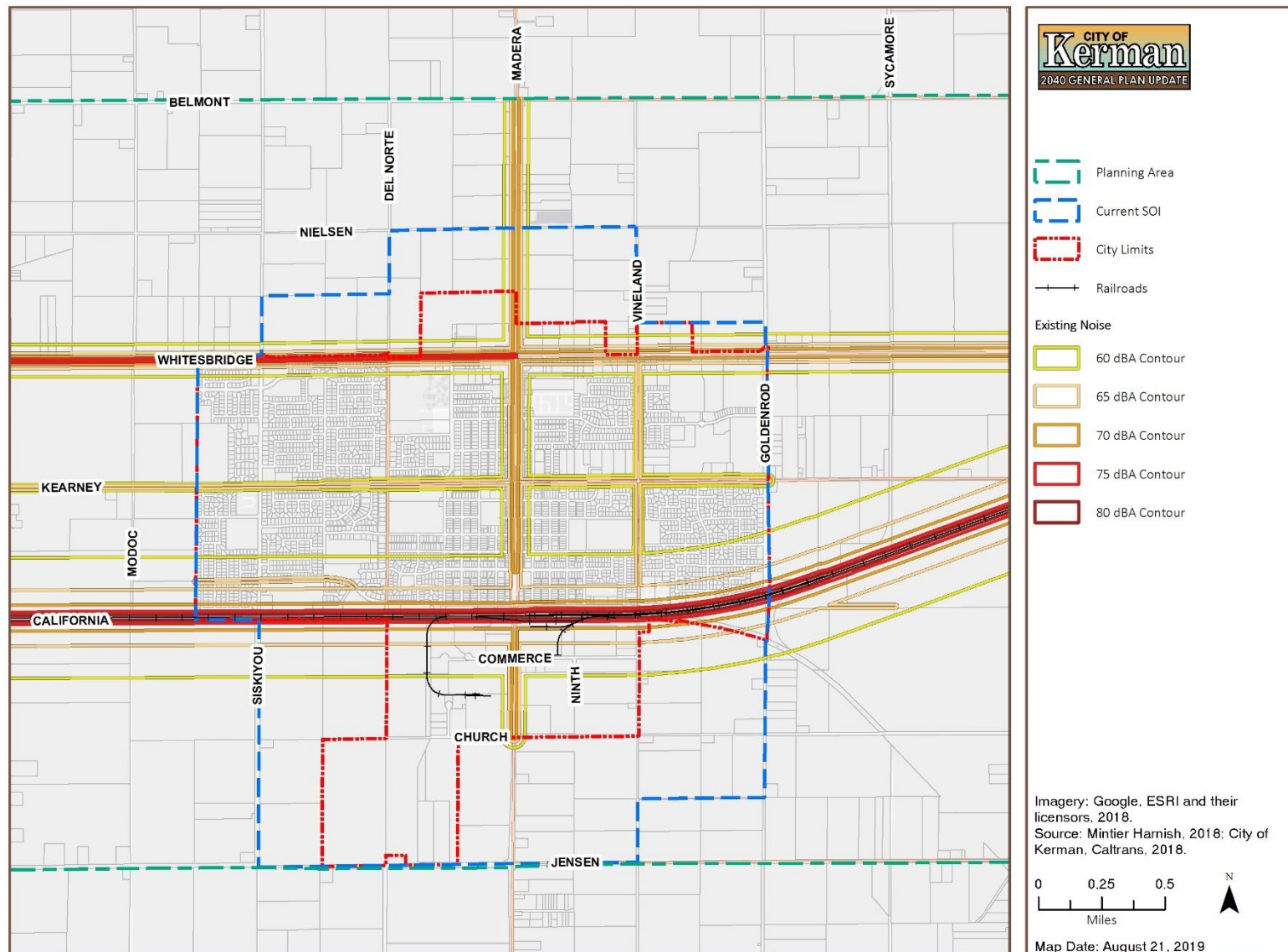
California Code of Regulations (Title 24)

Known as the California Building Code, Title 24 of the California Code of Regulations contains standards for allowable interior noise levels associated with exterior noise sources. The standards state that "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room." The standards apply to new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family residences (i.e., apartments). The Code goes on to indicate that: "Residential structures to be located where the annual Ldn or CNEL exceeds 60 dB shall require an acoustical analysis showing that the proposed design will achieve the prescribed allowable interior level. For public use airports or heliports, the Ldn or CNEL shall be determined from the airport land use plan prepared by the County in which the airport is located. For all other airports or heliports, or public use airports or heliports for which a land use plan has not been developed, the Ldn or CNEL shall be determined from the noise element of the general plan of the local jurisdiction."

California Code of Regulations (Title 21)

The State Division of Aeronautics has adopted standards for airport-related noise. The standards establish an acceptable noise level of 65 dB for uses near airports. This standard applies to persons residing in urban residential areas where houses are of typical California construction and may have windows partially open.

Figure 4.12-2 Existing Traffic Noise Level Contours



California Government Code Section 65302(f)

California Government Code Section 65302(f) requires all General Plans to include a Noise Element that addresses noise-related impacts in the community. The State Office of Planning and Research (OPR) has prepared guidelines for the content of the Noise Element, which includes the development of current and future noise level contour maps. These maps must include contours for the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation
- Local industrial plants, including, but not limited to, railroad classification yards
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment

Local

Kerman Municipal Code

Chapter 8.32.050(A)(18) prohibits the creation of excessive noise, which is defined as “noise or sound emanating from any property which is loud, unusual, or unnecessary and which disturbs the peace or quiet of nearby property or which would cause annoyance or discomfort to a reasonable person of normal sensitivity in the area.”

Chapter 8.32.050(B) sets standards for noise generated by construction activities and commercial land uses. Outdoor construction activity may not occur within 500 feet of an occupied residence between the hours of 10:00 p.m. and 6:00 a.m. on Monday through Saturday and between 10:00 p.m. on Saturday and 8:00 a.m. on Sunday. Noise from commercial land uses within 500 feet of an occupied residence, including, but not limited to, parking lot cleaning and sweeping machines, leaf blowers, and mowing machines, also may not occur during these time periods.

Chapter 9.26 prohibits unreasonably loud and unnecessary noise which disturbs the peace or quiet of any neighborhood, or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. The following criteria may be considered in determining a noise violation:

1. The level of the noise;
2. Whether the nature of the noise is usual or unusual;
3. Whether the origin of the noise is natural or unnatural;
4. The level and intensity of the background noise, if any;
5. The proximity of the noise to residential sleeping facilities;
6. The nature and zoning of the area within which the noise emanates;
7. The density of the inhabitation of the area within which the noise emanates;
8. The time of day or night the noise occurs;
9. The duration of the noise;

10. Whether the noise is recurrent, intermittent, or constant; and
11. Whether the noise is produced by commercial or noncommercial activity.

Per KMC Section 9.26.020, construction activities are exempt from the provisions of KMC Chapter 9.26 if construction takes place between the hours of 7:00 a.m. and 10:00 p.m. Noise sources associated with solid waste collection from commercial and industrial properties are also exempt.

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds

Appendix G of the *CEQA Guidelines* provides the following thresholds to evaluate potential noise impacts. A significant noise impact would occur if the 2040 General Plan would result in one or more of the following:

1. Generation of 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 applicable standards of other agencies;
2. Generation of excessive groundborne vibration or groundborne noise levels;
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, exposure of people residing or working in the project area to excessive noise levels.

Threshold 3 is discussed in Section 4.18, *Effects Found Not to be Significant*, because there are no public or private airstrips in the Planning Area or within two miles of the Planning Area. All other thresholds are discussed in detail below.

Construction Noise

Construction noise from development facilitated by the 2040 General Plan is estimated based on reference noise levels reported by the FHWA's *Construction Noise Handbook* (2006) and the FTA's *Noise and Vibration Impact Assessment Manual* (2018) for various pieces of construction equipment. It is conservatively assumed that construction equipment typically operates as close as 25 feet from the nearest noise-sensitive receivers. Construction noise level estimates do not account for the presence of intervening structures or topography, which could reduce noise levels at receiver locations.

Groundborne Vibration

To determine vibration impacts, vibration levels were calculated at vibration-sensitive receivers using the vibration velocity in decibels (VdB). The City has not adopted a significance threshold to assess vibration impacts during construction; therefore, vibration levels were compared to the guidelines set forth in the FTA *Transit Noise and Vibration Assessment Manual* (2018). The FTA has established the following vibration thresholds that would result in disturbance of people:

- 65 VdB for buildings where low ambient vibration is essential for interior operations (such as hospitals and recording studios);
- 72 VdB for residences and buildings where people normally sleep, including hotels; and
- 75 VdB for institutional land uses with primary daytime use (such as churches and schools).

These thresholds apply to “frequent events,” which the FTA defines as vibration events occurring more than 70 times per day. The thresholds for frequent events are considered appropriate because of the scale and duration of proposed construction activities facilitated by the 2040 General Plan. In addition, the FTA states that 100 VdB is the threshold at which minor cosmetic damage to fragile buildings may occur (FTA 2018).

On-site Operational Noise

On-site activities at new development facilitated by the 2040 General Plan would have a significant impact if it would expose neighboring noise-sensitive land uses to noise levels exceeding the City’s noise exposure standards shown in Table 4.12-2. These standards are contained in Policy 1 of the City’s existing General Plan Noise Element and are carried forward as Policy PH-8.3 of the proposed 2040 General Plan Noise Element.

Table 4.12-2 Maximum Allowable Noise Exposure

Sound Type	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Noise Level (dBA L_{eq})	50	45
Maximum Noise Level (dBA L_{max})	70	65

Source: Kerman General Plan 2007 and proposed 2040 General Plan

Roadway Noise

To estimate future average daily noise levels from traffic on arterial roadways, noise level contours were mapped based on forecast traffic volumes. ADT volumes for year 2040 were estimated using data and guidance provided by the Fresno Council of Governments (FCOG; Yu 2019). The 2018 and 2035 model traffic volumes calculated by FCOG were used to determine the forecast net change in ADT volumes along study roadways. The net change was then added to the existing traffic volumes that were sourced from Caltrans and the City’s traffic counts from 2015 and 2017, as discussed under Section 4.12.1(e), *Existing Noise Level Contours*, to obtain year 2035 ADT volumes. To estimate year 2040 ADT volumes, it was assumed that ADT would increase linearly by two percent annually on all study roadways.

Future roadway noise levels were quantified using the HUD DNL Calculator. The HUD DNL Calculator noise level estimates, which are expressed in Ldn, are based on traffic volume, vehicle mix, and vehicle speed and were used to generate the future roadway noise level contours. The vehicle mixes on Whitesbridge Avenue and Madera Avenue were based on Caltrans annual average daily truck traffic (year 2016), consistent with the data used to produce the noise level contours for existing conditions (Caltrans 2016). For local roadways, the percentage of vehicle trips was assumed to be 95 percent passenger cars, 3 percent medium trucks (2 axles), and 2 percent heavy trucks (3+ axles). The results were mapped as 60 dBA Ldn, 65 dBA Ldn, 70 dBA Ldn, and 75 dBA Ldn noise level contours parallel to studied roadways, assuming a distance attenuation rate of 4.5 dBA per doubling of distance. Noise level contours were created for the purposes of determine whether a “significant” increase in traffic noise would occur based on the thresholds established by the FTA, which are summarized in Table 4.12-3.

Table 4.12-3 Significance of Changes in Operational Roadway Noise Exposure

Existing Noise Exposure (dBA Ldn or L _{eq})	Allowable Noise Exposure Increase (dBA Ldn or L _{eq})
45 - 49	7
50 - 54	5
55 - 59	3
60 - 64	2
65 - 74	1
75+	0

dBA = A-weighted sound pressure level, Ldn = Day-Night average level, L_{eq} = hourly equivalent noise level
Source: FTA 2018

Rail Noise

Future noise level contours were also mapped for noise generated by the UPRR line that runs parallel to California Avenue. The 2018 California Rail Plan estimates that the UPRR Fresno Subdivision experiences daily freight train volumes of up to 50 trains and that this Subdivision will experience an increase of approximately 20 freight trains per day by 2040 for a total daily volume of approximately 70 trains (Caltrans 2018). At the UPRR junction in Fresno, the UPRR railroad tracks diverge with one branch proceeding north/south and one branch proceeding west toward Kerman. The north/south line is the main UPRR railroad corridor in the region; therefore, this analysis assumes that 80 percent of daily train volumes would proceed along the north/south corridor and 20 percent of daily train volumes would proceed along the western corridor through Kerman. This analysis assumes an average train speed of 25 miles per hour, an average train length of 100 cars (approximately 1.5 miles in length), an average of two engines per train, and a 15 percent night fraction (Union Pacific Corporation 2018, Machalaba 2018). Future railway noise levels were quantified using the HUD DNL Calculator. The results were mapped as 60 dBA Ldn, 65 dBA Ldn, 70 dBA Ldn, and 75 dBA Ldn noise level contours parallel to the railroad, assuming a distance attenuation rate of 4.5 dBA per doubling of distance.

Exposure of New Noise-Sensitive Land Uses to Excessive Noise Levels

The California Supreme Court in a December 2015 opinion (*BIA v. BAAQMD*) confirmed that CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. The exposure of new sensitive receivers in the City to ambient noise would be an effect of the existing environment on the 2040 General Plan. Therefore, this impact analysis is not required; nonetheless, it is included in the interest of public disclosure. Projected noise level contours for the year 2040 were evaluated to estimate future exposure to ambient traffic noise. Estimated noise levels were compared to the City's noise compatibility standards of 60 dB Ldn in outdoor activity areas and 45 dB Ldn in interior spaces (existing General Plan Policy 1, proposed General Plan Policy PH-8.2).

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan result in generation of 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 applicable standards of other agencies?

Impact N-1 CONSTRUCTION-RELATED, OPERATIONAL, AND TRANSPORTATION NOISE GENERATED BY DEVELOPMENT FACILITATED UNDER THE 2040 GENERAL PLAN WOULD POTENTIALLY EXPOSE SENSITIVE RECEIVERS TO SUBSTANTIAL TEMPORARY AND PERMANENT INCREASES IN AMBIENT NOISE LEVELS. HOWEVER, IMPLEMENTATION OF THE 2040 GENERAL PLAN POLICIES WOULD BE REQUIRED TO REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

Construction Noise

Residences and other noise-sensitive land uses adjacent to potential development would be the most affected by construction noise associated with individual projects facilitated by the 2040 General Plan. Since there are no specific plans or time scales for individual development projects, it is not possible to determine exact noise levels, locations, or time periods for construction. However, construction noise would be highest and of the longest duration in areas where more future development and redevelopment is anticipated to occur. For example, existing agricultural/undeveloped land north, west, and east of City limits may undergo considerable development over the life of the 2040 General Plan given that this land would be designated for residential, commercial, and school/institutional land uses.

Most of the time construction noise impacts result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), when construction occurs in areas immediately adjacent to noise-sensitive land uses, or when the duration of construction extends over long periods of time. Major noise-generating construction activities could include demolition activities, site grading and excavation, and building construction. These activities could occur in areas immediately adjacent to existing noise-sensitive receivers or future receivers developed within the City.

The highest construction noise levels would be generated during demolition, grading, and excavation activities, and the lowest levels would occur during paving and architectural coating activities. Table 4.12-4 presents the noise levels generated by common types of construction equipment. Typical hourly, average, construction-generated noise levels are about 85 to 90 dBA when measured at a distance of 25 feet from the center of the site during busy construction periods. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the center of the construction site and the receiver. In addition, intervening structures or terrain would also attenuate noise and reduce levels.

Table 4.12-4 Typical Noise Levels Generated by Construction Equipment

Equipment	Type	Typical L _{eq} (dBA) Distances from the Source	
		25 Feet	50 Feet
Air Compressor	Stationary	83	80
Backhoe	Mobile	83	80
Compactor (ground)	Mobile	85	82
Concrete Mixer	Stationary	88	85
Concrete Pump	Mobile	85	82
Crane	Mobile	86	83
Dozer	Mobile	88	85
Excavator	Mobile	84	81
Generator	Stationary	85	82
Grader	Mobile	88	85
Jack Hammer	Stationary	91	88
Loader	Mobile	83	80
Paver	Mobile	88	85
Pneumatic Tools	Stationary	88	85
Roller	Mobile	88	85
Saw	Stationary	79	76
Scraper	Mobile	88	85
Warning Horn	Stationary	86	83
Welder/Torch	Stationary	77	74

Source: FHWA 2006 and FTA 2018

Temporary noise generated by construction activities associated with development facilitated by the 2040 General Plan would exceed the existing ambient noise level at noise-sensitive receivers adjacent to potential development sites. The City has adopted specific standards for construction noise in KMC Section 8.32.050(B), which states that outdoor construction activity may not occur within 500 feet of an occupied residence between the hours of 10:00 p.m. and 6:00 a.m. on Monday through Saturday and between 10:00 p.m. on Saturday and 8:00 a.m. on Sunday. These standards would ensure that construction noise impacts do not occur during noise-sensitive hours of sleep. However, daytime construction activities would result in a significant temporary increase in ambient noise levels at noise-sensitive uses such as residences and schools. Therefore, implementation of Mitigation Measure N-1 would be required to reduce impacts to a less than significant level.

Operational Noise

Buildout under the 2040 General Plan would have significant noise impacts if it would expose people to or generate noise levels in excess of applicable standards. The 2040 General Plan would primarily facilitate new residential, commercial, and public land uses to the west, north, and east of city limits. Potential noise/land use conflicts would occur at the interface between planned residential and commercial land uses north of Whitesbridge Avenue due to noise sources typically

associated with commercial activities, such as rooftop-mounted HVAC equipment, delivery trucks, car washes, and amplified sound. Other noise sources associated with commercial activities include delivery trucks, parking lot sweepers, leaf blowers, and mowers. The City has adopted specific standards for noise associated with commercial activities in KMC Section 8.32.050(B). Operation of equipment including parking lot sweepers, leaf blowers, and mowers may not occur within 500 feet of an occupied residence between the hours of 10:00 p.m. and 6:00 a.m. on Monday through Saturday and between 10:00 p.m. on Saturday and 8:00 a.m. on Sunday. The loading and unloading of commercial vehicles is exempt from this standard. Idling delivery trucks within the City would generate noise levels of approximately 70 dBA L_{eq} at 25 feet from the source for short durations of time (Charles M. Salter & Associates 2014). As discussed above, residences could be located within 25 feet of adjacent commercial land uses. This noise level would potentially exceed ambient average noise levels at residences; however, noise from loading and unloading activities would be subject to KMC Section 8.32.050(A)(18), which prohibits the creation of excessive noise.

Furthermore, the following 2040 General Plan Public Health and Safety Element policies would ensure that the 2040 General Plan would reduce land use conflicts between planned residential and commercial land uses:

Public Health and Safety Element Goals and Policies

- **Policy PH-8.1: Tranquil Residential Areas.** The City shall strive to preserve the tranquility of residential areas by preventing noise-producing uses from encroaching on existing or planned noise-sensitive uses.
- **Policy PH-8.3: Noise Mitigation.** The City shall ensure that noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards listed on Table 7-1 on lands designated for noise-sensitive uses. This policy does not apply to noise levels associated with agricultural operations. Note that Table 7-1 is reproduced herein as Table 4.12-2 in Section 4.12.1, *Setting*.
- **Policy PH-8.5: Site and Building Design.** The City shall require projects to comply with adopted noise standards through proper site and building design features, such as building location and orientation, setbacks, natural barriers and vegetation, and building construction.

Compliance with the KMC would limit nuisance noise from some commercial activities; however, noise sources such as rooftop-mounted HVAC equipment, delivery trucks, car washes, and amplified sound would potentially result in ambient noise level environments at noise-sensitive uses that exceed the City's maximum allowable noise exposure standards set forth in Table 4.12-2. Therefore, future noise/land use conflicts between planned residential and commercial land uses north of Whitesbridge Avenue would be potentially significant. Implementation of Mitigation Measure N-2 would be required to reduce impacts to a less than significant level.

Transportation Noise

Buildout under the 2040 General Plan would have significant noise impacts if it would expose people to or generate noise levels in excess of applicable standards. As discussed in Section 4.12.1, *Setting*, noise levels are generally highest along or adjacent to major roadways. Potential sources of roadway noise exposure associated with growth and development under the 2040 General Plan include increased traffic on major arterial roadways. As such, existing and future noise-sensitive receivers along arterial roadways such as Whitesbridge Avenue, Kearny Boulevard, California

Avenue, and Vineland Avenue would be exposed to increased traffic noise levels. Because roadway traffic is the greatest noise source in the City, noise-sensitive receivers located adjacent to high-volume roadways would be exposed to the greatest noise increases generated by future traffic volumes.

The analysis contained within this section, therefore, relies primarily upon analysis of the location of current and potential future noise-sensitive receivers in relation to existing and projected future roadway noise level contours. This analysis does not consider impacts to existing noise-sensitive land uses located along the UPRR railroad because buildout of the 2040 General Plan would not induce additional freight rail volumes along the railroad.

As discussed in Section 4.9.1, *Setting*, existing roadway noise levels were quantified using the HUD DNL Calculator based on ADT data from Caltrans and City traffic counts and used to generate roadway noise level contours for studied roadway segments. Figure 4.12-2 shows a map of existing traffic noise level contours along major roadways in the city. The location of future roadway noise level contours was determined based on estimates of year 2040 traffic volumes. Roadway noise level estimates do not account for intervening barriers or topography that may shield individual receivers from the noise source. Therefore, the noise level contours depicted in this section represent a reasonable, conservative worst-case estimate of noise levels and do not represent a specific estimate of sound levels at any particular location in the City.

Figure 4.12-3 shows a map of future traffic noise level contours, which shows marginal roadway increases when compared to existing traffic noise level contours shown in Figure 4.12-2. As shown in Figure 4.12-3, noise levels along all modeled roadways are expected to exceed 60 dBA CNEL with peak noise levels reaching 75 dBA CNEL along SR 180 and various segments of Madera Avenue.

Impacts to Existing Noise-Sensitive Receivers

Table 4.12-5 provides a quantitative analysis of traffic noise increases for comparison to the thresholds for changes in roadway noise (see Table 4.12-3). Table 4.12-5 includes the roadway segments that are adjacent to or near noise-sensitive land uses. Residences and other noise-sensitive land uses are located immediately adjacent to the roadways considered in this analysis; therefore, CNELs were calculated at the roadway edge. Noise levels farther away from the modeled distances would be lower than noise levels shown in Figure 4.12-3.

This analysis assumes that in 2040, a substantial majority of traffic volumes currently on Whitesbridge Avenue/SR 180 would instead utilize the adopted SR 180 Kerman Bypass that would be constructed by Caltrans north of Nielsen Avenue. The bypass alignment would proceed through land designated for Urban Reserve and Agricultural land uses in the 2040 General Plan, which are not considered noise-sensitive land uses. Therefore, the analysis of roadway traffic noise impacts does not include an analysis of roadway noise impacts along the current alignment of SR 180 because it is assumed that 2040 traffic volumes on this roadway would be similar to or less than existing traffic volumes given the re-routing of traffic along the bypass. This analysis also does not consider roadway noise impacts along the majority of the Madera Avenue corridor because the only noise-sensitive land use adjacent to Madera Avenue is the Kerman Inn located at the intersection of Madera Avenue and California Avenue.

As shown in Figure 4.12-3, the increase in roadway noise levels resulting from elevated traffic volumes in 2040 would not cause any roadway segments adjacent to noise-sensitive land uses to exceed the applicable FTA thresholds. Therefore, roadway noise impacts to existing sensitive receivers would be less than significant.

Figure 4.12-3 Future Roadway Noise Level Contours – 2040

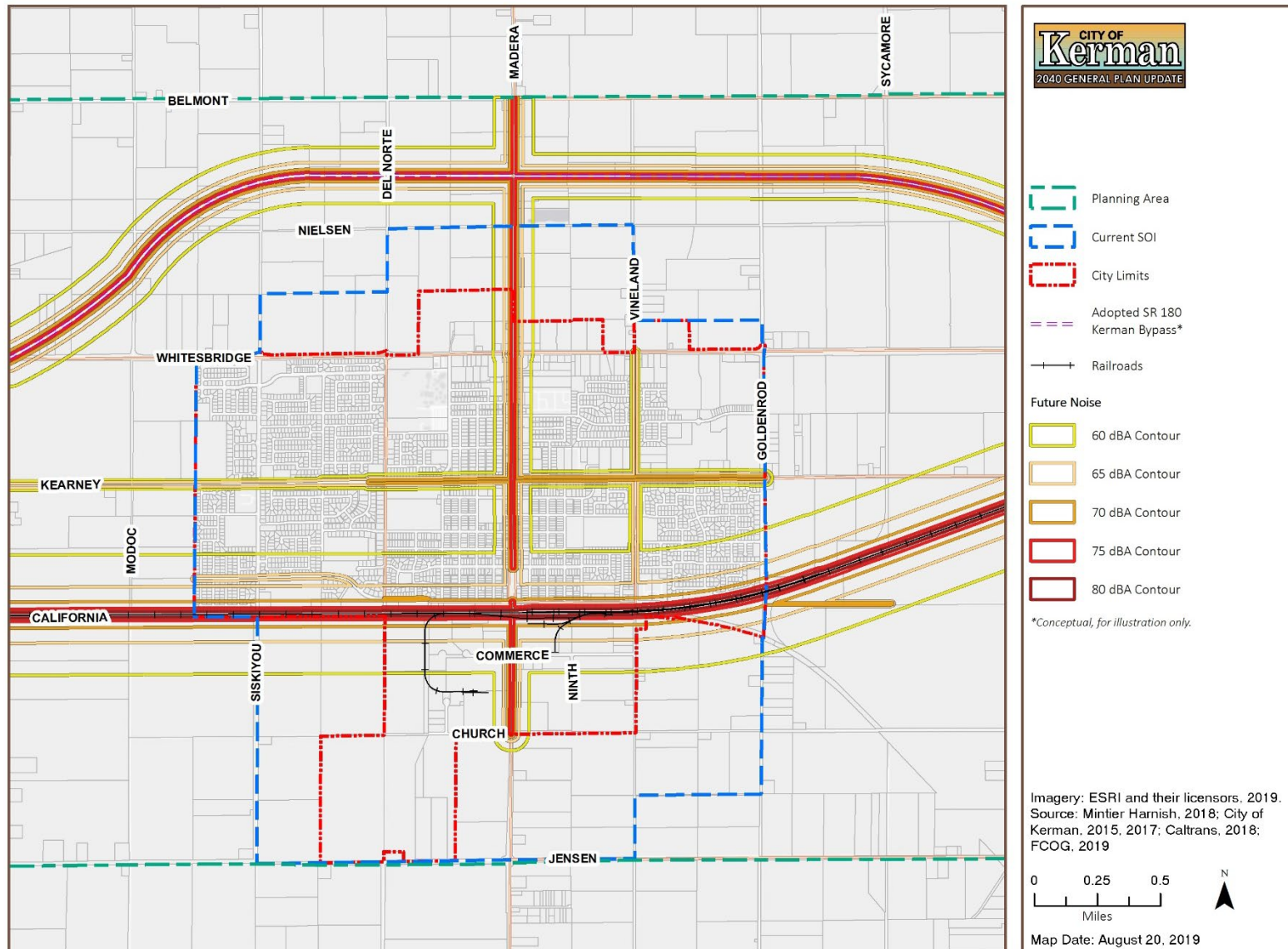


Table 4.12-5 Comparison of Calculated Existing and Future (2040) Noise Levels along Major Roadways

Roadway Segment	Existing		Future (2040) with General Plan Buildout		Noise Level Increase (dBA)	FTA Threshold (dBA) ³	Threshold Exceeded?
	ADT ¹	Noise Level (dBA CNEL)	ADT ²	Noise Level (dBA CNEL)			
California Avenue west of Del Norte Avenue	3,241	68	3,617	68	0	1	No
California Avenue east of Del Norte Avenue	3,241	70	3,861	71	1	1	No
Kearny Boulevard between Park Avenue and Boyd Avenue	3,754	69	4,178	69	0	1	No
Kearney Boulevard west of 8 th Street	5,031	70	6,254	71	1	1	No
Kearney Boulevard west of Park Avenue	2,358	67	2,866	68	1	1	No
Vineland Avenue south of Kearney Boulevard	3,444	67	4,037	68	1	1	No
Vineland Avenue south of Whitesbridge Avenue	2,692	66	2,113	65	(1)	1	No
Madera Avenue between California Avenue and C Street	8,300	68	12,227	69	1	1	No

() denotes a negative number.

¹ Based on traffic volumes provided by Caltrans and the City's traffic counts from 2015 and 2017.

² Based on modelled traffic volumes provided by FCOG.

³ These thresholds represent the allowable noise exposure increase along each roadway per FTA guidance (see Table 4.12-3). Therefore, if the noise level increase along a given roadway is less than or equal to the threshold, then the noise level does not exceed the threshold, and the roadway noise impact is less than significant.

See Appendix E for noise modeling worksheets and Appendix A for VMT modeling calculations.

Source: Caltrans 2016 data and City traffic counts from 2015 and 2017

Impacts to Future Noise-Sensitive Receivers

New noise-sensitive receivers could be constructed in future years due to the proposed residential land use designations between Whitesbridge Avenue and Nielsen Avenue, between Goldenrod Avenue and Howard Avenue, and between Siskiyou Avenue and Modoc Avenue. As shown in Figure 4.12-3, new residential uses would generally be located outside the 60 dB noise level contour. However, residences constructed near the intersection of Nielsen Avenue and Modoc Avenue and along the existing UPRR corridor would potentially be exposed to ambient noise levels in excess of the City's noise/land use compatibility standards of 60 dBA Ldn in outdoor activity areas or 45 dBA Ldn in interior spaces. The 2040 General Plan Public Health and Safety Element includes the following policies specifically directed at addressing potential transportation noise impacts to future noise-sensitive receivers:

Public Health and Safety Element Goals and Policies

- **Policy PH-8.2: Noise Compatibility Standards.** The City shall review new projects for noise compatibility with surrounding uses. The City shall determine noise based on the following standards:
 - New noise-sensitive uses in areas exposed to existing or projected future levels of noise from transportation noise sources shall not be permitted in areas where the noise level exceeds 60 dB Ldn in outdoor activity areas or 45 dB Ldn in interior spaces.
 - New transportation noise sources, including roadway improvement projects, shall not exceed 60 dB Ldn within outdoor activity areas, and 45 dB Ldn within interior spaces of existing noise-sensitive land uses.
- **Policy PH-8.4: Acoustical Analysis Requirement.** The City shall require an acoustical analysis by a qualified acoustical engineer for new projects involving noise exposure or noise generation in excess of the established Noise Compatibility Standards above. The City shall also require an acoustical analysis by a qualified acoustical engineer for new commercial development located adjacent to existing and/or planned noise-sensitive uses to ensure that noise created by new commercial development shall be mitigated so as not to exceed the noise level standards listed on Table 7-1 on lands designated for noise-sensitive uses. The project shall implement the requirements identified in the acoustical analysis before the City issues the building permit. Section 7.10 identifies the acoustical analysis requirements.
- **Policy PH-8.5: Site and Building Design.** The City shall require projects to comply with adopted noise standards through proper site and building design features, such as building location and orientation, setbacks, natural barriers and vegetation, and building construction.

Land Use Element Goals and Policies

- **Policy LU-7.3: CEQA Compliance:** The City shall review projects for compliance with the California Environmental Quality Act (CEQA), including the requirements outlined in Table A-1 in Appendix A to reduce adversity to environmental impacts. (See Appendix A of 2040 General Plan, Construction Noise Reduction Measures)

Implementation of the above policies, particularly Policy PH-8.2, would ensure that transportation noise impacts are considered as individual development projects and roadway improvements are proposed and, if necessary, appropriate site-specific noise mitigation techniques are incorporated into project designs. In addition, as noted in Policies CIRC-1.1, CIRC-2.1, CIRC-2.2, CIRC-2.4, CIRC-2.5, CIRC-2.6, and CIRC-5.2 of the Circulation Element, the City would continue to emphasize VMT reduction techniques to address traffic issues with the added benefit that the use of such techniques would also reduce vehicular noise. With implementation of Plan policies, transportation noise impacts to future noise-sensitive receivers would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan result in generation of excessive groundborne vibration or groundborne noise levels?

Impact N-2 CONSTRUCTION-RELATED ACTIVITIES ASSOCIATED WITH INDIVIDUAL PROJECTS FACILITATED BY THE 2040 GENERAL PLAN WOULD INTERMITTENTLY GENERATE TEMPORARY GROUND-BORNE VIBRATION NEAR NOISE-SENSITIVE RECEIVERS IN THE CITY. HOWEVER, SUCH DEVELOPMENT FACILITATED BY THE 2040 GENERAL PLAN WOULD COMPLY WITH THE KERMAN MUNICIPAL CODE, WHICH WOULD REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL. FURTHERMORE, THE 2040 GENERAL PLAN WOULD NOT INCLUDE NEW OR EXPANDED PERMANENT VIBRATION SOURCES. THEREFORE, VIBRATION IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Vibration from construction activities could also have an impact on nearby noise-sensitive land uses. The FTA's *Transit Noise and Vibration Impact Assessment Manual* (2018) sets a threshold of 72 VdB for frequent events affecting residences and buildings where people normally sleep and a threshold of 100 VdB threshold for minor cosmetic damage to fragile buildings. The primary vibratory sources during construction in the city would likely be large bulldozers used to demolish existing structures, large trucks loaded with supplies and debris, and jackhammers to pavement breaking. Table 4.12-6 identifies vibration velocity levels for the common types of equipment that could be used in the city during demolition and construction activities. As shown in Table 4.12-6, typical bulldozer or loaded truck activities generate an approximate vibration level of 58 to 87 VdB at a distance of 25 feet. As such, existing and future residences located 25 feet from potential future construction facilitated by the 2040 General Plan may intermittently be disturbed by vibration. However, vibration levels are not anticipated to exceed the threshold of 100 VdB, the level at which minor damage to fragile buildings may occur.

Table 4.12-6 Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB	
	25 Feet	50 Feet
Large Bulldozer	87	81
Loaded Trucks	86	80
Jackhammer	79	73
Small Bulldozer	58	52

Vibration levels assume an attenuation rate of 6 VdB per doubling of distance.

Source: FTA 2018

The City has adopted specific standards for construction activities in KMC Section 8.32.050(B). Outdoor construction activity may not occur within 500 feet of an occupied residence between the hours of 10:00 p.m. and 6:00 a.m. on Monday through Saturday and between 10:00 p.m. on Saturday and 8:00 a.m. on Sunday. These restrictions on hours of construction would prevent construction-related vibration from exceeding 72 VdB at the nearest sensitive receiver during nighttime hours. Therefore, construction-related vibration associated with development facilitated by the 2040 General Plan would not exceed the thresholds of 100 VdB for structural damage or 72 VdB for residences and buildings where people normally sleep during nighttime hours. Temporary construction-related vibration impacts would be less than significant.

Existing permanent sources of vibration in Kerman include the UPRR and industrial and agricultural operations. The 2040 General Plan does not propose new industrial or agricultural land uses and would not induce additional freight rail volumes along the railroad. Therefore, no permanent vibration impacts would occur.

Mitigation Measures

The City's Municipal Code would address potentially significant vibration impacts associated with development facilitated by the 2040 General Plan. Mitigation beyond compliance with the City's Municipal Code is not required. Therefore, impacts are less than significant without mitigation.

Cumulative Impacts

The City of Kerman is surrounded by existing agricultural uses, as designated in the County of Fresno General Plan (County of Fresno 2000). Beyond the land use changes proposed by the 2040 General Plan, no changes to the existing agricultural land uses around Kerman are proposed. Therefore, no substantial construction noise or vibration is anticipated that would combine with construction noise and vibration facilitated by buildout of the 2040 General Plan. In addition, no substantial changes to the operational noise and vibration generated by the existing surrounding agricultural land uses are anticipated that would combine with operational noise and vibration generated by development under the 2040 General Plan. Therefore, there would be no cumulative construction or operational noise and vibration impacts.

Cumulative development in the County of Fresno surrounding Kerman in combination with development proposed under the 2040 General Plan would generate increased traffic volumes on local and area roadways. However, the transportation noise analysis contained under Impact N-1 is cumulative in nature because it relies on traffic volumes provided by FCOG, which include traffic generated by development within Kerman as well as traffic generated by cumulative development in the surrounding region. Therefore, as discussed under Impact N-1, cumulative roadway noise impacts would be less than significant.

4.13 Population and Housing

This section addresses the potential population growth and housing displacement impacts associated with implementation of the 2040 General Plan. Data used to prepare this section were taken from the United States Bureau of the Census (US Census), the California Department of Finance (CA DOF), and the Fresno Council of Governments (FCOG). Population, housing, and employment data are available on a city, county, regional, and state level. This EIR uses data collected and provided at the City and county level in an effort to focus the analysis specifically on the City of Kerman.

4.13.1 Setting

a. Population

Kerman has increased in population by approximately 2,335 persons since 2010, to a total of 15,480 persons in 2018 (Table 4.13-1). Over the eight-year period (2010-2018), Kerman grew faster than the region, growing annually by an annual growth rate of 1.4 percent versus 1.0 percent for Fresno County and 0.8 percent for California.

According to the State Department of Finance (DOF) compounded annual growth rate (CAGR) data, this growth was due in part to new housing development. Total housing units grew by almost 1 percent per year during this period, which exceeded annual growth rates for the county (0.6 percent) and state (0.4 percent). It is worth noting that between 2000 and 2010, Kerman's housing stock increased by almost 5 percent per year.

Table 4.13-1 Population, Households, and Housing Trends

	Year			2000-2010		2010-2019	
	2000	2010	2018	Absolute Change	CAGR	Absolute Change	CAGR
Population	8,648	13,544	15,480	4,896	4.7%	1,539	1.4%
Households	2,389	13,537	15,089	1,304	4.5%	338	1.1%
Housing Units	2,462	4,030	4,215	1,447	4.7%	307	0.9%

Source: Based on California Dept. of Finance, Demographic Research Unit, E-5 Population Reports (*Note: CAGR = compound annual growth rate) and US Census data

b. Housing

A household is defined as a group of people who occupy a housing unit (U.S. Census Bureau 2015). A household differs from a dwelling unit because the number of dwelling units includes both occupied and vacant dwelling units. Not all the population lives in households. A portion lives in group quarters, such as board and care facilities while others are homeless.

Household Size

Small households (one to two persons per household [pph]) traditionally reside in units with zero to two bedrooms; family households (three to four pph) normally reside in units with three to four bedrooms. Large households (five or more pph) typically reside in units with four or more bedrooms. However, the number of units in relation to the household size may also reflect

preference and economics. Many small households obtain larger units and some large households live in small units for economic reasons.

As indicated above in Table 4.13-1, the number of households in Kerman increased annually at a rate of 1.1 percent between 2010 and 2018, slightly faster than the countywide annual rate of 0.8 percent. At 4.5 percent per year, the number of households increased even faster from 2000 to 2010, significantly outpacing the countywide annual rate of increase of 1.4 percent for the same period. Table 4.13-2 shows Kerman also has a higher proportion of family households, at 80 percent compared to 73 percent for the County. Married-couple family households are present in Kerman at a rate (54 percent), which exceeded county (47 percent) and state levels (49 percent). The City also has a higher percentage of female-headed households, at 18 percent, compared to 13 percent for the state.

Table 4.13-2 Households in Kerman, Fresno County, and California, 2016

Jurisdiction	Total Households	Married-couple Family Households	Male Householder, no Spouse Present	Female Householder, no Spouse Present	Nonfamily Households
Kerman	4,030	54%	8%	18%	20%
Fresno County	308,269	47%	8%	18%	27%
California	13,113,840	49%	6%	13%	31%

Source: ADE, Inc., based on U.S. Census ACS 5-Year Sample 2012-2016 Table S1101, and California DOF E-5. Reports

On average, there are 3.8 persons per household in Kerman, which indicates that households in the city are larger than typical households in Fresno County and California. Married-couple family households have 4.5 persons per household, which is considerably higher than the comparable county average of 3.8 persons per household (Table 4.13-3).

Table 4.13-3 Average Household Size by Household Type, 2016

Jurisdiction	Total Households	Married-couple Family Households	Single-parent Family Household	Nonfamily Households
Kerman	3.8	4.5	4.4	1.2
Fresno County	3.2	3.8	3.8	1.4
California	3.0	3.6	3.8	1.4

Source: ADE, Inc., based on U.S. Census ACS 5-Year Sample 2012-2016 Table S1101, and California DOF E-5. Reports

c. Jobs-Housing Ratio

Information on the jobs-housing ratio is provided for informational purposes only. The jobs-household ratio in a jurisdiction is an overall indicator of job availability within the area. A balance of jobs and housing can give residents an opportunity to work locally and avoid employment commutes to other places in the region. Table 4.13-4 presents population, households, and employment projections through the year 2040 for the City of Kerman. As shown in Table 4.13-4, the City's current employment is an estimated 2,800 jobs and its current population is 15,480 residents. Based on this, Kerman's jobs-housing ratio is 0.7 jobs per household.

Table 4.13-4 Kerman Population, Households, and Employment

City of Kerman	2018	2020	2025	2030	2035	2040	Change 2018- 2040	% Change 2018- 2040
Population (including SOI)	15,480	15,900	16,930	17,860	18,770	19,650 ¹	4,170	1.0%
Households	4,215	4,110	4,320	4,480	4,610	4,750 ¹	720	0.7%
Jobs	2,800	2,890	3,130	3,290	3,440	3,580 ¹	780	1.1%
Jobs/Housing Ratio	0.7	0.7	0.7	0.7	0.8	0.8	1.1	–

¹ Based on population projections from 2040 General Plan Background Report
Source: U.S. Census and FCOG 2017

Projections

Both population and jobs are expected to grow approximately 1 percent per year over the next 22 years with an additional 4,170 residents and 780 new jobs. This steady growth would result in the city's jobs-housing ratio at 0.8 percent in 2040.

d. Regulatory Setting

State

State Housing Element Statutes

State housing element statutes (Government Code Sections 65580-65589.9) mandate that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law recognizes that in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, State housing policy rests largely upon the effective implementation of local general plans and in particular, housing elements. Additionally, Government Code §65588 dictates that housing elements must be updated at least once every eight years.

Regional

Regional Housing Needs Assessment

California's Housing Element law requires that each county and city develop local housing programs to meet their "fair share" of future housing growth needs for all income groups, as determined by the DOF. The regional councils of government are then tasked with distributing the State-projected housing growth need for their region among their city and county jurisdictions by income category. This fair share allocation is referred to as the Regional Housing Needs Assessment (RHNA) process. The RHNA represents the minimum number of housing units each community is required to plan for through a combination of: 1) zoning "adequate sites" at suitable densities to provide affordability; and 2) housing programs to support production of below-market rate units. As part of the regional

effort from the 2014-2021 RHNA, the City of Kerman is to ensure that adequate sites are available to meet its total RHNA of 1,332 units.

Fresno Council of Governments Regional Transportation Plan/Sustainable Community Strategy

The Fresno Council of Governments (FCOG) is a Joint Powers Authority composed of the County of Fresno and the Cities of Clovis, Coalinga, Firebaugh, Fowler, Fresno, Huron, Kerman, Kingsburg, Mendota, Orange Cove, Parlier, Reedley, San Joaquin, Sanger, and Selma. Fresno COG administers the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Regional Congestion Management Process which provide funding opportunities for bicycle and pedestrian improvements. Senate Bill (SB) 375 requires an SCS to be developed in coordination with an RTP. Combined, the RTP/SCS suggests land use goals and implements transportation plans that will reach goals for reducing the California Air Resources Board (ARB) greenhouse gas (GHG) emissions. It must follow realistic planning assumptions; consider local general plans; and consider land use and the use of natural resources and be consistent with the adopted Regional Housing Needs Allocation (RHNA) for the region. An SCS must be able to reach ARB's GHG goals.

4.13.2 Impact Analysis

a. Methodology and Significance Thresholds

Significance Thresholds

Appendix G of the CEQA Guidelines provides the following thresholds to determine whether significant impacts from population and housing could occur if a project action would:

1. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Threshold 1: Would the General Plan 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)?

Impact PH-1 FORECASTED GROWTH OF THE 2040 GENERAL PLAN WOULD RESULT IN AN ESTIMATED 4,170 NEW RESIDENTS, 720 NEW HOUSEHOLDS, AND 780 NEW JOBS IN THE CITY. THE 2040 GENERAL PLAN IS INTENDED TO ACCOMMODATE REGIONAL HOUSING NEEDS AND INCLUDES POLICIES TO MANAGE NEW DEVELOPMENT AND LIMIT GROWTH IN ACCORDANCE WITH PROJECTED REGIONAL FORECASTS. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The 2040 General Plan would designate land uses and define the type of development that can occur throughout the City through the planning year of 2040 (over approximately 20 years). As discussed in Section 2, *Project Description*, projected growth facilitated by the 2040 General Plan could accommodate an estimated 4,170 new residents, 720 new households, and 780 new jobs in the City. Table 4.13-5 shows the projected population and housing facilitated by the 2040 General Plan compared to regional forecasts projected by FCOG. Under the 2040 General Plan, the

estimated growth of Kerman would result in a 2040 population of approximately 19,650 people, 4,710 households, and 3,580 jobs which is consistent with the projected growth in the FCOG Regional Transportation Plan/Sustainable Communities Strategy as shown in Table 4.13-5.

Table 4.13-5 2040 General Plan Projected Growth

	Current 2018 Conditions	General Plan Growth Through 2040	Total 2018 -2040 Buildout with General Plan Growth	2040 FCOG Projections
Population (# residents)	15,096	4,170	19,650	19,650
Housing (# of dwelling units)	4,215	720	4,750	4,750
Employment (# of jobs)	2,800	780	3,580	3,580

¹General Plan Planning Area projections based on 2017 FCOG Fresno County 2050 Projections

Sources: See Table 2-1 *Project Description*

As discussed in Section 2, *Project Description*, the 2040 General Plan's focus is on controlled development in the existing urbanized portions of the City, and state and regional demographic trends are anticipated to limit citywide growth to within the forecast amounts. Because no exceedance of the population forecast is anticipated, the 2040 General Plan would not induce substantial population growth. One of the fundamental purposes of the 2040 General Plan is to direct future development in such a way as to minimize the impacts of growth by emphasizing the intensification and reuse of already developed areas, thus minimizing pressure to develop on the remaining open space and agricultural land in the city. Specific goals and policies in the Land Use and Housing Elements of the 2040 General Plan direct the City to emphasize this pattern of development, to ensure that the 2040 General Plan does not result in substantial unplanned growth. These are summarized below:

Land Use Element Goals and Policies

- **Policy LU-3.2: Prevent Sprawl Development.** The City shall direct new development to areas that are contiguous to existing or approved development and prevent sprawl development.
- **Policy LU-3.3: Leapfrog Development.** The City shall require the Planning Commission and City Council to make a finding before approving new subdivisions that are more than 1/8 mile from existing urban development.
- **Policy LU-3.4: Increase Density and Intensity within City Limits.** The City shall prioritize increase overall residential densities and building intensities within current City limits to prevent development on surrounding agricultural lands.
- **Policy LU-3.5: Infill and Renovation.** The City shall encourage infill of vacant commercial properties and renovation of existing commercial structures to reduce the rate at which surrounding agricultural land is urbanized and to provide for a more efficient use of existing infrastructure.

Housing Element Goals and Policies

- **Policy HE 1.4: Balanced and Orderly Growth.** The City shall promote balanced and orderly growth to minimize unnecessary development costs adding to the cost of housing.

- **Policy HE 1.5: Infill Housing Development.** The City shall encourage infill housing development on vacant, by-passed, and underutilized lots within existing developed areas where essential public infrastructure is available.
- **Policy HE 1.6: Higher-Density, Mixed-Use, and Transit-Oriented Development.** The City shall promote development of higher-density housing, mixed-use, and transit-oriented development in areas located along major transportation corridors and transit routes and served by the necessary infrastructure.
- **Policy HE 1.7: Adequate Infrastructure to Serve New Housing.** The City shall ensure the adequate provision of water, sewer, storm drainage, roads, public facilities, and other infrastructure necessary to serve new housing.
- **Policy HE-1.9: Balanced Job Opportunities and Housing Types.** The City shall encourage development around employment centers that provides the opportunity for local residents to live and work in the same community by balancing job opportunities with housing types.

Directing new residential and commercial growth at appropriate infill sites near transit and retail services would ensure that the City provides capacity for the total amount of development expected by 2040. No exceedances of the population forecast are anticipated, and the 2040 General Plan would not induce substantial population growth.

Caltrans adopted an alternate route for State Route 180 to create an expressway in western Fresno County. The goal of rerouting SR 180 is to improve the overall economic health of the western County by promoting economic development, partially through an improved transportation system. This expressway re-routing of SR 180 would move the current through traffic pattern of SR 180 from its current location through the City of Kerman to an area north of the City between Nielsen and Belmont within the City's SOI (Caltrans, 2011). This area is designated by the 2040 General Plan as agricultural land and Urban Reserve land. Due to the limited developable nature of both of these land use designations, it is not likely for the re-routing of SR 180 to induce substantial growth beyond what is planned for in the 2040 General Plan. In addition, development of the 2040 General Plan would not indirectly induce growth in the City by building other roads or other infrastructure in new areas that would facilitate development. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 2: Would the General Plan displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Impact PH-2 DEVELOPMENT FACILITATED BY OF THE 2040 GENERAL PLAN WOULD NOT DISPLACE SUBSTANTIAL NUMBERS OF EXISTING HOUSING OR PEOPLE, NECESSITATING THE CONSTRUCTION OF REPLACEMENT HOUSING ELSEWHERE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The proposed 2040 General Plan would enable development in Kerman over the next 20 years that has the potential to add 720 new households to the City, primarily through infill development in areas designated residential and mixed-use (commercial +residential). One of the goals of the 2040 General Plan is to direct future development in such a way as to minimize some of the adverse impacts of growth by emphasizing compatible and interconnected design in already developed areas. In addition, one of the goals is direct growth in the existing urbanized areas versus allowing

for urban sprawl. Such a pattern would minimize displacement of existing housing and people that could otherwise result in development pressure on the periphery of the City limits.

The Land Use Element of the proposed 2040 General Plan has been prepared to ensure that new land uses are logically organized by prioritizing infill development over development at the City's edge, maximizing the use of underutilized parcels, and minimizing the encroachment into valued open space areas. The proposed 2040 General Plan directs new growth within the City, where existing roads, water, and sewer are in place. This type of development pattern envisioned by the 2040 General Plan would allow the City to manage new development so that it occurs concurrently with necessary public services, facilities, and infrastructure while encouraging affordable housing. The following goals and policies of the Housing and Land Use Elements of the 2040 General Plan are aimed at reducing the impacts associated with displacement of people and/or housing in the City and ensuring new housing is available for all demographics and economic segments:

Housing Element Goals and Policies

Goal HE-1: To facilitate and encourage the provision of a range of housing types to meet the diverse needs of residents.

- **Policy HE-1.1: Adequate Sites for New Housing Development.** The City shall provide adequate sites for new housing development through appropriate planned land use designations, zoning, and development standards to accommodate the regional housing needs for the 2013-2023 planning period.
- **Policy HE-1.1: New Housing for All Economic Segments.** The City shall facilitate development of new housing for all economic segments of the community, including extremely low, very low-, low-, moderate-, and above moderate-income households.
- **Policy HE-1.5: Infill Housing Development.** The City shall encourage infill housing development on vacant, by-passed, and underutilized lots within existing developed areas where essential public infrastructure is available.
- **Policy HE-3.1: Preserving Neighborhood Character.** The City shall preserve the character, scale, and quality of established residential neighborhoods by protecting them from the encroachment of incompatible or potentially disruptive land uses and/or activities. (Source: 2015-2023 Housing Element Policy 3.1)
- **Goal HE-5:** To promote housing opportunities for all residents regardless of age, race, religion, sex, marital status, ancestry, national origin, color, disability, or economic level.

Land Use Element Goals and Policies

- **Policy LU-2.3: Neighborhood Atmosphere.** The City shall continue to actively preserve Kerman's single-family residential neighborhood atmosphere.
- **Policy LU-3.2: Prevent Sprawl Development.** The City shall direct new development to areas that are contiguous to existing or approved development and prevent sprawl development.
- **Policy LU-3.4: Increase Density and Intensity within City Limits.** The City shall prioritize increase overall residential densities and building intensities within current City limits to prevent development on surrounding agricultural lands.
- **Policy LU-3.5: Infill and Renovation.** The City shall encourage infill of vacant commercial properties and renovation of existing commercial structures to reduce the rate at which

surrounding agricultural land is urbanized and to provide for a more efficient use of existing infrastructure.

Nonetheless, displacement of existing residential units could still occur during redevelopment under the 2040 General Plan. The Caltrans adopted alternate route for SR 180 would displace roughly 172 homes within the City of Kerman SOI. It is anticipated that with this displacement, the 720 new households at buildout would provide housing capacity to replace the anticipated displaced residences. In addition, Caltrans is required to provide compensation for displaced residents and businesses under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act. With incorporation of the aforementioned goals and policies, the 2040 General Plan would result in a net increase in housing availability in the City, including affordable housing, and would provide housing for all future individuals to accommodate future growth. In addition, specific Implementation Programs contained in the Land Use Element, Programs C and H, would ensure that the City continues to provide housing to meet its Regional Housing Needs Allocation (1,332 units) and preserves the existing affordable housing stock to safeguard against potential loss.

As potential residential development or redevelopment projects are identified, additional project specific, environmental analysis, as necessary, would be completed at that time. Impacts associated with buildout of housing associated with the 2040 General Plan are discussed throughout the EIR. Due to the proposed increase in housing availability as well as Federal requirements for housing relocation compensation for displaced homes, impacts related to displacement of existing residences would be less than significant.

Mitigation Measures

No mitigation measures are required.

Cumulative Impacts

Cumulative development in Fresno County surrounding the City of Kerman in combination with development proposed under the 2040 General Plan may result in increased population, job, and housing projections. Implementation of the 2040 General Plan would increase density and intensity of existing land uses potentially resulting in increased growth. However, the 2040 General Plan would be consistent with Fresno COG forecasts, which include regional development throughout the County. Therefore, the 2040 General Plan would not result in a considerable incremental contribution to cumulative impacts associated with population and housing. Cumulative impacts would be less than significant.

4.14 Public Services and Recreation

This section assesses potential impacts to public services, including fire and police protection, public schools, libraries, and parks and recreation facilities, from the 2040 General Plan. Impacts to water and wastewater infrastructure and solid waste collection and disposal are discussed in Section 4.17, *Utilities and Service Systems*.

4.14.1 Setting

a. Fire Protection

Kerman is located within the North Central Fire Protection District (District). The district headquarters and main station are located on the west side of Kerman along the north side of Kearney Boulevard, west of Del Norte Avenue. The District offers a full range of services including fire prevention, suppression, emergency medical care, hazardous materials, search and rescue response, as well as emergency preparedness planning and public education coordination. In 2007, the District contracted for services with the Fresno City Fire Department, which operates 24 fire stations that serve a 336-square mile area. The District will allow its contract with the City of Fresno to lapse on June 30, 2019 and will begin providing services once again with North Central Fire District employees. This model of service will provide an enhanced level of service with five fire stations totaling 15 on-duty firefighters/Emergency Medical Technicians within the District. The District also participates in a statewide mutual aid system, providing resources throughout the State of California upon request.

Personnel, Facilities, and Equipment

The station is staffed by six full-time fire personnel and the District Battalion Chief. The station is equipped with two 1,250 gallon per minute (gpm) fire engines, one 1,500 gpm 105 foot ladder truck, and one 3,000-gallon water tender. The current (2018) Insurance Service Office (ISO) rating for Kerman is 3. Figure 8-1 and 8-2 from the 2040 General Plan Background Report shows the public, civic and safety facilities in Kerman.

Historically, 60 to 65 percent of all calls for Fire District services have been for medical emergencies, while 7 percent have been for structure fires. Other fire-related calls include vegetation fires, vehicle fires, and debris fires.

The National Fire Protection Association standard for firefighter staffing is 1 to 1.5 per 1,000 residents and the state average is 0.81 firefighters per 1,000 residents, with 15 firefighters on a residential fire ground within 8 minutes, 90 percent of the time. In 2008, the Fire District increased the firefighters per 1,000 residents to 2.5 minimum daily staffing by adding a second fire company to the Kerman fire station. The Fire District operates two additional fire stations within 10 minutes of the city of Kerman, totaling a firefighting force of 13 firefighters within 10 minutes, 90 percent of the time.

The Fire District target response time for its service in the city of Kerman is 5 minutes and 20 seconds for 90 percent of emergency incident responses. This time standard measures unit response from the time the unit was alerted to the time the first unit arrived at the emergency incident. With two in-service fire units at the Kerman fire station, the District can meet the target response time. Both current (2018) staffing levels and the city's water system are sufficient for the

City's firefighting needs. Water pressure in the incorporated areas serviced by North Central Fire Protection District is also sufficient for firefighting purposes.

b. Police Protection

Police protection is provided by the Kerman Police Department, with offices behind City Hall. The Department is staffed by 22 full-time officers, including one chief, one lieutenant, four sergeants, and one detective. Additionally, the Department employs two records clerks, one administrative assistant, and one animal control officer. The City's goal police ratio is to achieve one officer per 700 citizens.

The Kerman Police Department maintains a Temporary Holding Facility (THF) that houses two holding cells used for holding arrested persons prior to transporting them to the Fresno County Jail in Fresno. The Department also maintains 28 vehicles (marked and unmarked). Total crimes in 2017 were 392, a decrease of 45 percent from 2010. Figure 8-2 in the 2040 General Plan Background Report shows the location of the Police Headquarters.

Kerman has a mutual aid agreement with the Fresno County Sheriff's Department. The Sheriff's Department has a substation located in the city of San Joaquin. The Sheriff's Department also handles dispatch duties for Kerman.

c. Schools

Kerman Unified School District

The Kerman Unified School District was formed in 2002 following a series of merges. It includes the city of Kerman and spans to the north to the San Joaquin River and to West Lincoln Avenue at its furthest southern point. Prior to its formation, there were several smaller districts in the rural area that existed: Kerman, Floyd, Vinland, Empire, Sun-Empire Union, Dakota, and Sunset.

In 2018, the Kerman Unified School District is comprised of seven campuses: Goldenrod Elementary School, Kerman-Floyd Elementary School, Liberty Elementary School, Sun Empire Elementary School, Kerman Middle School, Kerman High School, and Alternative Education programs at Enterprise High School. While Sun Empire Elementary School is operated by the District, it is located several miles north of city limits. Goldenrod Elementary School is adjacent to the eastern edge of city limits. Figure 8-3 in the 2040 General Plan Background Report shows the schools that are in and adjacent to the Planning Area. Student enrollment figures are in Table 4.14-1 below.

Table 4.14-1 Planning Area School Enrollment and Capacity

School	Grades	2016-2017 Enrollment	Average Class Size
Goldenrod Elementary School	K-6	894	26
Kerman-Floyd Elementary School	K-6	723	27
Liberty Elementary School	K-6	645	27
Sun Empire Elementary School	K-6	594	26
Kerman Middle School	7-8	810	25
Kerman High School	9-12	1,416	25
Enterprise High School	9-12	49	N/A
Total		5,131	

Source: 2016-2017 School Accountability Report Card (for each school), Kerman Unified School District, 2018

Enrollment Trends

Between 2007 and 2012, enrollment grew quickly, with two years of more than a 4 percent increase in the student population. In recent years, however, this growth slowed to 1.13 percent in 2015 and 1.18 percent in 2016. Using annual average growth rates of 1.5 percent and 2.5 percent, Table 4.14-2 shows projected student enrollment out to 2040. At a growth rate of 1.5 percent per year, the combined enrollment for 2040 is 7,222 students. At a growth rate of 2.5 percent per year, enrollment for 2040 is 9,137 students.

Table 4.14-2 Kerman Unified School District Enrollment Projection, 2016-2040

Year	Enrollment at 1.5% Annual Growth	Enrollment at 2.5% Annual Growth
2016	5,052	5,052
2020	5,362	5,576
2025	5,776	6,309
2030	6,223	7,138
2035	6,704	8,076
2040	7,222	9,137

Source: City of Kerman 2019

d. Public Libraries

The Kerman Branch Library (15081 Kearney Plaza) is a branch of the Fresno County Public Library, and part of the San Joaquin Valley Library System. There are 34 branches in the Fresno County Library system that provide computer usage, book loans, computer skills programs, and wireless internet.

The July 2015 – June 2018 *Fresno County Public Library Strategic Plan* identifies goals for the library system: support educational and life-long learning opportunities; foster community connections; expand and integrate technology; improve organizational culture; and provide welcoming and safe environments (Fresno County 2015).

e. Parks and Recreational Facilities

As of 2018, Kerman has nine parks. Table 4.14-3 outlines the location, size, and features of the community and neighborhood parks. The western portion of the City has five parks that total 30.54 acres (i.e., Kerckhoff Park, Lions Park, Wooten Park, Soroptimist Park, and Katey's Kids Park), whereas the eastside of the City has three parks that total 8.02 acres (i.e., Kiwanis Park, B Street Park, and Rotary Park).

Table 4.14-3 Community Park Facilities in Kerman, 2018

Park	Address	Size(acre)	Features
Plaza Veterans Park	1000 S. Madera Avenue and West A Street	3.30	This was Kerman's first park and is now the focal point of downtown. Plaza Park is home to the Veteran's Circle of Honor, as well as numerous palm and oak trees. Other park amenities include: restrooms, park benches, walking paths, picnic tables, lighting, and a canopy structure.
B Street Park	B Street and Sixteenth Street	1.00	B Street Park features a large green area with grass, trees, and picnic benches.
Wooten Park	Wooten Drive and C Street	1.50	Wooten Park features a large grass area with a softball/baseball backstop, trees, picnic benches, picnic tables, and lighting. The park is also home to John Triantis playground, which includes slides, monkey-bars, spring-mounted animals, and a tire swing.
Kiwanis Park	S. Merlot Avenue and W. San Joaquin	2.12	Kiwanis Park features a large, fenced green area with softball/baseball backstop and picnic benches. The children's playground includes a toddler play area, and a composite playground with slides, monkey-bars, swings, and a twisty slide.
Katey's Kids Park	Gateway and Park Avenue	2.85	Kerman's newest neighborhood park is named in honor of Katey Sebastian. She devoted her life to the improvement of the lives of the children in her community through literacy, education, and community development. The park features a park/play environment.
Rotary Park	702 Vineland Avenue and D Street	4.90	The park's two softball/baseball fields are home to the Kerman Cal Ripken Baseball League. The softball/baseball fields are equipped with field lighting, spectator seating, park space, public restrooms, and a concession facility. The large green area can also be used for a football or soccer field. Rotary Park also features a large playground area, with swings, slides, a jungle gym, sand-pit, and a small rock-climbing wall.
Lions Park	744 Park Avenue and E Street	18.30	Lions Park is home to the Kerman Youth Soccer League. Each Saturday in the fall, Lions Park hosts over 600 youth soccer players, as well as fans and spectators. Lions Park also features two softball/baseball backstops, public restroom facilities, covered pavilion area with electricity, picnic tables, BBQ pit, three horseshoe pits, and paved parking. The Lions Park Picnic Pavilion seats 96 guests.
Kerckhoff Park	15061 West G Street	5.75	Kerckhoff Park hosts the Annual Kerman Harvest Festival. This multipurpose park also features a softball/baseball field with spectator bleachers and score board, public restrooms, picnic benches, bandstand and dance pavilion, picnic shelter and tables, and lighting. The park's large composite playground features a twisty slide, monkey-bars, jungle gyms, and slides. Kerckhoff Park's Scout Hut facility is available as a meeting site and private rental facility.
Soroptimist Park	484 South Siskiyou Avenue and Kearney Blvd.	2.14	Soroptimist Park is Kerman's first 100 percent handicap accessible playground. The innovative playground equipment allows a child in a wheelchair to ascend the playground ramp simultaneously with another child. The playground area features a poured-in-place rubber surfacing which allows for easy wheelchair access and serves as an additional safety feature. Additional park amenities include a small grass area, attractive landscaping, picnic benches, picnic tables, antique-style lighting, wrought iron fencing, and shelter structures.

Source: City of Kerman 2018

f. Regulatory Setting

Federal

Federal Fire Prevention and Control Act of 1974

The National Fire Incident Reporting System (NFIRS) is a system established by the National Fire Data Center of the United States Fire Administration (USFA) to carry out the intentions of the Federal Fire Prevention and Control Act of 1974. The Act authorizes the USFA to gather and analyze information on the magnitude of the Nation's fire problem, as well as its detailed characteristics and trends. The Act further authorizes the USFA to develop uniform data reporting methods, and to encourage and assist State agencies in developing and reporting data.

National Fire Protection Association, Standard 901

The National Fire Protection Association Standard 901 provides the latest guidelines to help fire departments and other fire protection organizations effectively share data with other agencies. This standard provides a common language and definitions that define and describe elements and classifications used by many fire departments in the United States and other countries to describe fire damage potential and experience during incidents.

Disaster Mitigation Act (2000-Present)

Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) requires a state mitigation plan as a condition of disaster assistance. There are two different levels of state disaster plans: "Standard" and "Enhanced." States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Act has also established new requirements for local mitigation plans

State

California Fire Plan

The Strategic California Fire Plan is the State's road map for reducing the risk of wildfire. The plan was updated in 2012, and directs each CAL FIRE Unit to prepare a locally specific Fire Management Plan. In compliance with the California Fire Plan, individual CAL FIRE units are required to develop Fire Management Plans for their areas of responsibility. These documents assess the fire situation within each of CAL FIRE's 21 units and six contract counties. The plans include stakeholder contributions and priorities, and identify strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work with the local fire problem. The plans are required to be updated annually.

California State Multi-Hazard Mitigation Plan (updated 2013)

The purpose of the State Multi-Hazard Mitigation Plan (SHMP) is to significantly reduce deaths, injuries, and other losses attributed to natural and human-caused hazards in California. The SHMP provides guidance for hazard mitigation activities emphasizing partnerships among local, state, and federal agencies as well as the private sector. The California Office of Emergency Services (OES) prepares the State of California Multi-Hazard Mitigation Plan (SHMP). The SHMP identifies hazard risks, and includes a vulnerability analysis and a hazard mitigation strategy. The SHMP is Federally required under the Disaster Mitigation Act of 2000 in order for the State to receive federal funding.

The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

Wildland-Urban Interface Building Standards

On September 20, 2007 the Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the California Code of Regulations, Title 24, Part 2, known as the 2007 California Building Code (CBC). These codes include provisions for ignition-resistant construction standards in the wildland urban interface.

California Fire and Building Code (2016)

The 2016 Fire and Building Code establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

Government Code 65302.5: General Plan Fire Safety Element Review

This statute requires the State Board of Forestry and Fire Protection to provide recommendations to a local jurisdiction's General Plan fire safety element at the time that the General Plan is amended. While not a direct and binding fire prevention requirement for individuals, General Plans that adopt the Board's recommendations will include goals and policies that provide for contemporary fire prevention standards for the jurisdiction.

California Commission on Peace Officer Standards and Training (POST)

The California Commission on Peace Officer Standards and Training (POST) advocates for, exchanges information with sets selection and training standards for, and works with law enforcement and other public and private entities. POST was established by the Legislature in 1959 to identify common needs that are shared by representatives of law enforcement.

Section 24000 of the California Government Code

Section 24000 mandates that the Office of Sheriff be established in each county in California. The Government Code describes the duties of the Office of Sheriff-Coroner, which include acting as bailiff in the Superior Court, maintaining a jail, and preserving the peace.

California Code of Regulations

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the state.

California State Assembly Bill (AB) 2926 —School Facilities Act of 1986. In 1986, AB 2926, entitled the School Facilities Act of 1986, was enacted by the state of California and added to the California Government Code (Section 65995). It authorizes school districts to collect development fees, based on demonstrated need, and generate revenue for school districts for capital acquisitions and improvements. It also established that the maximum fees (adjustable for inflation) which may be

collected under this and any other school fee authorization are \$1.50 per square foot (\$1.50/sf) of residential development and \$0.25/sf of commercial and industrial space.

AB 2926 was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 et seq. of the Government Code. Under this statute, payment of statutory fees by developers serve as total mitigation under CEQA to satisfy the impact of development on school facilities. However, subsequent legislative actions have alternatively expanded and contracted the limits placed on school fees by AB 2926.

California Senate Bill (SB) 50

As part of the further refinement of the legislation enacted under AB 2926, the passage of SB 50 in 1998 defined the Needs Analysis process in Government Code Sections 65995.5–65998. Under the provisions of SB 50, school districts may collect fees to offset the costs associated with increasing school capacity as a result of development. The fees (referred to as Level One fees) are assessed based upon the proposed square footage of residential, commercial/industrial, and/or parking structure uses. Level Two fees require the developer to provide one-half of the costs of accommodating students in new schools, while the state would provide the other half. Level Three fees require the developer to pay the full cost of accommodating the students in new schools and would be implemented at the time the funds available from Proposition 1A (approved by the voters in 1998) are expended. School districts must demonstrate to the state their long-term facilities needs and costs based on long-term population growth in order to qualify for this source of funding. However, voter approval of Proposition 55 on March 2, 2004, precludes the imposition of the Level Three fees for the foreseeable future. Therefore, once qualified, districts may impose only Level Two fees, as calculated according to SB 50.

State Public Park Preservation Act (California Public Resource Code Section 5400 – 5409)

The State Public Park Preservation Act is the primary instrument for protecting and preserving parkland in California. Under the Act, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This ensures a no net loss of parkland and facilities.

Quimby Act (California Government Code Section 66477)

The Quimby Act allows cities and counties to adopt park dedication standards/ordinances requiring developers to set aside land, donate conservation easements, or pay fees towards parkland when property is subdivided.

4.14.2 Impact Analysis

a. Methodology and Significance Thresholds

Public Services

According to Appendix G of the adopted *CEQA Guidelines*, impacts related to public services from implementation of the 2040 General Plan would be significant if it would:

1. Result in substantial adverse physical impacts associated with the need for or provision of new or physically altered government facilities, the construction of which could cause

significant environmental impacts, in order to maintain acceptable service ratios, response times, or other objectives for:

- a) Fire protection
- b) Police protection
- c) Schools
- d) Parks
- e) Other public facilities

In terms of Threshold 1e regarding impacts on “other public facilities,” such facilities include libraries and other public utility infrastructure. Impacts related to libraries are discussed in this section under Impact PS-5.

Recreation

According to Appendix G of the adopted *CEQA Guidelines*, impacts related to recreational facilities from implementation of the 2040 General Plan would be significant if it would:

1. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
2. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impacts related to public stormwater facilities are addressed in Section 4.10, *Hydrology and Water Quality*, and impacts related to public wastewater, water, and solid waste facilities are discussed in Section 4.17, *Utilities and Service Systems*.

b. Impacts and Mitigation Measures

Threshold PS-1a: Would the General Plan result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives?

Impact PS-1 GROWTH FACILITATED BY THE 2040 GENERAL PLAN WOULD INCREMENTALLY INCREASE THE DEMAND FOR FIRE PROTECTION SERVICES AND FACILITIES. ADHERENCE TO 2040 GENERAL PLAN GOALS AND POLICIES WOULD ENSURE THAT ADEQUATE SERVICES AND FACILITIES ARE PROVIDED AND MAINTAINED AND THAT IMPACTS RELATED TO THE PROVISION OF NEW OR PHYSICALLY ALTERED FIRE PROTECTION FACILITIES WOULD BE LESS THAN SIGNIFICANT.

The 2040 General Plan would facilitate development that would increase the demand for fire protection services such that both additional staff and new facilities would likely be needed in order to accommodate growth in the Planning Area. The Fire District is able to increase staff correspondingly through associated development impact fees earmarked for fire/emergency services. The need for additional fire/emergency facilities in the future is addressed in the Public Safety and Public Facilities and Services Elements of the 2040 General Plan through the inclusion of goals and policies which would ensure adequate firefighting staff, infrastructure, and fire protection related utilities (such as water supply). These goals and policies include:

Public Health and Safety Element

Goal PH-2: To minimize the risks to life and properties from fire hazards.

- **Policy PH-2.1: Adequate Staffing and Equipment.** The City shall coordinate with the North Central Fire District through the site plan review process and the State's environmental review process to ensure that future development does not outpace the expansion of the Central County Fire Department staffing, and the development of strategically located and fully equipped fire stations.
- **Policy PH-2.2: Adequate Water Supply for Fire Suppression.** The City shall require new projects to have adequate water supplies to meet the fire-suppression needs of the project without compromising existing fire suppression services to existing uses.
- **Policy PH-2.3: North Central Fire District Capital Improvement Plan.** The City shall encourage North Central Fire District to establish a 20-year Capital Improvement Plan that includes increased service capacity in Kerman, including a fire ladder truck and fire station.
- **Policy PH-2.4: Fire Prevention Education.** The City shall continue to coordinate with North Central Fire District in providing education on fire prevention training to City staff, residents, and business owners.
- **Policy PH-3.1: Continuity of Essential Operations.** The City shall continue to work with the Police Department, North Central Fire District, and among City Staff to regularly train and establish clear procedures to provide continuity of essential City operations and critical facilities in the event of a disaster.

Public Facilities and Services Element

- **Policy PFS-1.1: Equitable Provision of Public Facilities and Services.** The City shall strive to ensure that adequate public facilities and services essential for public health and safety are equitably provided in locations convenient to all residents.
- **Policy PFS-1.7: Location of Public Facilities.** The City shall locate new public facilities and expansions of existing public facilities, particularly City Hall, in the historic Kerman townsite, when feasible.

Goal PH-2 and Policies PH-2.1 and PH-2.3 call for ensuring that fire-fighting and support infrastructure, equipment, and personnel are adequately provided and that a high level of fire and emergency medical services are available to support Kerman's existing and future needs. Policy PH-2.2 prioritize the provision of sufficient water service for firefighting. As mentioned in Policy PH-2.3, development of a new fire station could occur when and where they are needed to achieve this response measure. It is not known at this time precisely when such facilities would be required or what the exact nature of these facilities would be. Therefore, identification of impacts related to implementation of the station would be speculative. Project-specific environmental impacts would be assessed when future facilities are proposed and the potential impacts would be identified during the fire facility planning process. Policies PFS-1.1 and PFS-1.7 would assess current facilities to ensure that fire services are adequate to respond to the City's needs. Adherence to the goals and policies of the GPU would ensure that impacts associated with the provision of new or physically altered fire facilities would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold PS-1b: Would the General Plan result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives?

Impact PS-2 **GROWTH FACILITATED BY THE 2040 GENERAL PLAN WOULD INCREMENTALLY INCREASE THE DEMAND FOR POLICE SERVICES AND FACILITIES. ADHERENCE TO 2040 GENERAL PLAN GOALS AND POLICIES WOULD ENSURE THAT ADEQUATE SERVICES AND FACILITIES ARE PROVIDED AND MAINTAINED AND THAT IMPACTS RELATED TO THE PROVISION OF NEW OR PHYSICALLY ALTERED POLICE FACILITIES WOULD BE LESS THAN SIGNIFICANT.**

The 2040 General Plan would facilitate growth, which would increase the demand for police protection services such that both additional staff and new police facilities may be needed in order to accommodate growth in the Planning Area. Staffing needs would be addressed as service demand increases. The Kerman Police Department, using a collection of development impact fees earmarked for police services, is able to use these funds for police department buildings, equipment and training facilities. The need for additional police services in the future is addressed in the Safety Element through the inclusion of goals and policies, which seek to ensure acceptable response times and police staffing levels. These goals and policies include:

Public Health and Safety Element

Goal PH-1: To provide timely, adequate, and fair law enforcement services to ensure a safe community.

- **Policy PH-1.1: Police Officer Ratio.** The City shall strive to achieve a ratio of one officer per 700 citizens to ensure adequate staffing to provide law enforcement services.
- **Policy PH-1.2: Police Department Response Times.** The City shall continue to support the Police Department in maintaining prompt response times.
- **Policy PH-1.3: Community Crime Prevention and Public Safety.** The City shall actively involve the community in crime prevention and public safety awareness by educating and involving the public in all the tenets of community-oriented public safety.
- **Policy PH-1.4: Video Policing Plan for New Projects.** The City shall require large residential developments (50 or more units) and large commercial developments (more than 50,000 square feet) to include a video policing plan.
- **Policy PH-3.1: Continuity of Essential Operations.** The City shall continue to work with the Police Department, North Central Fire District, and among City Staff to regularly train and establish clear procedures to provide continuity of essential City operations and critical facilities in the event of a disaster.

No new police facilities are proposed in conjunction with the 2040 General Plan. However, growth accommodated by the 2040 General Plan may require new staff and the construction of new facilities. It is not known at this time precisely when or where such facilities would be required or what the exact nature of these facilities would be. Therefore, identification of impacts related to

implementation of such facilities would be speculative. Project-specific environmental impacts would be assessed when future facilities are proposed and the potential impacts would be identified during the fire facility planning process. Adherence to 2040 General Plan goals and policies, as stated above, would reduce impacts associated with the provisions for additional police services.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold PS-1c: Would the General Plan result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Impact PS-3 GROWTH FACILITATED BY THE 2040 GENERAL PLAN WOULD INCREMENTALLY INCREASE THE DEMAND FOR SCHOOL FACILITIES. ADHERENCE TO 2040 GENERAL PLAN POLICIES AND MUNICIPAL CODE WOULD ENSURE THAT ADEQUATE FACILITIES ARE PROVIDED AND MAINTAINED AND THAT IMPACTS RELATED TO THE PROVISION OF NEW OR PHYSICALLY ALTERED SCHOOL FACILITIES WOULD BE LESS THAN SIGNIFICANT.

School districts were created by the state and are subject to the overview of the state legislature. Elected bodies (school boards) are responsible for budgeting and decision-making. Construction of new schools is under the purview of the state Department of Education, which establishes school site and construction standards. School construction is funded through a combination of local school bonds, state school bonds, and developer fees. The amount of the share that comes from developers is limited under state law. Specifically, Section 65995(3)(h) of the California Government Code (SB 50) states that:

“...the payment of statutory fees is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use or development of real property.”

Thus, SB 50 provides that a state or local agency may not deny or refuse to approve the planning or development of real property on the basis of a developer’s refusal to pay mitigation that exceeds the requirements of SB 50.

There are a variety of additional funding sources for school districts, including a portion of local property taxes as well as state funds. In 1986, state Assembly Bill 2926 (AB 2926) was enacted and authorizes school districts to levy an impact fee on developers. These fees may be used to construct new facilities and are updated periodically. Growth accommodated by the 2040 General Plan would generate revenue for the library pursuant to the City’s School Facilities Dedication and Fee Ordinance. Under the Ordinance, the City provides a method for financing interim school facilities necessitated by new residential developments causing conditions of overcrowding. Required adherence to this Ordinance would ensure that new development projects, as proposed and approved, would not overcrowd the existing school system and that adequate school facilities are funded to meet growing demand.

The anticipated growth in the City, as discussed and shown in Table 4.14-2, shows a need for new or expanded facilities. In 2016, Bond Measure K was approved by voters for the issuing of \$27,000,000 in bonds for school repairs and new classrooms. The District has added classrooms at Liberty Elementary, Kerman Middle, and Kerman High School to relieve overcrowding. Additionally, in 2017, the District opened a fourth elementary school, Goldenrod Elementary. While these measures have reduced class sizes and overcrowding in the city's schools, enrollment projections anticipate an increase of 2,000 to 4,000 students by 2040. Despite the addition of both a new elementary school and new classrooms at existing facilities, the District will need to increase capacity during the lifetime of the 2040 General Plan.

The Kerman Unified School District District-Wide Facilities Master Plan adopted in 2015 discusses future plans for school transformation projects to accommodate the growing student population and to provide an enhanced learning environment (KUSD 2015). The District identifies a "future" site set aside for a new education center, that would contain a new high school. The development of a new high school would also trigger the possibility of moving the middle school to the old high school site and creating an elementary school at the current middle school site. The Master Plan projects that the development of the new educational center would commence during Phase IV, which is beyond the year 2021.

The Public Facilities and Services Element of the 2040 General Plan includes policies to ensure adequate schools and facilities can accommodate the City's existing and future population. These policies include:

Public Facilities and Services Element

- **Policy PFS-1.1: Equitable Provision of Public Facilities and Services.** The City shall strive to ensure that adequate public facilities and services essential for public health and safety are equitably provided in locations convenient to all residents.
- **Policy PFS-1.5: Educational Facilities and Programs.** The City shall continue supporting the provision of excellent schools and high-quality educational and vocational training facilities and programs to ensure residents have fair and equal access to social and educational opportunities.
- **Policy PFS-1.7: Location of Public Facilities.** The City shall locate new public facilities and expansions of existing public facilities, particularly City Hall, in the historic Kerman townsite, when feasible.

Policy PFS-1.2 requires supporting local schools to provide the adequate development of educational facilities. The Kerman Unified School District will also continue to collect school impact fees from developers, and pursuant to SB 50 and AB 2926, these fees are considered to fully mitigate school capacity-related impacts. No new school facilities are proposed in conjunction with the 2040 General Plan. Associated potential impacts regarding the construction of new school facilities would be identified during the facility planning process and include mitigation measures where necessary for each project. The City does not have the authority to plan, design, approve, or construct school facilities as these tasks are the responsibility of individual school districts (under the purview of the state Department of Education), which serve as their own lead agency under CEQA. Thus, future proposals for new school facilities in the Planning Area would be subject to case-by-case review by the Kerman Unified School District, and compliance with federal, state, and local building codes and regulations would minimize potential environmental impacts.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold PS-1d:	Would the General Plan result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other performance objectives?
Threshold REC-1:	Would the General Plan increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
Threshold REC-2:	Does the General Plan include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Impact PS-4 **GROWTH FACILITATED BY THE 2040 GENERAL PLAN WOULD INCREMENTALLY INCREASE THE DEMAND FOR FUTURE PARKS AND RECREATIONAL FACILITIES. ADHERENCE TO 2040 GENERAL PLAN POLICIES, IMPLEMENTATION PROGRAMS, AND MUNICIPAL CODE WOULD ENSURE THAT ADEQUATE FACILITIES ARE PROVIDED AND MAINTAINED AND THAT IMPACTS RELATED TO THE PROVISION OF NEW OR PHYSICALLY ALTERED PARKS AND RECREATION FACILITIES WOULD BE LESS THAN SIGNIFICANT.**

As shown in Table 4.14-4, Kerman has a total of 41.86 acres of developed parkland in 2018. Based on the 2017 estimated population of 14,614 persons, Kerman has approximately 2.86 acres of parkland per 1,000 residents. In 2040, Kerman is projected to have a population of 20,470. To meet the park standard of three acres per 1,000 acres in 2040, the City needs an additional 19.55 acres of parkland.

Table 4.14-4 Existing and Future Park to Residents Ratios

Year	Population	Existing Acres (2017)	Existing Acres per 1,000 Residents	Total Acres Needed to Achieve Standard	Additional Acres Needed
2017	14,614	41.86	2.86	43.84	1.98
2040 (projected)	20,470	41.86	2.04	61.41	19.55

Note: Based on a park standard of 4 ac per 1,000 residents.

Source: City of Kerman 2018; CA Department of Finance, 2017; Fresno County 2050 Growth Projections, 2017.

Growth accommodated by the 2040 General Plan would result in an increase in demand for neighborhood and regional parks and other recreational facilities in the Planning Area. The 2040 General Plan has several goals and policies designed to ensure that the City maintains existing parks and park facilities as well as provides and seeks funding for additional park land to serve future population growth. These goals and policies are provided below:

Public Facilities and Services Element

Goal PFS-1: To provide quality public facilities and services that enhance social opportunities and quality of life.

- **Policy PFS-3.1: Development Impact Fees.** During the development review process, the City shall require new development to pay its fair share of community improvements proportional to its additional need through impact fees, assessment districts, and other mechanisms.

Conservation, Open Space, Parks and Recreation Element

- **Policy COS-1.1: Access to Open Space.** The City shall strive to improve and provide community access to open space, while environmentally responsible and economically viable.
- **Policy COS-2.1: Parkland Standard.** The City shall continue to acquire and develop adequate park sites to serve future City growth at a standard of 4 acres of combined park and open space land per 1,000 residents.
- **Policy COS-2.2: Parkland Dedication.** The City shall continue to require developers to dedicate parkland or pay in-lieu fees.
- **Policy COS-2.3: Future Park Locations.** The City shall ensure that future park locations are accessible to all residents and consider connectivity and visibility from major roadways.
- **Policy COS-2.4: Future Eastside and Westside Community Parks.** The City shall continue to work towards developing the planned regional parks and recreation facilities, including the Eastside and Westside Community Parks.
- **Policy COS-2.5: Amenities at Parks and Recreational Facilities.** The City shall provide a variety of types of park sites and recreational facilities with an array of amenities to fulfill the city's diverse needs. Amenities shall include adequate lighting, restroom facilities, water fountains, and continuous trails connecting the sites.
- **Policy COS-2.6: Park Sustainable Infrastructure and Design.** The City shall use, to the maximum extent feasible, sustainable infrastructure such as Purple Pipe (secondary water supply) and recycled materials when developing new parks or updating existing parks.
- **Policy COS-2.7: Joint Use of School Parks and Recreational Facilities.** The City shall coordinate with the Kerman Unified School District in the joint use and maintenance of school parks and recreational facilities, as well as pursue partnerships with other agencies, community groups, and organizations.
- **Policy COS-2.8: Volunteerism in Park Maintenance.** The City shall continue engaging volunteers in park development and maintenance.
- **Policy COS-2.9: Parks and Open Space Funding.** The City shall continue to pursue a combination of public and private funds, regulatory processes, and innovative strategies to fund parkland development and maintenance.
- **Policy COS-2.10: Grant Funding.** The City shall continue to apply for Federal, State, and regional grants to implement parkland.
- **Policy COS-2.11: Land and Monetary Donations for Parks.** The City shall continue to seek land and monetary donations towards park facilities. The City may announce and recognize these efforts in recreation schedules, publications, plaques, or notices.
- **Policy COS-2.12: Private Recreational Facilities.** The City shall encourage the development of private recreational facilities to increase the availability of local recreational amenities such as racquetball, mini-golf, softball, and rock climbing.

As mentioned above, in 2040, Kerman is projected to have a population of 20,470. To meet the park standard in 2040, the City needs an additional 19.55 acres of parkland. The City would need to work toward identifying future planned parks in conjunction with future development in the Planning Area. The Conservation, Open Space, and Parks and Recreation Element of the 2040 provides several implementation programs (B, C, D, and E) which define specific City programs to help guide the City towards providing further parks and recreation opportunities. Program B includes the development of a facilities use agreement between the Kerman Unified School District and Fresno County Parks Department for sharing parks and recreation facilities. Program C includes continuation of the “Adopt-A-Park” program which helps facilitate private citizens/organizations towards developing open space, parks, and recreation facilities. Program C includes the development of a Park Financing Feasibility Study which would be a study on financing park and recreation facilities by the sale of tax-allocation bonds. Lastly, Program E includes a requirement that the City annually review its fee programs to ensure that they are sufficient to finance future park needs.

While there is currently a park deficit with respect to meeting the 4.0 acres per 1,000 population standard, compliance with the goals, policies, and Implementation Programs set forth in the 2040 General Plan would improve park and recreation facilities to meet the demands associated with growth accommodated under the 2040 General Plan. In addition, as stated in the 2040 General Plan, the City is currently planning four additional parks, the Eastside Community Park (35 acres), Northwest Park (2.56 acres), Westside Community Park (35 acres), and Stanislaus Park (1.86 acres). This would add an additional 74.42 acres of parkland and with these planned improvements, forecast growth would not result in substantial physical deterioration of the park and recreational facilities. The purpose of these new parks and recreational facilities would be to maintain an adequate parks-to-resident ratio to ensure that all residents and neighborhoods are adequately served with open space and recreational opportunities. The building of each park would require its own separate CEQA analysis to assess the physical impacts from development of each park and mitigate any identified significant impact. In addition, all new development must adhere to 2040 General Plan goals and policies designed to mitigate the physical impacts of projects and, in regards to park lands, be required to provide parkland or in-lieu fees, as required by the Municipal Code (Chapter 16.44) to maintain the standard of 4.0 acres of parkland per 1,000 population. Impacts associated the provision of new or physically altered recreational facilities would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold PS-1e: Would the General Plan result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities (libraries), or the need for other new or physically altered public facilities (libraries), the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Impact PS-5 **GROWTH FACILITATED BY THE 2040 GENERAL PLAN WOULD INCREMENTALLY INCREASE THE DEMAND FOR FUTURE LIBRARY SERVICES. ADHERENCE TO 2040 GENERAL PLAN POLICIES WOULD ENSURE THAT ADEQUATE FACILITIES ARE PROVIDED AND MAINTAINED AND THAT IMPACTS RELATED TO THE PROVISION OF NEW OR PHYSICALLY ALTERED LIBRARY FACILITIES WOULD BE LESS THAN SIGNIFICANT.**

Growth forecasts under the 2040 General Plan would increase the demand for library services in the Planning Area. The Fresno County Public Library provides library services in the City. The County is the responsible agency for the planning of new library facilities and anticipating demand to meet existing and future population needs. However, the potential impacts would be identified during the facility planning process, and the County would have the authority and responsibility to plan, design, approve, or construct library facilities. Although the County is responsible for new library facilities in the region, the 2040 General Plan Public Facilities and Services Element provides policies intended to ensure the development of necessary public facilities and services for the City, which can aid the County in the planning of future local libraries. These policies are listed below:

Public Facilities and Services Element

- **Policy PFS-1.1: Equitable Provision of Public Facilities and Services.** The City shall strive to ensure that adequate public facilities and services essential for public health and safety are equitably provided in locations convenient to all residents.
- **Policy PFS-3.1: Development Impact Fees.** During the development review process, the City shall require new development to pay its fair share of community improvements proportional to its additional need through impact fees, assessment districts, and other mechanisms.
- **Policy PFS-3.2: Maximize Funding Resources.** The City shall maximize the use of Federal, State, regional, local, and private funding resources, including leveraging grants to secure additional funding, to address infrastructure and service needs.

Through Policies PF-1.1 and PF-3.2, as listed below, the City would strive for and seek out funding to ensure that adequate facilities are available for existing and future residents. Through Policy-3.1, the City would require future development projects that have the potential to generate new students to pay fair share of development impact fees, which would include fees allocated for future library facilities. Future library facilities in the Planning Area would be subject to review by the County, and adherence to federal, state, and local building codes and regulations would minimize impacts from any future construction of such facilities. Therefore, impacts associated with the provision of new or physically altered library facilities would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Cumulative development in Fresno County surrounding Kerman in combination with development proposed under General Plan 2040 may contribute to the need for additional public services including police, fire, school, library services, and parks and recreation facilities. Implementation of General Plan 2040 would increase density and intensity of existing land uses, which could regionally impact public services. However, goals and policies contained within General Plan 2040 would ensure adequate levels of public service under future development. Additionally, growth anticipated under General Plan 2040 would be within FCOG projections. Therefore, General Plan 2040 would have incremental contribution to cumulative impacts associated with public services and would not be cumulatively considerable. Cumulative impacts would be less than significant.

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4.15 Transportation and Traffic

This section evaluates the potential impacts on the local and regional circulation system that would result from implementation of the 2040 General Plan. This includes an analysis of the potential for the proposed General Plan to increase local and regional traffic vehicle miles travelled (VMT), increase in hazards due to a design feature, interfere with emergency access, or conflict with applicable alternative transportation programs.

4.15.1 Setting

Fresno County's circulation system consists of a roadway network that is primarily rural in character, with the exception of urbanized areas surrounding the cities, such as Fresno and Clovis, and various smaller communities, such as Kerman. The most important interregional roadways within the county are the State highways, particularly State Route (SR) 99, Interstate 5 (I-5), and SR 41, which traverse the county from north to south. Specific to Kerman are SR 180 that connects Kerman with Fresno to the east and I-5 to the west, and SR 145 that runs north-south through the center of Kerman on Madera Avenue connecting Kerman with the City of Madera.

I-5 is the primary north-south route for interregional and interstate business, freight, tourist, and recreational travel, linking southern California to northern California and the Pacific Northwest. SR 99 performs a similar function on a regional level, connecting most of the cities in the San Joaquin Valley to northern and southern California. In addition to SR 145 that runs through Kerman, SR 41, east of Kerman, links Fresno County to Yosemite National Park and the Sierra communities to the north and to Kings County and the central coast to the south. In addition to the routes mentioned, Fresno County is also served by SR 33, SR 43, SR 63, SR 168, SR 198, and SR 269.

a. Kerman Roadway Network

Kerman's roadway network is suburban in nature and is surrounded by rural roads leading into the City. It is based on a grid pattern that was established in the early 1900s when the original townsite was formed. Kerman's roadway classifications are described in detail below.

Functional Classification

Expressways

Expressways are typically high-speed (55 miles per hour, mph), four-lane, divided highways with a high degree of access control. They are designed to connect cities and communities with each other, the freeway system, and other expressways. Access is provided by at-grade intersections, which are typically spaced no closer than one-half mile from each other. Most expressway facilities in the Fresno County, such as SR 145, are located in rural or transitional areas. Many of the roadways that are designated on the County's Circulation Diagram as expressways are currently two-lane roadways that do not yet meet expressway design and access control standards. Restructuring of pre-existing access usually would not occur until these roadways are improved to multi-lane expressway standards.

Two expressways run through Kerman. SR 145 (Madera Avenue) connects Kerman with Madera and SR 99 to the north, and I-5 to the south. Between Whitesbridge Avenue and Church Street, SR 145 has four travel lanes, two parking lanes, and a 15-foot median with left-turn pockets. It narrows to two lanes just north of Whitesbridge Avenue and south of Church Avenue. The right-of-way (ROW)

width along SR 145 ranges from 60 to 100 feet. A roundabout intersection was installed and is now operating at SR 145 and Jensen Avenue.

SR 180 (Whitesbridge Avenue) connects Kerman with Fresno and SR 99 to the east, and Mendota and SR 33 to the west. Between North Modoc Avenue and North Del Norte Avenue, SR 180 has two travel lanes with an additional turn lane at intersections. Between North Del Norte Avenue and North Madera Avenue, SR 180 has three travel lanes with an additional turn lane at intersections. Between North Madera Avenue and North Goldenrod Avenue, SR 180 has four travel lanes with one or two additional turn lanes at intersections. The ROW width along SR 180, as it passes through Kerman, ranges from 30 to 80 feet.

Arterials

The purpose of the arterial street network is to provide connections between major traffic generators to the freeway, expressway, and arterial system. Arterials are classified as either urban or rural. Urban arterials are typically four-lane, divided roadways with moderate to high access control. Rural arterials are typically two-lane roadways or four-lane divided roadways with low to moderate access control. Expressways have the same geometric design standards as arterials; the only differences are related to stricter access limitations on expressways (Kerman 2007).

Kerman has the following three east-west and four north/south arterials:

- Church Avenue from Del Norte Avenue to Vineland Avenue
- California Avenue from Siskiyou Avenue to Goldenrod Avenue
- Kearney Avenue from Siskiyou Avenue to Goldenrod Avenue

Kerman has the following four north-south arterials:

- Siskiyou Avenue from California Avenue to Whitesbridge Avenue
- Del Norte Avenue from Church Avenue to Whitesbridge Avenue
- Vineland Avenue from Church Avenue to Whitesbridge Avenue
- Goldenrod Avenue from Church Avenue to Whitesbridge Avenue

These arterials range from two travel lanes and two parking lanes to two travel lanes, two parking lanes, and a 12- to 16-foot median with left-turn pockets, 6- to 8-foot parkways, and 4- to 5-foot sidewalks. These arterials have ROW widths that range from 60 to 80 feet (Kerman 2007).

Collectors

The purpose of the collector street system is to link the local road network to the arterial street system. Urban collectors are two- or four-lane undivided roadways with little access control and low to moderate speeds (35-45 mph). Rural collectors are generally two-lane roadways with little access control (Kerman, 2007).

Kerman has the following three east-west and three north-south collectors:

- C Street from 1st Street to 9th Street
- E Street from Siskiyou Avenue to 8th Street
- Stanislaus Street from 1st Street to Vineland Avenue

Kerman has the following three north-south collectors:

- Park Avenue from Kearney Boulevard to California Avenue
- 1st Street from Whitesbridge Avenue to California Avenue
- 8th Street from Kearney Boulevard to California Avenue

These collectors range from two travel lanes and two parking lanes to two travel lanes, two parking lanes, a 12- to 15-foot center turning median, 6-foot parkways, and 4- to 5-foot sidewalks. These collectors have ROW widths that range from 60 to 80 feet (Kerman 2007).

Local Roads

Local roads provide direct connections between abutting properties and the collector street system. These facilities are typically two-lane undivided roadways with little or no access control.

Local roadways provide direct access to Kerman's residential neighborhoods and serve direct neighborhood traffic to adjacent minor or major collectors. These roadways have two travel lanes, two parking lanes, 6-foot parkways and 4- to 5-foot sidewalks. Their ROW widths range in width from 56 feet for cul-de-sacs to 60 feet for through streets (Kerman 2007).

Alleys

Alleys provide rear access to residential dwellings and serve as a route by which solid waste is collected and an area where utilities are installed.

Kerman has an extensive alley system that provides rear access to residential dwellings and commercial buildings fronting onto Madera Avenue. These alleys are paved and have ROW widths of 20 feet (Kerman 2007).

Figure 4.15-1 shows the existing Circulation Plan (types of streets) in Kerman.

b. Alternative Transportation/Public Transit

Two public transit systems are available to Kerman residents. The Fresno County Rural Transit Agency (FCRTA) provides demand-responsive service within the city of Kerman and the city's sphere of influence Monday through Friday, 7:00 a.m. to 4:00 p.m. It uses a 22-passenger lift-equipped FCRTA van. FCRTA ridership is heavily transit-dependent, with most riders (58.9 percent) using the system five days a week.

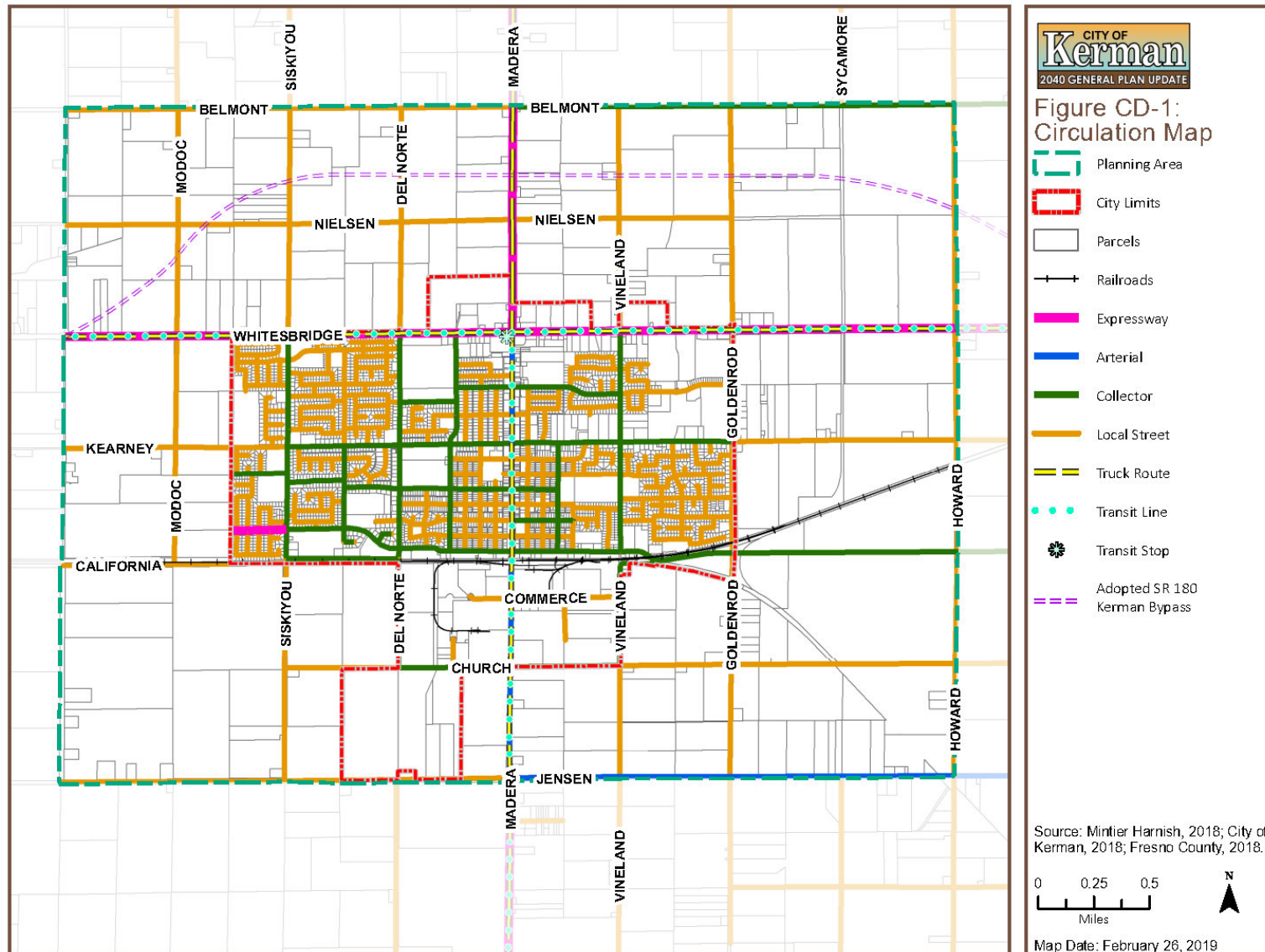
The Fresno County Economic Opportunities Commission (EOC) provides inter-city transportation through the Westside Transit service. It provides fixed-route service twice daily, Monday through Friday, 7:00 a.m. to 5:30 p.m. via Firebaugh, Mendota, and Fresno, with connections to San Joaquin Transit for service to Cantua Creek, El Porvenir, Halfway, Tranquility, and Three Rocks.

Rail Transportation

Amtrak provides intercity rail service to Fresno County via a station located in downtown Fresno. The San Joaquin provides north-south service between Oakland and Sacramento to Bakersfield with several stops in both directions.

Kerman is also served by a branch line of the Union Pacific Railroad for goods deliveries. Spur lines serve Kerman's industrial park.

Figure 4.15-1 Circulation Map



Rideshare and Taxi Services

Kerman residents have multiple rideshare and taxi service options. Senior Taxi Scrip is a taxi service provided by EOC for senior citizens. EOC provides Americans with Disabilities Act (ADA) accessible vans, drivers, and future ride-scheduling options

Since the last General Plan update, on-demand rideshare services, such as Uber and Lyft, are now available to Kerman residents. These rideshare programs are privately operated and provide on-demand rideshare service within Kerman and throughout Fresno County with the use of a smart phone application.

Active Transportation Facilities

The City of Kerman promotes the use of non-vehicular modes of transportation. Figure 4.15-2 shows the current Active Transportation Facilities within Kerman. The 2007 Circulation Element includes the following policies related to alternative modes of transportation, including bicycling and walking:

- The City shall promote all modes of transportation, including mass transit (e.g., buses), bicycle, and walking.

The City shall prepare a bike path design plan which lays out a communitywide bicycle lane network. New subdivisions shall provide for the network.

Bicycle Facilities

Bicycle facilities in Kerman generally fall into three distinct categories. Class I facilities are separate from motor vehicle traffic also known as multiple purpose paths/trails, typically follow existing greenways. Class I bikeways serve bicyclists, pedestrians, and joggers. Class II bicycle lanes are striped lanes within the street ROW. These lanes are one-way bikeways, usually paired on opposite sides of the street to facilitate two-way travel. Class III bikeways, or bicycle routes, are established along the street to provide continuity to the bikeway system but are only identified by bike route signs along the roadway (County of Fresno 2013). Kerman currently contains 0.6 miles of Class I bike paths, 12.1 miles of Class II bike lanes, and 4.9 miles of Class III bike routes.

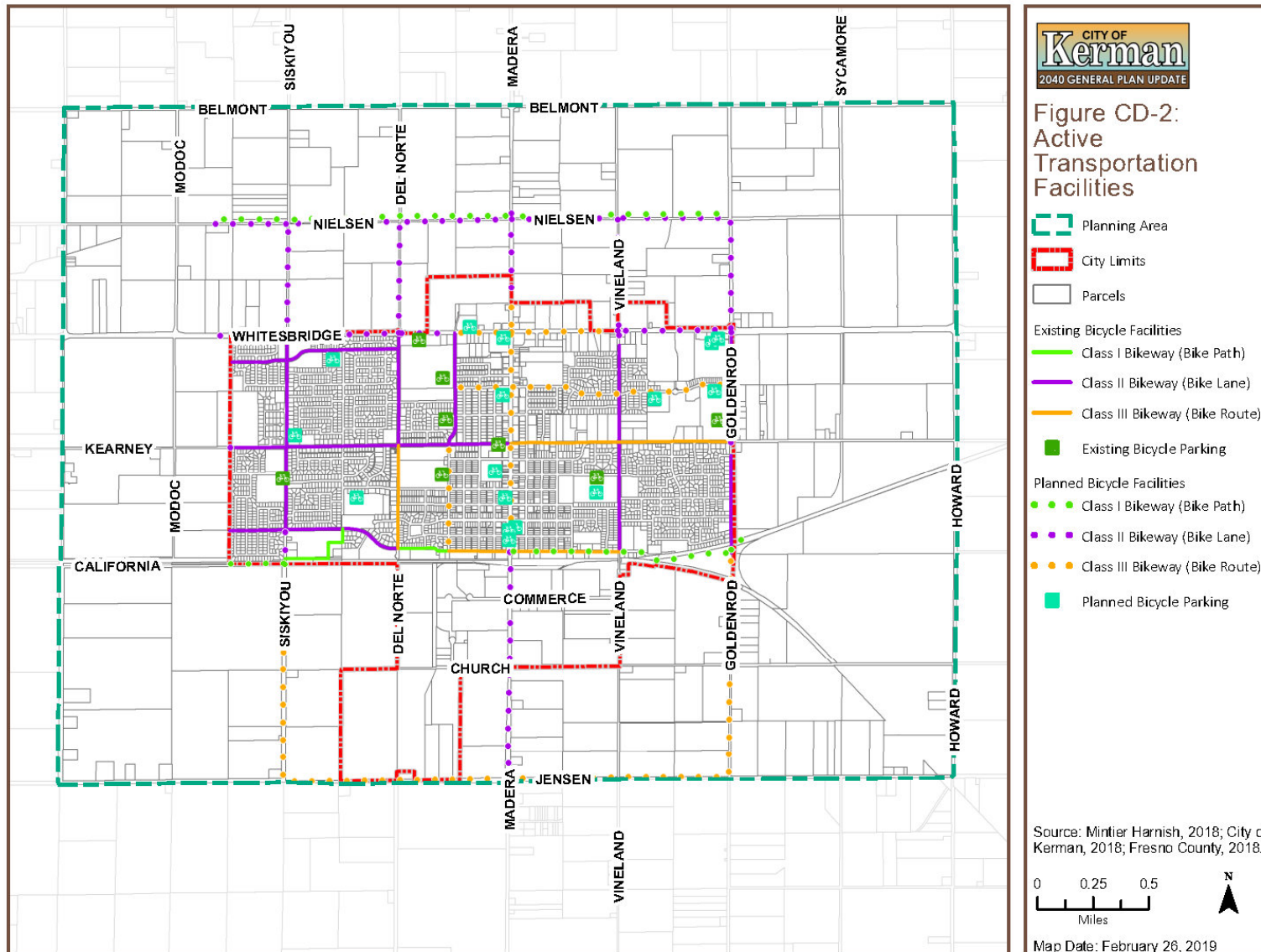
Kerman has been planning on upgrading bicycle facilities throughout the City prior to deciding to update their General Plan. Improvements to bicycle facilities include the addition of 8.6 miles of Class I bike paths, 28.5 miles of Class II bike lanes, and 17.0 miles of Class II bike routes (FCOG 2018). Most Class I bike path improvements are proposed along California Avenue. Improvements consist of the construction of 10-foot wide sidewalks or 10-foot wide meandering trails that will connect to existing sidewalks and bike lanes. Rest areas, complete with park benches, lighting, and trash receptacles, are proposed along the route (Kerman 2015).

Pedestrian Facilities

There are 81.3 miles of sidewalk facilities in Kerman. Sidewalks are located along one or both sides of roadways, and most of the City has sidewalks. Key destinations for pedestrians include local schools and parks, the Kerman Branch Library and Community Center, as well as restaurants along SR 145 and SR 180 (FCOG 2018).

Kerman has been planning on upgrading pedestrian facilities throughout the City prior to deciding to update their General Plan, including improvements to pedestrian facilities such as intersection

Figure 4.15-2 Active Transportation Facilities



improvements and pedestrian crossings at key points, and the extension of sidewalks in areas where there are gaps in sidewalk coverage (FCOG 2018).

c. Goods Movement

Goods movement is the shipping of raw materials and finished goods. The truck networks in Fresno County consist mainly of State highways. SR 145 and SR 180, which run through Kerman, serving as Terminal Access routes in California's truck network. Most large trucks are allowed on these roadways, including single and double trailer vehicles, 48 to 57 feet in length (Fresno County 2017).

Throughout the state, including Fresno County, freight movement over state highways has grown faster than capacity. High truck volumes of 20-24 percent are seen throughout Fresno County, including SR 145, just north of Kerman.

d. Vehicle Miles Travelled (VMT)

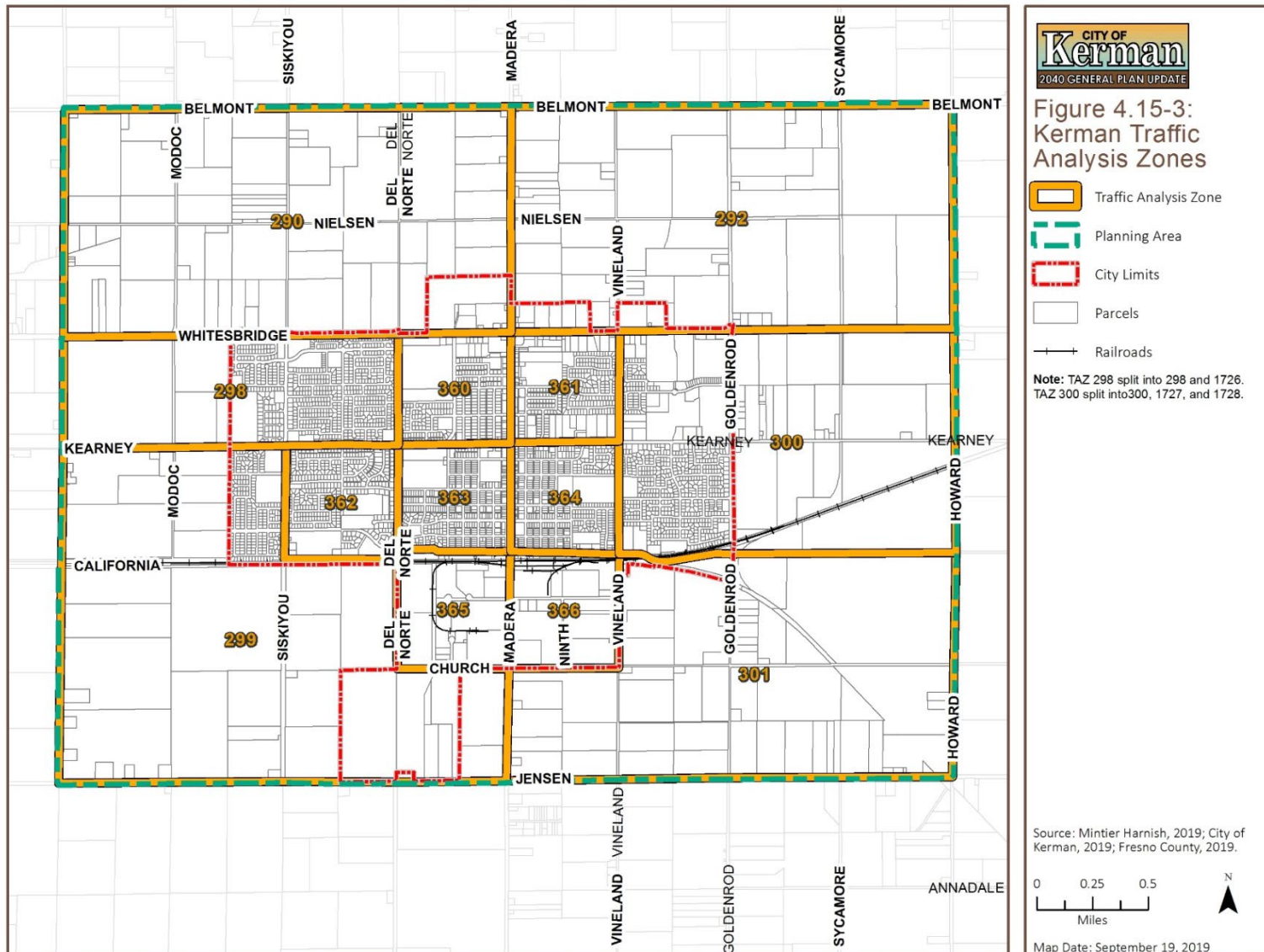
VMT for the City of Kerman

Table 4.15-1 shows current VMT (2018) for the City of Kerman was calculated using traffic analysis zones (TAZ) from the FCOG traffic model and Figure 4.15-3 shows the TAZ associated with Kerman.

Table 4.15-1 2018 City of Kerman TAZ and VMT Data

TAZ	2018 Daily Trips (In & Out)	2018 Average Trip Length	2018 Daily VMT
290	616	13.33	8,211
292	1,194	12.16	14,519
298	988	13.86	13,694
299	1,894	14.17	26,838
300	304	13.39	4,071
301	620	13.42	8,320
360	6,784	9.56	64,855
361	5,224	10.59	55,322
362	2,756	12.39	34,147
363	4,254	10.87	46,241
364	5,958	9.99	59,520
365	500	13.28	6,640
366	266	13.23	3,519
1726	3,384	11.41	38,611
1727	5,580	9.16	51,113
1728	4,224	11.32	47,816
Total	44,546	12.01	483,437

Figure 4.15-3 Kerman Traffic Analysis Zones (TAZ)



e. Regulatory Setting

State

Senate Bill 743

SB 743, which was signed into law by Governor Brown in 2013, tasked the State Office of Planning and Research (OPR) with establishing new criteria for determining the significance of transportation impacts under CEQA. SB 743 requires the new criteria to “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” It also states that alternative measures of transportation impacts may include “vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated.” SB 743 changes the way that public agencies evaluate the transportation impacts of projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (see Pub. Resource Code, § 21099, subd. (b)(2)). In addition to new exemptions for projects that are consistent with specific plans, the draft SB 743 guidelines replace congestion-based metrics, such as auto delay and level of service, with Vehicle Miles Traveled as the basis for determining significant impacts, unless the guidelines provide specific exceptions.

The California Complete Streets Act

The California Complete Streets Act (AB 1358) was signed into law in 2008. AB 1358 requires any substantive revision of the circulation element of a city or county’s general plan to identify how the jurisdiction will safely accommodate the circulation of all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists. The current Kerman General Plan was adopted prior to the Complete Streets Act. The 2040 General Plan places a greater emphasis on bicycle, pedestrian and transit circulation and planned improvements.

Subsequently, Assembly Bill (AB) 1358 (in effect since January 2011), requires any substantive revision of the circulation element of a city or county’s general plan to identify how they will safely accommodate the circulation of all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists.

CALTRANS DEPUTY DIRECTIVE 64-R1: COMPLETE STREETS – INTEGRATING THE TRANSPORTATION SYSTEM

In 2001, The California Department of Transportation (Caltrans) adopted Deputy Directive 64-R1; a policy directive related to non-motorized travel throughout the state. In October 2008, Deputy Directive 64-R1 was strengthened to reflect changing priorities and challenges. Deputy Directive 64-R1 states:

Caltrans views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Caltrans’ mission/vision: “Improving Mobility across California.”

Successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas (GHG) emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

DIRECTOR'S POLICY 22: DIRECTOR'S POLICY ON CONTEXT SENSITIVE SOLUTIONS.

Director's Policy 22, a policy regarding the use of "Context Sensitive Solutions" on all State highways, was adopted by Caltrans in November of 2001. The policy reads:

"The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders."

The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

The policy recognizes that "in towns and cities across California, the State highway may be the only through street or may function as a local street," that "these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods," and that "communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality." The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

Sustainable Community Strategy (SB 375)

Senate Bill (SB) 375 requires a Sustainable Community Strategy (SCS) to be developed in coordination with a Regional Transportation Plan (RTP). Combined, the RTP/SCS suggests land use goals and implements transportation plans that will reach goals for reducing the California Air Resources Board (CARB) GHG emissions. It must follow realistic planning assumptions; consider local general plans; and consider land use and the use of natural resources and be consistent with the adopted Regional Housing Needs Allocation (RHNA) for the region. An SCS must be able to reach CARB's GHG goals. It requires collaborative work between local agencies and MPOs to match the targets for Fresno County's Congestion Management Program (CMP).

The CMP is a systematic way to control congestion in the transportation system mandated by the State (Government Code 65089). It designates roadway networking, service standards, and establishes sustainable land use development to determine and control multi-jurisdictional transportation impacts. Local agencies in compliance with the CMP can receive federal, State, and local transportation funding.

Regional and Local

Regional Bicycle and Recreational Trails Master Plan

The County of Fresno adopted Regional Bicycle and Recreational Trails Master Plan in 2013 to implement installation plans for bicycle transportation and recreation throughout the region. The plan includes a set of goals and policies that bind the County's approach to planning and installing bicycle information.

Regional Transportation Plan

The Fresno Council of Governments (FCOG) is the regional transportation agency for Fresno County. It is responsible for developing and adopting the region's RTP. This plan follows the transportation requirements required by State and Federal Law for urbanized counties with a long-term plan. The RTP is a multi-modal plan that is financially constrained. It recognizes the faults in the regional transportation system and provides services to improve efficiency and accessibility throughout Fresno County and its incorporated cities.

Measure C

Fresno County Measure C was passed in 1986, creating a half-cent sales tax aimed at improving the quality of Fresno's transportation system. Within the first 20 years of its implementation, more than \$1 billion in improvements had been made to State highways and roadways. Voters passed a 20-year extension to the program in 2006.

4.15.2 Project Impacts

a. Methodology and Significance Thresholds

Appendix G of the *CEQA Guidelines* provides the following thresholds to determine whether significant impacts in regarding to transportation and traffic could occur if:

1. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
2. Would the project conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b)? [*Evaluating a project's transportation impacts based on a measure of VMT*]
3. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?
4. Would the project result in inadequate emergency access?

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact T-1 THE 2040 KERMAN GENERAL PLAN INCORPORATES POLICIES FOR COMPLETE STREETS TO INCLUDE TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES AS PART OF THE CITY'S CIRCULATION SYSTEM, REDUCE VMT CONSISTENT WITH THE CARB 2017 SCOPING PLAN, AND IS CONSISTENT WITH THE FCOG RTP INCLUDING THE REALIGNMENT OF SR 180 AND TO WORK WITH CALTRANS AND FCOG TO IDENTIFY A PREFERRED OPTION TO ROUTE TRUCKS WEST OR EAST AROUND KERMAN OFF OF MADERA AVENUE (SR-145). IMPACTS WOULD BE LESS THAN SIGNIFICANT.

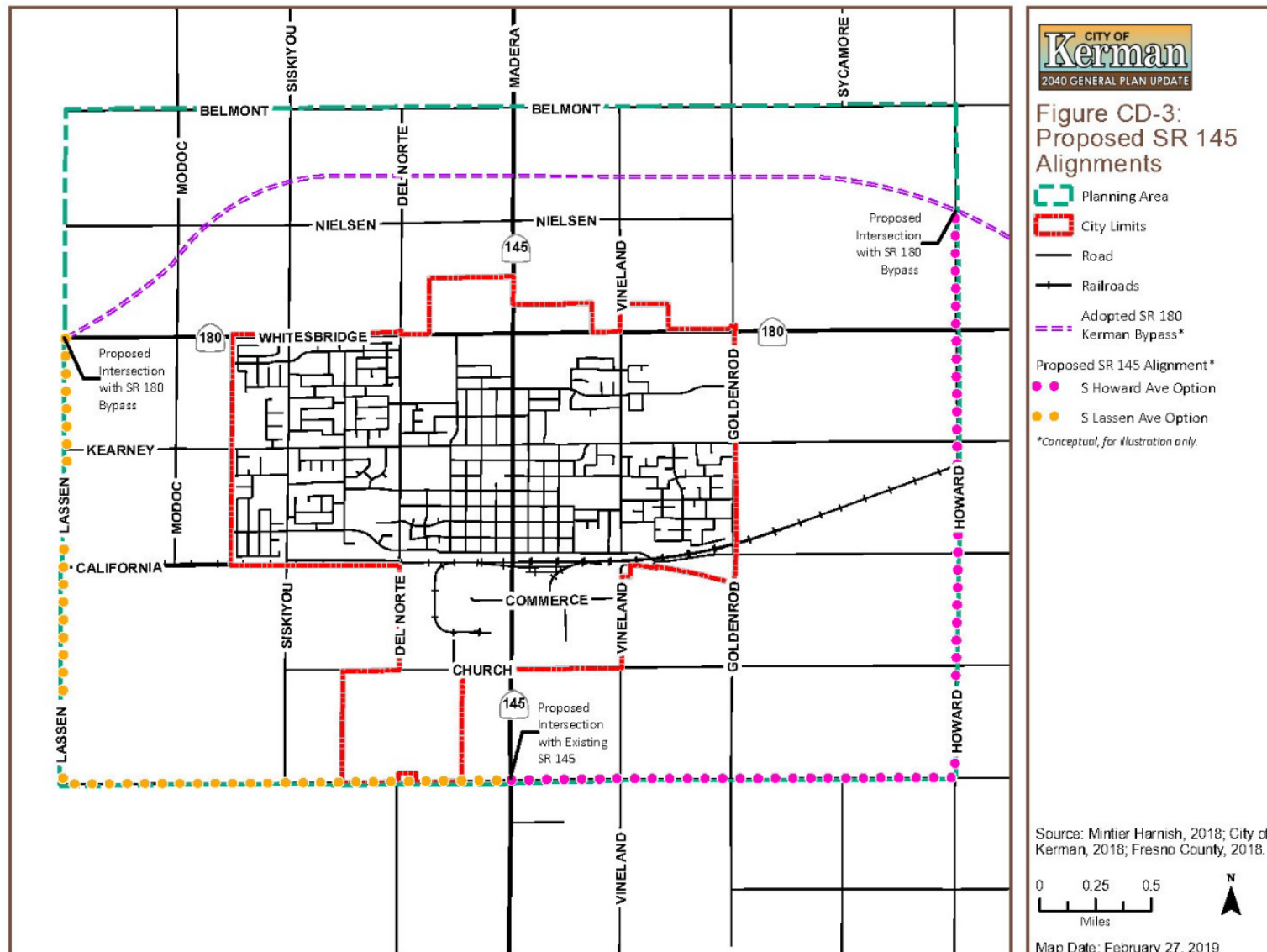
The 2040 Kerman General Plan Circulation Element includes policies to encourage active transportation. This includes policies for complete streets, developing Class I bicycle and pedestrian facilities, and integrating transit facilities into the circulation system. The 2040 General Plan also includes policies for maintaining LOS standards, but this is no longer considered an environmental impact under the 2019 CEQA Guidelines and Kerman has chosen to utilize the VMT standard for this analysis. Therefore, compatibility with LOS standards will not be discussed in this EIR. The General Plan also includes policies designed to achieve VMT reductions consistent with the CARB 2017

Scoping Plan and to require mitigation measures on projects having potentially significant VMT impacts, and other policies to reduce VMT. Combined, these policies are designed to achieve consistency with State and regional policies for the reduction of VMT. Additional policies were designed to be consistent with Caltrans' approved realignment of SR 180 and to work in cooperation with Caltrans to develop an alternative route for SR 145 east and/or west of Kerman consistent with Caltrans policies. The proposed alignments are shown in Figure 4.15-4.

Circulation Element

- **CIRC-1.1 Consistency between Land Use and Transportation Planning.** The City shall ensure land use and transportation planning are cohesive, consistent, mutually supportive, and strive to reduce vehicle miles traveled (VMT). This will include:
 - Maintaining land use patterns that encourage people to walk, bicycle, or use public transit routinely for a significant number of their daily trips;
 - Using the City's provision of public services to direct development to the most appropriate locations; and
 - Promoting the infill of vacant land and redevelopment sites.
- **CIRC-1.2 Complete Streets.** The City shall plan a multimodal transportation system that provides safe, comfortable, and convenient access that accommodates various vehicle types and users, including automobiles, agricultural equipment, public transit, bicyclists, and pedestrians.
- **CIRC-1.3 Eliminate Gaps.** The City shall create a more comprehensive multimodal transportation system by identifying and eliminating "gaps" in roadways, bikeways, and pedestrian networks; increasing public transit access; and removing natural and man-made barriers to accessibility and connectivity.
- **CIRC-2.4 Vehicle Trip Length and Travel Time Reduction.** The City shall continue to improve the street network to be efficient and provide multiple routes that are efficient to reduce trip length, travel time, idling time, intersection delays, and other emissions producing activities.
- **CIRC-2.5 Greenhouse Gas Reduction.** The City shall strive to achieve VMT reductions consistent with the California Air Resources Board (CARB) 2017 Scoping Plan statewide greenhouse gas (GHG) emission reduction goals of 40 percent below 1990 emissions levels by 2030.
- **CIRC-2.6 Vehicle Miles Traveled (VMT) Standards.** The City shall establish a 15 percent below baseline conditions as a clear and realistic VMT threshold of significance to determine impacts on the environment related to development projects. The City will develop the baseline using the Fresno Council of Governments (FCOG) Regional Transportation Model.
- **CIRC-2.7: Mitigation of Vehicle Miles Traveled (VMT) Transportation Impacts.** The City shall require projects having potentially significant VMT transportation impacts under CEQA to implement feasible mitigation measures necessary to reduce the VMT for or induced by the project to the applicable performance metrics. Such mitigation measures may include, but are not limited to:
 - Provide infrastructure and facilities for walking and bicycling, particularly those that connect with and ensure access to existing active transportation infrastructure and transit;
 - Include on-site EV charging capabilities;
 - Incorporate traffic-calming measures;
 - Unbundle parking (separate/optional cost) from residential units in multifamily housing developments;

Figure 4.15-4 Proposed SR-145 Alignments



- Provide incentives to carpool or use active transportation; and/or
 - Provide payment into an in-lieu fee program to reduce VMT.
 - Provide incentives to carpool or use active transportation; and/or
 - Provide payment into an in-lieu fee program to reduce VMT.
- **CIRC-3.2 Direct Traffic Away from Kerman to Preserve Community Character.** The City shall coordinate with Caltrans to direct interregional traffic to Federal and interstate highways to ensure safety of Kerman residents and preserve the city’s suburban character.
 - **CIRC-3.3 Support SR-180 Northern Bypass through Kerman.** The City shall coordinate with FCOG and Caltrans to widen and improve the primary roadways that connect Kerman with State Highway 99, Whitesbridge Avenue (State Highway 180) and Jensen Ave. The City supports the SR-180 Route from Interstate 5 to Brawley Avenue as described in the Route Adoption Study Report approved by Caltrans in 2013 (Project 0600000445 20.10.710.870). This includes the routing of SR-180 north of Whitesbridge between Nielsen and Belmont Avenues generally from N. Lassen Avenue to N. Biola Avenue.
 - **CIRC-3.4 Support SR-145 Realignment or Redesignation through Kerman.** The City will work with Caltrans and FCOG to identify a preferred option to route trucks west or east around Kerman off of Madera Avenue (SR-145). These options could include designating a route alignment for SR-145 around the city near or on the Lassen Avenue or Howard Avenue alignment as a new route or route swap, or via a relinquishment of Madera Avenue as SR-145 through Kerman. The relinquishment could be through a legislative process or by Caltrans with the selection of an alternative route.
 - Therefore, implementation of the 2040 General Plan policies would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Impact T-2 THE 2040 KERMAN GENERAL PLAN SETS FORTH VMT AS THE STANDARD FOR EVALUATING IMPACTS UNDER CEQA (CIRC-2.1) AND A VMT SIGNIFICANCE THRESHOLD OF 15 PERCENT BELOW BASELINE CONDITIONS BASED ON THE FCOG REGIONAL TRANSPORTATION MODEL FOR ADDRESSING TRANSPORTATION IMPACTS (CIRC-2.5) FOR PROJECTS WITHIN EXPANSION AREAS. EVEN WITH THE INCORPORATION OF POLICIES TO REDUCE VMT AND PROMOTING ALTERNATIVE TRANSPORTATION (GOAL CIRC-5). IMPACTS WOULD REMAIN SIGNIFICANT AND UNAVOIDABLE.

The 2040 Kerman General Plan has incorporated several policies geared toward reducing VMT per capita with the future growth in Kerman. The City has set a VMT reduction goal (Policy CIRC-2.5) of 15 percent below baseline conditions “as a clear and realistic VMT threshold of significance to determine impacts on the environment related to development projects” (Kerman 2019). Policy CIRC-2.3, as listed above under Impact T-1, set forth policies to reduce trip length and travel time

(Kerman 2019). In addition, Policy CIRC-2.7 that lists mitigation measures to be applied to projects having potentially significant VMT impacts (not achieving the 15 percent reduction) (Kerman 2019).

Circulation Element

- **CIRC-2.7: Mitigation of Vehicle Miles Traveled (VMT) Transportation Impacts.** The City shall require projects having potentially significant VMT transportation impacts under CEQA to implement feasible mitigation measures necessary to reduce the VMT for or induced by the project to the applicable performance metrics. Such mitigation measures may include, but are not limited to:
 - Provide infrastructure and facilities for walking and bicycling, particularly those that connect with and ensure access to existing active transportation infrastructure and transit;
 - Include on-site EV charging capabilities;
 - Incorporate traffic-calming measures;
 - Unbundle parking (separate/optional cost) from residential units in multifamily housing developments;
 - Provide incentives to carpool or use active transportation; and/or
 - Provide payment into an in-lieu fee program to reduce VMT.
- **CIRC-5.1: Alternative Modes of Transportation.** The City shall encourage project site designs and subdivision street and lot designs that support alternative modes of transportation, including public transit, bicycling, and walking.
- **CIRC-5.2: Active Transportation.** The City shall encourage bicycling, walking, taking public transit, and carpooling as alternatives to driving single-passenger vehicles to reduce VMT, traffic congestion, and associated emissions from additional automobile use.
- **CIRC-5.3: Continuous Bicycle Network.** The City shall design a safe and logical bicycle path network that links key destinations within the planning area to promote the use of bicycles as a mode of transportation to reduce greenhouse gas emissions and to encourage exercise.
- **CIRC-5.4: Safe Sidewalks Along Whitesbridge and South Madera Avenues.** The City shall work with Caltrans to improve the sidewalks along Whitesbridge Avenue and South Madera Avenue to provide a safe, continuous, and ADA-compliant network that encourages walking, and contributes to a sense of community.
- **CIRC-5.5: Pedestrian-Friendly Streets.** The City shall design and improve streets to be “pedestrian-friendly” by incorporating features including wide and unobstructed sidewalks, bulb outs at intersections, narrow traffic lanes at key locations to slow traffic speed, adequate street lighting, and trees for natural shade cover.
- **CIRC-5.6: Transit Amenities.** The City shall encourage the development of facilities and services (e.g., streetlights, transit stop benches and shelters, mobile trip planning applications, and electronic transit fare payment systems) that promote transit use and contribute to community character.

Proposed projects within the 2018 City limits can be considered infill development per OPR Guidelines (TA November 2017) and therefore considered less than significant regarding VMT impacts. Proposed projects within 2018 City limits would also be near existing and proposed active transportation facilities that would incentivize the use of active transportation for internal trips rather than driving, plus proximity to offices, shopping, parks, and schools. Development within the

industrial lands would lead to the creation of additional jobs within Kerman, creating more jobs/housing balance in the community, further reducing VMT of residents working outside the City.

Baseline VMT (2018), and 2040 projected VMT was calculated by FCOG using their Regional Transportation model calculating VMT generated per each Traffic Impact Zones (TAZ) within the project area based on projected growth calculated for the 2040 General Plan in each TAZ (see Figure 4.15-3). The FCOG model's buildout was only to 2035, so a growth factor for each TAZ was applied based on the percentage growth change estimated for each TAZ (Appendix F). This calculation assumed an equal growth each of the five years from 2035 to 2040 (2 percent growth per year), so likely overestimates the growth over those last five years but provides a conservative estimate for overall VMT growth under the plan. As expected, most of the increase in VMT occurred in the planned growth areas for Kerman (see Table 4.15-2). Overall, the calculated VMT increase for 2040 over the 2018 baseline is 62 percent as shown in Table 4.15-2. This calculated VMT does not factor in VMT reductions from proposed policies discussed above but based strictly on the projected growth. The challenge for VMT reduction is Kerman's location over 15 miles west of Fresno, a major employment center for the region. The overall trip length increased by less than a mile: 12.01 miles in 2018 to 12.97 miles in 2040, which is a reflection of its location west of Fresno (consistent commute pattern). Increasing ride sharing and transit use for this commute would be effective at reducing VMT (30 miles per roundtrip per rideshare) as would increasing employment in Kerman. The projected increase in VMT from 2018 to 2040 is 62 percent, with a per capita increase of 8.56 miles or 27 percent in 2040. These numbers include regional trips assigned by the FCOG model to Kerman, which are hard to quantify. Based on these calculations, the 2040 Kerman General Plan would have a significant impact regarding increasing VMT. Implementation of the listed VMT policies, plus the policies for increasing active transportation and policies to increase transit use, would achieve a reduction from the currently projected VMT increase, but would be difficult to just reach 2018 baseline conditions, with a 15 percent below baseline (77 percent reduction) even more difficult. Overall growth in the 2040 Kerman General Plan combined with its long commute pattern increases overall VMT beyond what the proposed VMT reduction policies could reasonable reduce.

Table 4.15-2 Kerman 2018 and 2040 VMT Projections

TAZ	2018 Avg. Trip Length	2018 Daily VMT	2040 Avg. Trip Length	2040 Daily VMT	2018 to 2040 Percent Change VMT
290	13.33	8,211	13.85	92,703	1029%
292	12.16	14,519	12.10	14,661	1%
298	13.86	13,694	16.12	39,110	186%
299	14.17	26,838	16.92	74,705	178%
300	13.39	4,071	16.80	34,745	754%
301	13.42	8,320	13.62	8,611	3%
360	9.56	64,855	10.16	71,356	10%
361	10.59	55,322	11.32	61,663	11%
362	12.39	34,147	13.31	47,734	40%
363	10.87	46,241	11.38	49,681	7%
364	9.99	59,520	10.48	64,497	8%
365	13.28	6,640	14.05	8,517	28%
366	13.23	3,519	13.84	5,123	46%
1726	11.41	38,611	11.86	42,746	11%
1727	9.16	51,113	10.27	115,850	127%
1728	11.32	47,816	11.49	50,240	5%
Kerman	12.01	483,437	12.97	781,939	62%

Source: Appendix F

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Implementation and adherence to 2040 General Plan policies would not reduce VMT impacts to a less than significant level. Therefore, impacts would remain Significant and Unavoidable.

Threshold 3: Would the General Plan substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Impact T-3 THE 2040 KERMAN GENERAL PLAN SETS FORTH A GOAL WITH ASSOCIATED POLICIES TO PROVIDE A SAFE AND EFFICIENT ROADWAY SYSTEM THAT SERVES ALL USERS (CIRC-1). THE PLAN ITSELF DOES NOT PROPOSE SPECIFIC CONSTRUCTION PROJECTS BUT FACILITATES CERTAIN TRANSPORTATION PROJECTS. ADHERENCE TO CALTRANS AND ASHTO REGULATIONS AND STANDARDS, KERMAN MUNICIPAL CODE, AND IMPLEMENTATION OF THE GOALS AND POLICIES OF THE 2040 GENERAL PLAN WOULD MINIMIZE THE POTENTIAL TO INCREASE HAZARDS TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE TO A LESS THAN SIGNIFICANT LEVEL.

The 2040 General Plan sets forth a Goal and policies to provide a safer transportation system for the City and its residents. The policies listed below are aimed at achieving that goal. The 2040 General Plan itself does not authorize the construction of specific projects with actual design features that can be evaluated. Any project authorized under the 2040 General Plan would have to conform to existing regulations that address geometric design and safety.

Circulation Element

- **CIRC-1.3: Eliminate Gaps.** The City shall create a more comprehensive multimodal transportation system by identifying and eliminating “gaps” in roadways, bikeways, and pedestrian networks; increasing public transit access; and removing natural and man-made barriers to accessibility and connectivity.
- **CIRC-1.4: Inclusive Mobility.** The City shall consider the needs of all segments of the population when improving or expanding the transportation network to provide safe and improved mobility opportunities for all residents and employees, including persons with disabilities, youth, and elderly.
- **CIRC-1.5: ADA Compliance.** The City shall strive to ensure that the circulation system is safe and accessible, consistent with the American with Disabilities Act (ADA), to allow mobility-impaired users, such as disabled persons and seniors, to safely travel within and beyond the city.
- **CIRC-1.6: Safe Routes to School.** The City shall encourage the construction of facilities and provision of programs that ensure children, families, and caretakers can walk, bike, and take public transit to school safely.
- **CIRC-1.10: Adequate Egress/Ingress.** During subdivision review process, the City shall require that all subdivisions, except for cul-de-sac streets, have a minimum of two egress/ingress points.
- **CIRC-1.12: Residential Driveways.** During the development review process, the City shall strive to restrict residential driveways from entering onto collector and arterial streets.
- **CIRC-3.1: Designated Truck Routes.** To avoid the adverse impacts associated with truck traffic, the City shall continue to designate truck routes on the following streets: Whitesbridge Avenue, Madera Avenue, and Church Avenue, as well as all existing and proposed streets located within the Kerman industrial park.
- **CIRC-4.1: Parking on the Public Right-of-Way.** The City shall limit parking on the public right-of-way along, particularly along Madera Avenue, with public health and safety priorities.
- **CIRC-5.3: Continuous Bicycle Network.** The City shall design a safe and logical bicycle path network that links key destinations within the planning area to promote the use of bicycles as a mode of transportation to reduce greenhouse gas emissions and to encourage exercise.

- **CIRC-5.4: Safe Sidewalks Along Whitesbridge and South Madera Avenues.** The City shall work with Caltrans to improve the sidewalks along Whitesbridge Avenue and South Madera Avenue to provide a safe, continuous, and ADA-compliant network that encourages walking, and contributes to a sense of community.
- **CIRC-5.5: Pedestrian-Friendly Streets.** The City shall design and improve streets to be “pedestrian-friendly” by incorporating features including wide and unobstructed sidewalks, bulb outs at intersections, narrow traffic lanes at key locations to slow traffic speed, adequate street lighting, and trees for natural shade cover.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 4: Would the General Plan result in inadequate emergency access?

Impact T-4 THE 2040 KERMAN GENERAL PLAN SETS FORTH POLICIES TO DEVELOP A SAFE AND EFFICIENT TRANSPORTATION NETWORK ALONG WITH CITY DEVELOPMENT REVIEW PROCEDURES WILL MAINTAIN ADEQUATE EMERGENCY ACCESS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The 2040 General Plan would facilitate development that would need to ensure adequate emergency services access for new projects and not develop in a way to impede emergency access to existing development or through congested roads that could impede emergency response personnel. The Development Review process for new projects reviews project plans to ensure projects meet current standards for emergency access and require corrections if a project will impact emergency access for adjacent facilities or not meet current standards. This review applies to the construction phase of a project as well. In addition, the 2040 Kerman General Plan includes a policy to address road congestion, listed below. This policy requires a minimum LOS of C for most roadways and LOS of B at intersections and rail crossings. At those levels, congestion would not interfere with emergency responders getting to their destination within the City.

Circulation Element

- **CIRC-2.2 Maintain Adequate Level of Service (LOS).** The City shall plan the roadway system to maintain adequate roadway LOS to avoid congestion and reduce VMT. A level of service of C will be the desirable minimum service level in Kerman at which highway, arterial, and collector segments will operate. A level of service of B will be the desirable minimum service level in Kerman at which intersections and rail crossings will operate.

Additional Public Health and Safety policies ancillary to this issue address police response times, adequate staffing for fire protection, and implementation of a Hazard Mitigation Plan. Based on the development review process and the policy above, inadequate emergency access will be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

The Kerman 2040 General Plan will have a significant increase in VMT (Impact T-2) that would remain significant and unavoidable even with proposed mitigation and policies to reduce VMT and promote active transportation. The General Plan Buildout's VMT increase, combined with expected growth in Fresno County, its other cities, and in the San Joaquin Valley, will have a cumulatively considerable impact on increased VMT for Fresno County and the surrounding region. This impact is considered significant and unavoidable. The 2040 General Plan provides policies for the development of complete streets, promoting active transportation, and therefore would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and therefore not cumulatively considerable. The plan would also not substantially increase hazards due to a geometric design feature or incompatible uses that would result in inadequate emergency access. These impacts are more local in nature except for the possibility of regional traffic impeding emergency services, however, these impacts are not cumulatively considerable as the 2040 General Plan does not increase regional congestion that could result in inadequate emergency access.

4.16 Tribal Cultural Resources

This section evaluates potential effects on tribal cultural resources related to implementation of the 2040 General Plan.

4.16.1 Setting

The San Joaquin Valley was historically occupied by the Penutian-speaking Yokuts. The project area is located in a transitional zone between the Northern Valley and Southern Valley Yokuts. Adjacent native groups include the Salinan and Costanoan to the west, Foothill Yokuts and Sierra Miwok to the east, Kitanemuk and Chumash to the south (Kroeber 1925). The three geographical divisions of the Yokuts are the Northern Valley, Southern Valley, and Foothill Yokuts. The distinction between the three groups is primarily based on language dialect. A full discussion of the prehistoric and ethnographic setting of the region is presented in Section 4.5, *Cultural Resources*.

a. Regulatory Setting

Federal

No existing federal regulations pertain to tribal cultural resources within Kernan.

State

Assembly Bill 52

As of July 1, 2015, California Assembly Bill (AB) 52 was enacted and expanded CEQA by defining a new resource category, “tribal cultural resources.” AB 52 establishes that “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (Public Resources Code (PRC) Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria:

- a) Listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in PRC Section 5020.1(k), or
- b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

If a lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, AB 52 requires the implementation of mitigation measures identified in the consultation process required under PRC Section 21080.3.2. If consultation fails to identify specific mitigation, PRC Section 21084.3(b) lists the following measures that may be considered, where feasible, to avoid or minimize the impacts:

- Avoidance and preservation of the resources in place, including, but not limited to: planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria
- Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - Protecting the cultural character and integrity of the resource
 - Protecting the traditional use of the resource
 - Protecting the confidentiality of the resource
 - Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places
 - Protecting the resource

Senate Bill 18

California Government Code Section 65352.3, adopted pursuant to the requirements of Senate Bill (SB) 18, requires local governments to contact, refer plans to, and consult with tribal organizations prior to making a decision to adopt or amend a general or specific plan. The tribal organizations eligible to consult have traditional lands in a local government's jurisdiction, and are identified, upon request, by the Native American Heritage Commission (NAHC). As noted in the California Office of Planning and Research's Tribal Consultation Guidelines (2005), "The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places."

b. Existing Conditions

As part of the process of identifying tribal cultural resources issues within or near the project site, the NAHC conducted a search of the Sacred Lands File (SLF). The SLF search stated that no sacred lands were identified within the Planning Area.

AB 52 and SB 18 Consultation

In accordance with AB 52 and SB 18, Kerman notified California Native American Tribes listed in Table 4.16-1 of the proposed 2040 General Plan and invited them to participate in consultation. The NOP for the proposed General Plan EIR was sent to tribes on April 4, 2019 and AB 52 letters were sent to each tribe on June 5-6, 2019. As of the date of this report, the Table Mountain Rancheria provided a response on August 5, 2019 and declined to participate at this time, however in the unlikely event that cultural resources are identified, request that the tribe be notified (Appendix G).

Table 4.16-1 Tribal Consultation

Tribe	NOP Sent	AB 52 Letter Sent	Response Received?
Big Sandy Rancheria of Western Mono Indians		Yes	No
Cold Springs Rancheria		Yes	No
Dumna Wo-Wah Tribal Government		Yes	No
Dunlap Band of Mono Indians		Yes	No
Kings River Choinumni Farm Tribe		Yes	No
North Fork Mono Tribe		Yes	No
Santa Rosa Rancheria Tachi Yokut Tribe	Yes	Yes	No
Table Mountain Rancheria		Yes	Yes
Traditional Choinumni Tribe		Yes	No
Wuksache Indian Tribe/Eshom Valley Band		Yes	No

4.16.2 Impact Analysis

a. Methodology and Significance Thresholds

According to Appendix G of the *CEQA Guidelines*, an impact on Tribal Cultural Resources from the 2040 General Plan would be significant if the project would:

- 1) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
 - b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Threshold 1a: Would the General Plan cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Threshold 1b: Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Impact TCR-1 DEVELOPMENT PROJECTED BY THE 2040 GENERAL PLAN MAY INVOLVE EXCAVATION, WHICH HAS THE POTENTIAL TO IMPACT PREVIOUSLY UNIDENTIFIED TRIBAL CULTURAL RESOURCES. HOWEVER, IMPLEMENTATION OF 2040 GENERAL PLAN POLICIES WOULD REDUCE IMPACTS ON TRIBAL CULTURAL RESOURCES TO A LESS THAN SIGNIFICANT LEVEL.

The majority of development projected by the 2040 General Plan would occur within the Kerman City limits and SOI. However, effects on tribal cultural resources can only be known once a specific project has been proposed because the effects are highly dependent on both the individual project site conditions and the characteristics of the proposed activity. Although the current AB 52 consultation for this document did not identify any specific tribal cultural resources within the City, new tribal cultural resources may be identified or established during implementation of the 2040 General Plan, which is expected to occur over many years. Therefore, as specific projects are proposed, consultation with tribes under AB 52 would occur to determine if any tribal cultural resources may be impacted by specific projects. If tribal cultural resources are identified during AB 52 consultation, impacts to any such tribal cultural resources would be potentially significant unless mitigation is incorporated.

The 2040 General Plan Conservation, Open Space, and Recreation Element includes policies and implementation programs to protect tribal cultural resources and requires compliance with SB 18 and AB 52, including consultation with California Native American Tribes regarding tribal cultural resources (Policy COS-3.1).

Conservation, Open Space, and Recreation Element

Goal COS-3: Cultural Resources. To protect sites and structures of historical and cultural significance, and to enhance the availability of new cultural amenities.

- **Policy COS-3.1: Comply with Tribal Consultation Requirements.** The City shall continue to comply with SB 18 and AB 52 by consulting with local California Native American tribes. If archaeological resources of Native American origin are identified during project construction, a qualified archaeologist shall consult with Kerman to begin Native American consultation procedures. Appropriate Native American tribes shall be contacted by the City or qualified archaeologist. As part of this process, it may be determined that archaeological monitoring may be required; a Native American monitor may also be required in addition to the archaeologist. The project proponent shall fund the costs of the qualified archaeologist and Native American monitor (as needed) and required analysis and shall implement any mitigation determined to be necessary by the City, qualified archaeologist, and participating Native American tribe.

Impacts on tribal cultural resources can only be determined once a specific project has been proposed because the effects are highly dependent on both the individual built structure and the characteristics of the proposed activity. This would result in significant impacts to tribal cultural resources. However, implementation of 2040 General Plan policies, specifically COS-3.1 would reduce impacts on tribal cultural resources to a less than significant level by including an implementation program that requires cultural resource studies for projects within Kerman and implementation of further requirements to avoid or reduce impacts to such resources on a project-by-project basis.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Cumulative Impacts

Development in the Plan area would be facilitated by the 2040 General Plan. The increase in growth contributes to regional impacts on tribal cultural resources. While most tribal cultural resources are typically site-specific, with impacts that are project-specific, others may have regional significance, such as an important viewshed or resource gathering area. For such a resource, cumulative impacts, and the contribution of the 2040 General Plan to them, would be potentially significant. Implementation of the 2040 General Plan policies would reduce cumulative tribal cultural resources impacts to a less than significant level.

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4.17 Utilities and Service Systems

This section evaluates potential effects on utilities related to implementation of the 2040 General Plan by identifying anticipated demands and existing and planned service availability. For purposes of this EIR, utilities consist of (1) water supply; (2) wastewater; (3) storm drain facilities; and (4) solid waste. Storm drain facilities are also analyzed in Section 4.10, *Hydrology and Water Quality*.

4.17.1 Setting

a. Water Supply

The purpose of this subsection is to summarize existing information regarding water supply and delivery infrastructure in the City of Kerman. Information is provided on water treatment, current demand, storage and distribution systems, and the condition of these facilities.

Existing Conditions

The City of Kerman overlies the Kings Groundwater Subbasin within the San Joaquin Valley Groundwater Basin. Recharge for the Kings Groundwater Subbasin mainly occurs from the Kings River and the San Joaquin River via the Friant-Kern Canal. These two surface water sources are not sufficient to meet water demands in the Kings Subbasin alone. Therefore, water agencies in the area must rely on a combination of surface and groundwater supplies and storage (KBWA, 2018).

Drought periods reduce the availability of surface water and limit the amount of recharge back into the subbasin (Kerman, 2019). Due to insufficient surface water supplies, the subbasin has been operating under overdraft conditions for many years, with a historic annual overdraft of approximately 100,000 to 150,000 acre-feet; however, more recent estimates calculated as part of the Sustainable Groundwater Management Act (SMGA), increased the amount of overdraft per year. Overdraft means that, on an average basis, more water is removed from the groundwater basin than is replaced, resulting in significant declines in groundwater levels throughout the basin (KBWA, 2018). The Kings Basin Water Authority, the groundwater in storage in Kings Basin was about 93 million acre-feet (AF) in 1961; this estimate of storage was to a depth of 1,000 feet or less. It is also estimated that about 6 million AF of groundwater was mined from the Kings Basin during the past 50 years (KBWA, 2019).

The City's water service area encompasses the Kerman city limits which is approximately 3.3 square miles and serves a current population (2018) of 15,480 through approximately 3,479 active service connections (City of Kerman, 2017). Water service is also extended to the City's sphere of influence (SOI), which encompasses approximately 4.8 square miles (3,098 acres) and is recognized as the ultimate growth boundary over the life of the City. The City of Kerman provides water and sewer service to residential, commercial, and industrial customers and for fire protection uses. The City's water supply is exclusively groundwater (City of Kerman 2017).

Groundwater

Based on information from the City of Kerman 2015 Urban Water Management Plan (UWMP) the City provides water service to the community via the Public Works Department (City of Kerman, 2017). The City withdraws groundwater from six deep wells. Table 4.17-1 summarizes the City's existing well operation. The wells penetrate underlying aquifers, located at depths from 300 to 900

feet. The total production capacity of these wells is approximately 6,700 gallons per minute (gpm). Table 4.17-1 shows well locations throughout Kerman.

All six wells have periodically exceeded the maximum contaminant level (MCL) for Hexavalent chromium, or chromium 6. Chromium 6 is known to cause cancer and can upset the gastrointestinal tract and damage the liver and kidneys. Chromium can occur naturally or from manmade sources such as from discharges of dye and paint pigments, wood preservations, chrome-plating liquid wastes, and leaching from hazardous waste sites (SWRCB, 2017). In 2014, the California State Water Resources Control Board (SWRCB) established a Maximum Contaminant Level (MCL) for Hexavalent chromium at 10 micrograms per liter ($\mu\text{g/L}$). This MCL was litigated and subsequently withdrawn by the SWRCB in August 2017. Currently, the SWRCB has adopted the MLC for total chromium, 50 $\mu\text{g/L}$, as the drinking water standard until a revised MCL can be adopted. Based on SWRCB data from 2007 to 2017, most wells with detections of chromium 6 have occurred in Los Angeles (514), San Bernardino (429) and Fresno (323) counties. The City is pursuing funding to evaluate treatment options to reduce chromium 6 below the MCL. Additionally, Well No.10 has a history of producing high levels of uranium and has been placed on standby status. This reduces the system's maximum production capacity to 5,200 gpm. The City is currently (2018) pursuing construction of a new well to remove Well No.10 from service. Table 4.17-1 below shows groundwater well operation in 2017 for all six wells.

On May 3, 2016, the State Water Board approved \$3,230,000 for the City of Kerman to connect the Double L Mobile Ranch Park to the City's water supply. This consolidation project will address Uranium in the community's drinking water, and provide the severely disadvantaged community with a safe, reliable water source. Staff from the Office of Sustainable Water Solutions will be working with the City and the community to provide technical assistance throughout the construction project.

Table 4.17-1 Existing Groundwater Well Operation

Well Number	HP	Design Capacity	
		GPM	MGD
09A	200	1,200	1.73
10	150	1,500	2.16
12	100	1,200	1.73
14	150	900	1.30
15	150	900	1.30
17	125	1,000	1.44
Total		6,700	9.65

Notes: HP-Horsepower; GPM-Gallons per minute; MGD-million gallons per day
Source: City of Kerman 2015 UWMP

Purchased Water

The City of Kerman currently does not purchase water from any other urban water suppliers or other entities. Due to the City's water quality violations, the City will be required to analyze purchasing water from Fresno Irrigation District (FID) or the City of Fresno (City of Kerman 2017).

Historical Pumping

Historically, the City of Kerman relied on groundwater from the San Joaquin Valley Groundwater Basin as a major source of supply. The City is not restricted to a specific volume of groundwater from the Kings Subbasin. The amount of groundwater pumped in the last five years has been sufficient to meet the City's demands. Table 4.17-2 below shows historic groundwater pumping over the last five years (City of Kerman 2017).

Table 4.17-2 Groundwater Volume Pumped

Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
Alluvial Basin	Kings subbasin	1,065	1,122	1,161	1,054	898
Total		1,065	1,122	1,161	1,054	898

Source: City of Kerman 2015 UWMP

Groundwater Banking

The City does not have any plans to practice groundwater banking (City of Kerman 2017).

Surface Water

According to the 2015 UWMP, the City's sole supply source is groundwater from municipal wells. Currently, the City does not use self-supplied surface water as part its water supply. There are no natural surface water features such as streams or lakes in the Kerman area. However, according to the City's 2007-2027 General Plan, the City has been exploring the possibility of supplementing its groundwater supply with treated surface water supplied by the Fresno Irrigation District (FID). The FID currently supplies irrigation water to surrounding agricultural users. According to the General Plan, as the City expands towards their SOI and agricultural uses are replaced by urban developments, the water that was once used to irrigate crops could now be used to meet municipal needs. One concept that could potentially help the City supplement its groundwater supply for surface water is the use of a dual water system. With a dual system, the City's primary water system would be responsible for providing potable water for domestic use, while a secondary system would provide non-potable water for landscaping, industrial water use, and fire protection. Preliminary planning and design of this dual system has commenced and several purple pipe segments have already been installed in the northeast quadrant of the City (City of Kerman 2017).

Distribution and Storage

Kerman's water distribution system consists of a network of water lines located in the streets and alleys of the community. To date, there are approximately 3,479 connections to the City's water system; 3,167 of the connections are residential uses.

Kerman's water lines range in diameter from 4 to 12 inches in diameter. The City's minimum standard for water lines is 6 inches. The mains are usually placed in a grid pattern with 12-inch mains every half-mile and 8-inch mains at the quarter-mile locations. Depending on the number of units served, the intervening mains are either 6 or 8-inch diameters.

The distribution system is adequate to satisfy current demands and provide the required Uniform Fire Code fire flows. The City operates the system with a pressure that ranges from 50 to 60 pounds per square inch (psi). The distribution system also has two 750,000-gallon ground level storage tanks with booster pumps that can deliver up to 4,000 gpm (City of Kerman 2018).

Demand

In 2015, the City pumped 898 million gallons from the six wells or 1,709 gpm. The maximum day demand with Well No. 10 on standby is 5,200 gpm. With a 2015 population of 14,463, the average daily demand per person is 172 gallons per day (UWMP 2017). The major municipal water users in Kerman include schools and City parks. The current production and distribution system is capable of meeting the water demands of the city. As new development occurs, additional wells and storage facilities will be needed. Table 4.17-3 from the 2015 UWMP summarizes the projected total water demands until Year 2040 based on 2.69 percent annual population growth. Figure 8-7 in the 2040 General Plan Background Report below shows the areas of water wells in Kerman.

Table 4.17-3 Total Water Demands

	2015	2020	2025	2030	2040
Potable and Raw Water	898	1,025	1,171	1,337	1,744
Recycled Water Demand	0	0	0	0	0
Total Water Demand	898	1,025	1,171	1,337	1,744

Source: City of Kerman 2015 UWMP

b. Wastewater

This subsection summarizes existing information regarding wastewater collection systems, treatment, and disposal facilities in the City of Kerman. It provides an overview of current treatment capacities, current number of connections to the system, and the general condition of the infrastructure. Wastewater collection information is generally reported in terms of each individual district providing the service. Data for each service provider was primarily obtained from the City of Kerman 2015 UWMP.

Existing Conditions

The City of Kerman collects, treats, and recycles municipal wastewater generated from a combination of residential, commercial, and industrial sources (City of Kerman 2017). The City's existing service area encompasses the developed portions of Kerman. Kerman's sewer system is composed of a collection system and Wastewater Treatment Plant (WWTP).

Collection and Treatment

The sewage collection system consists of a network of 6-inch and 8-inch diameter collection lines that connect to larger mains. Sewage from most of the southern half of Kerman flows into an 18-inch trunk line in Madera Avenue from California Avenue to Church Avenue, and then in a 27-inch trunk line in Church Avenue from Madera Avenue to the WWTP. The remainder of the city flows into an 18-inch trunk line in Del Norte Avenue from Whitesbridge Avenue to Church Avenue and then in Church Avenue from the Del Norte Avenue alignment to the WWTP.

Kerman's collection system operates with one permanent lift station that is located at the intersection of Siskiyou Ave and Kearney Blvd. This facility currently receives flows from the area generally west and north of that location and discharges into the Del Norte Avenue line.

Treatment Plant

The City's WWTP is located south of Church Avenue on the Del Norte Avenue alignment and provides a secondary level of treatment. The original plant was designed with a hydraulic capacity of approximately 1.34 million gallons per day (mgd) but was upgraded in 2011 to a capacity of 2.0 mgd. The upgraded WWTP consists of an influent pump station, headworks, two new clarifiers, a sludge press, expanded storage and disposal ponds, one acre of new drying beds, and a new 5,000-gallon storage tank for receiving domestic septic. The aeration tanks from the original plant were also converted to digesters.

Treated effluent from the plant is discharged into disposal ponds where it is allowed to evaporate and percolate into the soil and recharge the groundwater table. The City's secondary effluent is not disinfected. Secondary effluent is reclaimed to irrigate non-potable crops.

The flows at the treatment plant exhibit very little seasonal variation. This condition occurs because the flows are predominately from residential uses since there are not significant industrial, agriculture-related or seasonally-operated industries within the city.

The average daily flow for 2015 was 0.99 mgd. If the past growth rates continue the upgraded WWTP has been determined to be sufficient until the year 2027, assuming a 3% per year population growth rate (UWMP, 42).

c. Storm Drainage Systems

The City of Kerman maintains stormwater facilities within existing right-of-ways. The City's stormwater system consists of a system of drains and ponding basins located throughout the City. The stormwater ponding basins consist of eleven percolation basins that provide groundwater recharge. The percolated stormwater is subsequently pumped as groundwater for local crop irrigation. Average annual precipitation in the Kerman area is 11 inches. Figure 8-6 in the 2040 General Plan Background Report identifies storm drainage facilities in Kerman.

d. Solid Waste, Recycling, and Composting

Kerman contracts with Mid Valley Disposal for solid waste, recycling, and composting services. Collection is provided four days a week to residential, commercial and industrial customers.

Mid Valley Disposal hauls solid waste to the American Avenue Landfill, about 6 miles southwest of Kerman, and recyclables to their new state-of-the-art Material Recovery Facility (MRF) in Fresno. The MRF is capable of processing 35 tons of material an hour for diversion to manufacturers and can process wood into wood chips and mulch safe for public use. Lastly, Mid Valley hauls compostable organic waste to a 68,000 square foot composting facility located in Kerman. Opened in 2017, the composting facility can handle 60,000 tons of organic material per year and produces high-quality finished compost. Figure 8-5 in the 2040 General Plan Background Report shows the locations of solid waste, recycling, and composting facilities in Kerman.

e. Electric and Natural Gas

Pacific Gas & Electric (PG&E) is responsible for providing power supply to the City of Kerman while complying with local, State and federal regulations. PG&E's power system is one of the nation's largest electric and gas utilities and maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (PG&E 2019a). In 2018, PG&E's power mix, including all PG&E-owned generation plus PG&E's power purchases, consisted of 33 percent

renewable resources, including wind, geothermal, biomass, solar, and small hydro, 27 percent nuclear generation, 20 percent natural gas, 18 percent large hydroelectric facilities, and 2 percent unspecified power that is not traceable to specific sources by any auditable contract trail (PG&E 2019b). The utility company is bound by contract to update its systems to meet any additional demands. The existing electrical system consists of both overhead and underground facilities. PG&E is responsible for constructing and maintaining use poles, wires, conduits, and appurtenances (e.g., towers, platforms, transformers, insulators, manholes, meters, switches, communication circuits) (City of Kerman, 2019). PG&E's 2018 Integrated Resource Plan sets PG&E's efforts to supply reliable electricity through 2030.

As mentioned above, PG&E is responsible for providing gas utilities to Kerman while complying with local, State, and federal regulations. PG&E serves approximately 4.4 million natural gas distribution customers in northern and central California. As of December 31, 2016, the utility company had 42,800 miles of natural gas distribution pipelines.

f. Telecommunication

Landline phone services are available to the City of Kerman from XFINITY by Comcast, Enhanced Communication Group (ECG), Pioneer Telephone, and Sebastian Corp. Cellular phone services are available from several national providers including AT&T, Verizon, T-Mobile, Cricket Wireless, and Sprint. Many residents and businesses bundle their services with the same provider.

Telecommunications providers generally complete improvements for an area as the need arises to meet customer demands (City of Kerman, 2019).

High-speed internet access, or broadband, is a fundamental aspect of the infrastructure required for education, job creation, public safety, and for the delivery of essential services like health care. While most residents in Kerman have access to broadband, many residents and businesses are underserved in terms of provider choice and speed. Broadband communications can be delivered using terrestrial (as opposed to satellite based service) "wired" and "wireless" technology. Wired technology consists of copper and optical fiber networks originating from the telecommunications provider that follow pole lines or are placed in underground trenches along roadways and within easements across private property. Wireless technology consists of radio antennas that broadcast communications signals using electromagnetic energy commonly referred to as "radiofrequency" or "RF."

Physical wire and broadband internet connection varieties for customers in the City of Kerman are DSL and Fiber Optic cable with 98.82% DSL and 72.04% Fiber. With the increase in Fiber optic cable, internet speeds within Kerman rank 29.33% above the state average in California. The Fiber network offers stronger downloads and uptime, but can transition to copper lines near a subscriber resulting in lower performance. DLS is the slowest of all major internet infrastructures and is offered by providers such as Sebastian Corp that have existing phone networks. The average location in Kerman has 4-5 companies to choose from with only 27% of customers stuck with one or fewer options for internet. Table 4.17-4 below shows a summary of internet providers in Kerman.

Table 4.17-4 Summary of Internet Providers in Kerman

Provider	Type	Coverage	Speed (Mbps)
Residential			
Sebastian Corp	DSL, Fiber, and Fixed wireless	99.8%+	100
UnWired Broadband	Fixed Wireless	100.0%	26
XFINITY from Comcast	Cable	70.6%+	987
Viasat Internet	Satellite	100.0%	30
Hughes Net	Satellite	100.0%	25
Business			
UnWired Broadband	Fixed Wireless	100.0%	26
Comcast Business	Cable	2.9%+	987
CenturyLink Business	Copper	0.1%+	45
TPx Communications	Copper	0.0%+	2
Source: BroadbandNow, 2019			

The provider with the highest speeds for residential use is XFINITY from Comcast with only 70.6%+ coverage within the City as of July 2019. Comcast Business offers the highest speeds for business services with only 2.9%+ coverage within the City. The average download speed for the City of Kerman is 35.1 Mbps (BroadbandNow, 2019).

g. Regulatory Setting

Federal

Clean Water Act

The primary goals of the Federal Clean Water Act (CWA), 33 USC Sections 1251, *et seq.* are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. The CWA forms the basic national framework for the management of water quality and the control of pollutant discharges. The CWA sets forth a number of objectives in order to achieve the above- mentioned goals. The CWA objectives include regulating pollutant and toxic pollutant discharges; providing for water quality which protects and fosters the propagation of fish, shellfish and wildlife; developing waste treatment management plans; and developing and implementing programs for the control of non-point sources pollution.

The NPDES permit program under Section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the United States. California has an approved state NPDES program. The U.S. EPA has delegated authority for water permitting to the SWRCB, which has nine regional boards. The Central Valley RWQCB regulates water quality in Region 5, which includes the City of Kerman.

Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA) establishes standards for contaminants in drinking water supplies. Contaminants regulated by the SDWA include metals, nitrates, asbestos, total dissolved solids, and microbes.

National Flood Insurance Program

As described by FEMA, the National Flood Insurance Program aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures. Overall, the program reduces the socio-economic impact of disasters by promoting the purchase and retention of flood insurance.

National Pollution Discharge Elimination System (NPDES) Permits

The NPDES permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant. In California, the federal requirements are administered by the SWRCB, and individual NPDES permits are issued by the RWQCBs.

Disposal of Biosolids

Title 40 of the Code of Federal Regulations (CFR) Part 503, Title 23 California Code of Regulations, and standards established by the RWQCB regulate the disposal of biosolids.

Title 22 of California Code of Regulations

Title 22 regulates the use of reclaimed wastewater. In most cases only disinfected tertiary water may be used on food crops where the recycled water would come into contact with the edible portion of the crop. Disinfected secondary treatment may be used for food crops where the edible portion is produced below ground and will not come into contact with the secondary effluent. Lesser levels of treatment are required for other types of crops, such as orchards, vineyards, and fiber crops.

Title 40 of the Code of Federal Regulations (CFR)

Title 40 of the Code of Federal Regulations (CFR), Part 258 (Resource Conservation and Recovery Act RCRA, Subtitle D) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the Federal landfill criteria. The Federal regulations address the location, operation, design, groundwater monitoring, and closure of landfills.

State

California Water Code

The California Water Code, a section of the California Code of Regulations, is the governing law for all aspects of water management in California. NMWD is a County water district operating under the provisions of Division 12 of the California Water Code, which establishes rules for their formation, internal organization, powers and purposes, and financial provisions.

Safe Drinking Water Act (1976)

California enacted its own Safe Drinking Water Act in 1976. The California Department of Public Health (CDPH) [formerly the California Department of Health Services (CDHS)] has been granted primary enforcement responsibility for the SDWA. Title 22 of the California Administrative Code establishes CDPH authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than the federal standards.

Senate Bill 610

Senate Bill (SB) 610 (2002) amended California Water Code to require detailed analysis of water supply availability for certain types of development projects. The primary purpose of SB 610 is to improve the linkage between water and land use planning by ensuring greater communication between water providers and local planning agencies, and ensuring that land use decisions for certain types of development projects are fully informed as to whether sufficient water supplies are available to meet project demands. SB 610 requires the preparation of a Water Supply Assessment (WSA) for a project that is subject to CEQA and meets certain requirements, including residential developments of more than 500 dwelling units.

Porter-Cologne Water Quality Control Act (California Water Code)

The State of California is authorized to administer Federal or State laws regulating water pollution within the State. The Porter-Cologne Water Quality Control Act (Water Code Sections 13000, et seq.) includes provisions to address requirements of the CWA. These provisions include NPDES permitting, dredge and fill programs, and civil and administrative penalties. The Porter-Cologne Act is broad in scope and addresses issues relating to the conservation, control, and utilization of the water resources of the State. Additionally, the Porter-Cologne Act states that the quality of all the waters of the State (including groundwater and surface water) must be protected for the use and enjoyment by the people of the State.

Recycled Water Regulations

Within California, recycled water is regulated by the U.S. Environmental Protection Agency (U.S. EPA), the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB), and CDPH. The SWRCB has adopted Resolution No. 77-1, "Policy with Respect to Water Reclamation in California." This policy states that the SWRCB and RWQCBs will encourage and consider or recommend for funding water reclamation projects that do not impair water rights or beneficial in-stream uses. The CDPH establishes the recycled water uses allowed in California and designates the level of treatment (i.e., un-disinfected secondary, disinfected secondary, or disinfected tertiary) required for each of these designated uses (Title 22, California Code of Regulations).

The Regional Water Quality Control Boards (RWQCBs) implement the SWRCB Guidelines for Regulation of Water Reclamation and issue waste discharge permits that serve to regulate the quality of recycled water based on stringent water quality requirements. The CDPH develops policies protecting human health and comments and advises on RWQCB permits. The RWQCB Region 2 office in Oakland regulates water quality for all waters that flow into the San Francisco Bay, which includes all rivers, streams, and tributaries within the nine-county San Francisco Bay region.

Title 22

The California Water Code requires the CDPH to establish water reclamation criteria. In 1975, the former CDHS prepared Title 22 to fulfill this requirement. Title 22 regulates production and use of reclaimed water in California by establishing three categories of reclaimed water: primary effluent, which typically includes grit removal and initial sedimentation or settling tanks; adequately disinfected, oxidized effluent (secondary effluent) which typically involves aeration and additional settling basins; and adequately disinfected, oxidized, coagulated, clarified, filtered effluent (tertiary effluent) which typically involves filtration and chlorination. In addition to defining reclaimed water uses, Title 22 defines requirements for sampling and analysis of effluent and requires specific design requirements for facilities.

Urban Water Management Planning Act of 1983

The California Urban Water Management Planning Act requires all publicly or privately-owned utilities that provide water service to more than 3,000 service connections or over 3,000 acre-feet per year to prepare an Urban Water Management Plan (UWMP). The UWMP is intended to support long-term resource planning and ensure suppliers have adequate supplies for existing and future demand. SB X7-7, passed in 2009, requires a reduction in 20 percent per capita water use by the year 2020. These water savings targets must be quantified in updated UWMPs.

Senate Bill 7x7 Statewide Water Conservation

SB X7-7, which was enacted in 2009, requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita water by 20 percent by 2020, with an interim goal of a 10 percent reduction in per capita water use by 2015.

CALGreen Building Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations [CCR]) to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in this code, throughout the state of California. CALGreen established planning and design standards for sustainable site development including water conservation and requires new buildings to reduce water consumption by 20 percent. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011. The building efficiency standards are enforced through the local building permit process.

The California Plumbing Code

The 2010 California Plumbing Code (Part 5, Title 24, CCR) was adopted as part of the California Building Standards Code. The general purpose of the universal code is to prevent disorder in the

industry as a result of widely divergent plumbing practices and the use of many different, often conflicting, plumbing codes by local jurisdictions. Among many topics covered in the code are water fixtures, potable and non-potable water systems, and recycled water systems. Water supply and distribution shall comply with all applicable provisions of the current edition of the California Plumbing Code.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Act of 1969 is the basic water quality control law for California. The act established the State Water Resources Control Board and divided the state into nine regional basins, each under the jurisdiction of a RWQCB. The State Water Resources Control Board (SWRCB) is the primary State agency responsible for the protection of California's water quality and groundwater supplies. The RWQCBs carry out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. The city is within the jurisdiction of the Central Valley RWQCB.

The California FloodSAFE Program

This State program is a result of the 2007 flood legislation intended to reduce flood risk in California. Much of the FloodSAFE Program applies only to communities in the California Central Valley, like Kerman. As a result of this program the General Plan Housing Element for communities may exclude housing from land that is not adequately protected from flooding. The General Plan Safety Element may establish goals and policies to protect the city from the risk of flooding.

California Department of Resources Recycling and Recovery (CalRecycle)

CalRecycle (formerly the California Integrated Waste Management Board) oversees, manages, and monitors waste generated in California. It provides limited grants and loans to help California cities, counties, businesses, and organizations meet the State waste reduction, reuse, and recycling goals. It also provides funds to clean up solid waste disposal sites and co-disposal sites, including facilities that accept hazardous waste substances and non-hazardous waste. CalRecycle develops, manages, and enforces waste disposal and recycling regulations, including AB 939 and SB 1016, both of which are described below.

The Integrated Waste Management Act – Assembly Bill 939

AB 939 (Public Resources Code 41780) requires cities and counties to prepare integrated waste management plans (IWMPs) and to divert 50 percent of solid waste from landfills beginning in calendar year 2000 and each year thereafter. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements (SRRE) as part of the IWMP. These elements are designed to develop recycling services to achieve diversion goals, stimulate local recycling in manufacturing and stimulate the purchase of recycled products.

California State Recycling Law – Assembly Bill 341

AB 341 is California's Mandatory Recycling Law for commercial businesses, multifamily complexes, and public entities. AB 341 went into effect on July 1, 2012, and requires all businesses that generate four or more cubic yards of garbage per week and multifamily dwellings with five or more units to recycle. AB 341 also sets a statewide goal of 75 percent waste diversion.

California Mandatory Organics Recycling Law – Assembly Bill 1826

AB 1826 is California’s Mandatory Organics Recycling Law for commercial businesses and multifamily complexes. AB 1826 requires businesses to recycle organic waste on and after April 1, 2016. By January 1, 2016, local jurisdictions are required to implement an organic waste recycling program that diverts organic waste generated by businesses and multifamily residential dwellings consisting of five or more units. AB 1826 phases the mandatory recycling of commercial organic waste over time based on volume of waste generated by businesses. In April 2016, businesses generating over eight cubic yards of organic waste per week are required to arrange for organic waste recycling services; in January 2017, businesses generating over four cubic yards of organic waste per week will do the same. Additionally, jurisdictions are required to submit annual reports. In 2020, CalRecycle will conduct a formal review to determine if statewide organic waste disposal has been reduced by 50 percent of 2014 levels. If not, the mandate will expand to include businesses that generate over two cubic yards of organic waste per week.

Senate Bill 1016

SB 1016 requires that the 50 percent solid waste diversion requirement established by AB 939 be expressed in pounds per person per day. SB 1016 changed the CalRecycle review process for each municipality’s integrated waste management plan. After an initial determination of diversion requirements in 2006 and establishing diversion rates for subsequent calendar years, the Board reviews a jurisdiction’s diversion rate compliance in accordance with a specified schedule. Beginning January 1, 2018, the Board will be required to review a jurisdiction’s source reduction and recycling element and hazardous waste element once every two years.

2006 Universal Waste Law

Since February 8, 2006, residents and small businesses in California have been prohibited from disposing of the following items in the garbage: batteries, electronic devices, fluorescent lights, and mercury thermostats.

4.17.2 Impact Analysis

a. Methodology and Significance Thresholds

Assessment of impacts is based on review of site information and conditions, analysis provided in the 2015 UWMP and City information regarding utility-related issues, including water supply and facilities, wastewater facilities, storm drainage, electric power, natural gas, telecommunications facilities, and solid waste. According to Appendix G of the *State CEQA Guidelines*, a significant impact would occur if implementation of the 2040 General Plan would result in one or more of the following circumstances:

1. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
2. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

3. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
4. Would the project 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?
5. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

b. Project Impacts and Mitigation Measures

Threshold 1: Would the General Plan require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Impact UTL-1 **IMPLEMENTATION OF THE 2040 GENERAL PLAN COULD REQUIRE OR RESULT IN THE RELOCATION OR CONSTRUCTION OF NEW OR EXPANDED WATER, WASTEWATER TREATMENT OR STORM WATER DRAINAGE, ELECTRIC POWER, NATURAL GAS, OR TELECOMMUNICATIONS FACILITIES HOWEVER THE GOALS AND POLICIES IN THE GENERAL PLAN 2040 AS WELL AS STATE AND FEDERAL REQUIREMENTS WOULD ENSURE ENVIRONMENTAL EFFECTS ARE LESS THEN SIGNIFICANT. THE IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The discussion for this impact is broken down into separate discussions for water, wastewater, stormwater, electric power, natural gas, and telecommunications.

Water

The projected growth of the 2040 General Plan would require a comparable increase in water capacity. The projected planned growth, as stated in Section 4.13, *Population and Housing*, projects the population of Kerman at approximately 19,650 residents by year 2040. As discussed above in Section a., projected water usage demand for the 2040 General Plan is approximately 1,744 mgd and the projected normal year supply for 2040 is 1,744 mgd (City of Kerman 2017).

Water supply would be provided to the City by the existing underground wells. Currently, groundwater well capacity is much higher than the supply totals reported. However, it is important to consider that the Kings Subbasin has historically been in a state of overdraft. The 2015 UWMP concludes, when analyzing sufficiency of water supplies that the supply is equal to demand because there is currently a sufficient volume of water within the subbasin to meet the projected demand. For example, the 2015 UWMP normal supply year and demand comparison assumes no difference in supply and demand totals from 2020 to 2040 as seen in Table 4.17-5 below. In order to continue to utilize groundwater, it is essential that the City continue its current efforts towards conservation, groundwater recharge, and groundwater management. The UWMP also recommends groundwater banking for drought years and that the City continues to develop additional water management strategies to meet projected demand. As population increases, the City plans to construct additional wells in the future to accommodate the projected increase in water demand. Land Use policies listed in the General Plan in addition to State and Federal requirements would provide for additional environmental analysis when projects are identified for development. The impacts related to development of new wells would be further analyzed when determinations are made on the type, scope, location, and timing of the wells. Such an analysis would be speculative at this time.

Table 4.17-5 Normal Year Supply and Demand Comparison

	2020	2025	2030	2035	2040
Supply Totals	1,128	1,274	1,440	1,630	1,847
Demand Totals	1,128	1,274	1,440	1,630	1,847
Difference	0	0	0	0	0

Source: City of Kerman, 2017

As described in Section a above, the City's water supply quality has periodically exceeded the MCL for Hexavalent chromium. A detailed discussion on water quality can be found in Section 4.10 *Hydrology and Water Quality*. If the State was to set new MCL levels for Hexavalent Chromium in the future, the City could be required to expand or construct new water treatment facilities to reduce Hexavalent Chromium levels to below any new MCL approved by the State. The construction of additional water treatment facilities has the potential to result in significant environmental impacts. The impacts related to development of a new facility would be further analyzed when determinations are made on the type, scope, location, and timing of treatment facilities required to reduce Hexavalent chromium MCL levels, if it does become necessary. The 2040 General Plan goals and policies, in addition to state and federal requirements would require evaluation of potential environmental impacts at the time of project development. Such an analysis would be speculative at this time.

The 2040 General Plan includes goals, policies, and programs related to the conservation, protection, and planning of the City's water supply to ensure quality and reliable water.

Conservation, Open Space, & Recreation Element Goals and Policies

Goal COS-4: To effectively manage water resources by adequately planning for the development, conservation, and protection of water resources for present and future generations.

- **Policy COS-4.1: Public Landscaping Irrigation.** The City shall reduce use of potable water for landscaping irrigation at parks, schools, rights-of-way, and other public spaces.
- **Policy COS-4.2: Stormwater Retention Basins.** The City shall incorporate stormwater retention basins into recreational areas or wildlife habitat areas for groundwater recharge.
- **Policy COS-4.3: Native and Drought-Tolerant Plants.** The City shall require the use of native and drought-tolerant plants for new landscaping in existing and future parks and street medians.
- **Policy COS-4.4: Water for Agricultural Uses.** The City shall work with the appropriate agencies to effectively manage water quantity and quality to ensure long-term, adequate availability of water for agricultural uses.
- **Policy COS-4.5: Alternative Irrigation Techniques.** The City shall encourage farmers to use the latest irrigation techniques designed to reduce water consumption.
- **Policy COS-4.6: Water Use Efficiency for New Development.** The City shall encourage new development and majority retrofits of existing development to incorporate water conservation techniques. Such techniques include requiring low-flow plumbing fixtures in new construction that meet or exceed the California Plumbing Code, use of graywater for landscaping, retention of stormwater runoff for groundwater recharge, use of reclaimed water for outdoor irrigation (where available), and landscape water efficiency standards that meet or exceed the standards in the California Model Water Efficiency Landscape Ordinance.

- **Policy COS-4.7: Water Conservation Education.** The City shall continue to promote educational programs on routine water conservation practices for households, as well as educational programs targeted toward reducing water consumption on agricultural lands.

Public Facilities and Services Element Goals and Policies

Goal PFS-2: To ensure a quality and reliable water supply to meet the needs of residents, businesses, and the agricultural industry

- **Policy PFS-2.1: Water, Sewer, and Storm Drainage Infrastructure.** The City shall continue to install and upgrade water, sewer, and storm drainage infrastructure to meet current and projected growth demand, as well as current water quality standards.
- **Policy PFS-2.2: Secondary Water Supply System.** The City shall pursue a secondary water supply system that is effective and cost-efficient to service urban-level development.
- **Policy PFS-2.5: Pollutants from Water Run-off.** During the development review process, the City shall require new development to provide facilities and/or measures to reduce pollutants in water run-off prior to entering the City's stormwater collection system. Options could include bioswales and other best management practices currently available at the time of development.

Goal PFS-3: To secure ample and predictable funding to maintain and upgrade infrastructure.

- **Policy PFS-3.1: Development Impact Fees.** During the development review process, the City shall require new development to pay its fair share of community improvements proportional to its additional need through impact fees, assessment districts, and other mechanisms.

Reducing per capita water use, groundwater recharge, water metering, and recycled water are all important components of ensuring future usage of the Kings Subbasin. The City will need to continually develop water management strategies to meet projected demand on a long term basis (City of Kerman 2016). Though the 2040 General Plan could require or result in the relocation or construction of new or expanded water facilities, the 2040 General Plan policies and programs in addition to state and federal requirements, project level analysis of environmental impacts from construction and operation at the time of the development would be addressed as feasible, therefore impacts would be less than significant.

Wastewater

In 2011, the Kerman WWTP was upgraded to a state-of-the-art facility with the capacity of 2.0 mgd, exceeding existing average daily flows (City of Kerman 2017). The City's WWTP had an average daily flow of 0.98 mgd in 2018 (City of Kerman 2019).

Public Facilities and Services Element Goals and Policies

Goal PFS-1: To provide quality public facilities and services that enhance social opportunities and quality of life.

- **Policy PFS-1.7: Location of Public Facilities.** The City shall locate new public facilities and expansions of existing public facilities, particularly City Hall, in the historic Kerman townsite, when feasible.

Goal PFS-2: To ensure a quality and reliable water supply to meet the needs of residents, businesses, and the agricultural industry.

- **Policy PFS-2.1: Water, Sewer, and Storm Drainage Infrastructure.** The City shall continue to install and upgrade water, sewer, and storm drainage infrastructure to meet current and projected growth demand, as well as current water quality standards.
- **Policy PFS-2.3: Wastewater from New Industrial Development.** The City shall discourage industrial uses that are high water users and that generate high strength wastewater, unless the industrial use can mitigate this adverse impact through ample fees, investment in public infrastructure, and/or pretreatment of its wastewater.
- **Policy PFS-2.4: Kerman Wastewater Treatment Plant.** The City should preclude the intrusion of any land uses that are incompatible with operation of the Kerman Waste Water Treatment Plant.

Goal PFS-3: To secure ample and predictable funding to maintain and upgrade infrastructure.

- **Policy PFS-3.1: Development Impact Fees.** During the development review process, the City shall require new development to pay its fair share of community improvements proportional to its additional need through impact fees, assessment districts, and other mechanisms.

The flows at the treatment plant exhibit very little seasonal variation because flows are predominately from residential uses since there are no major industrial, agriculture-related or seasonally-operated industries within the city. The projected growth, as defined in Section 4.13, *Population and Housing*, would not exceed the WWTP ability to manage average daily flow rates by 2040.

The 2015 UWMP projected the WWTP would meet capacity by the year 2027 with an average growth rate of three percent over 12 years. The 2040 General Plan projects an average growth rate of roughly one percent over 22 years, which is less than the number anticipated by the UWMP. The UWMP used Department of Finance population reports available at the time to determine population estimates. The 2040 General Plan uses Fresno COG estimates which are lower than the Department of Finance projections and the prior Fresno COG projections because both of those projections significantly over estimated recent population growth and were above the actual 2015 population reported by DOF most recently. Updated wastewater flow projections anticipate the average daily flow (ADF) rates for the WWTP to be 56 percent of capacity by 2027 (City of Kerman, 2018). Future residential development will result in typical wastewater discharges and will not require new methods or equipment for treatment that are not currently permitted for the existing treatment facility. In addition the 2040 General Plan includes Policy PFS-2.1, PFS- 2.3, and PFS-2.4 as listed above, to ensure new development would be compatible with the existing infrastructure of the WWTP. As new development is constructed within the Planning Area, additional wastewater conveyance infrastructure could require expansion. This expansion would generally occur within existing disturbed areas and therefore would generally not result in significant environmental impacts. Additional environmental analysis would be required when projects are identified for development. The impacts related to development of new conveyance infrastructure would be further analyzed when determinations are made on the type, scope, location, and timing of the facilities. Such an analysis would be speculative at this time. Therefore, due to the existing capacity of the wastewater treatment plant, wastewater policies, state and federal regulations, and the anticipated growth of the population by 2040, impacts would be less than significant.

Stormwater

The City of Kerman maintains a stormwater system that includes facilities within existing rights of ways, drains, and ponding basins throughout the City. The ponding basins provide groundwater recharge that is pumped for local crop irrigation. Average annual precipitation in the Kerman area is 11 inches. The City has no receiving water such as creeks, rivers, lakes or canals where stormwater can be directed (City of Kerman 2019; City of Kerman 2017).

Public Facilities and Services Element Goals and Policies

Goal PFS-1: To provide quality public facilities and services that enhance social opportunities and quality of life.

- **Policy PFS-1.6: Collaboration on Infrastructure Deficiencies.** The City shall collaborate with the County, neighboring cities, service districts, and regional agencies on solving issues of mutual interest and concern, including infrastructure deficiencies, water and sewer services, public safety, public roads, trail connections, and stormwater and water management.

Goal PFS-2: To ensure a quality and reliable water supply to meet the needs of residents, businesses, and the agricultural industry

- **Policy PFS-2.5: Pollutants from Water Run-off.** During the development review process, the City shall require new development to provide facilities and/or measures to reduce pollutants in water run-off prior to entering the City's stormwater collection system. Options could include bioswales and other best management practices currently available at the time of development.

The 2040 General Plan Map 17 shows that the City and surrounding Sphere of Influence will be served by the City's storm drainage system. New development within the Planning Area would be required to include additional stormwater facilities as listed in Policy PFS-2.5 to reduce pollutants in water run-off prior to entering the City's system. Any discretionary development that could occur within the 2040 General Plan, including stormwater system expansions or upgrades, would be required to go through an individual environmental review process that would ensure any possible impacts to the environment are known and mitigated to the extent feasible. The impacts related to development of new stormwater facilities would be further analyzed when determinations are made on the type, scope, and location of the facilities. Such an analysis would be speculative at this time. Though new development may require the expansion of solid waste facilities and transfer stations within the Planning Area, the policies listed in the 2040 General Plan, in addition to state and federal policies, would reduce impacts to less than significant.

Electric Power & Natural Gas

The City of Kerman is serviced for electric power and natural gas by Pacific Gas and Electric Company. The City of Kerman 2040 General Plan includes policies to ensure sufficient electric and natural gas is available for proposed buildout.

Public Facilities and Services Element Goals and Policies

Goal PFS-1: To provide quality public facilities and services that enhance social opportunities and quality of life.

- **Policy PFS-1.2: Adequate Public Utilities.** The City shall continue to require the adequate provision of gas, electric, communications, and telecommunications services to fulfill the needs of residents and businesses.

Land Use Element Goals and Policies

Goal LU-3: To create a land use pattern that protects agricultural and open space lands by promoting compact and centralized urban growth around the historical Kerman townsite.

- **Policy LU-3.1: Strong Community Edge.** The City shall develop and maintain a strong community edge that clearly separates urban and agricultural uses, including through the use of man-made or natural barriers such as streets, railroads, and canals.
- **Policy LU-3.2: Sphere of Influence Maintenance.** The City shall maintain the Sphere of Influence to proactively plan and logically provide for growth of the community.
- **Policy LU-3.3: Prevent Sprawl Development.** The City shall direct new development to areas that are contiguous to existing or approved development and prevent sprawl development.
- **Policy LU-3.4: Leapfrog Development.** The City shall require the Planning Commission and City Council to make a finding before approving new subdivisions that are more than 1/8 mile from existing urban development
- **Policy LU-3.5: Increase Density and Intensity within City Limits.** The City shall prioritize increase overall residential densities and building intensities within current City limits to prevent development on surrounding agricultural lands
- **Policy LU-3.6: Infill and Renovation.** The City shall encourage infill of vacant commercial properties and renovation of existing commercial structures to reduce the rate at which surrounding agricultural land is urbanized and to provide for a more efficient use of existing infrastructure.

Conservation, Open Space, & Recreation Goals and Policies

Goal COS-5: To minimize energy consumption and reduce greenhouse gas emissions as part of the statewide effort to combat climate change.

- **Policy COS-5.3: Sustainable Building Practices.** The City shall promote sustainable building practices that incorporate a “whole systems” approach to design and construction that consumes less energy, water, and other non-renewable resources, such as facilitating passive ventilation and effective use of daylight.
- **Policy COS-5.4: Renewable Energy Features in New Projects.** During the development review process, the City shall encourage projects to integrate features that support the generation, transmission, efficient use, and storage of renewable energy sources.
- **Policy COS-5.5: Energy-Efficient Municipal Buildings.** The City shall consider CALGreen Tier 1 energy performance, along with LEED Silver or Gold equivalent status for new municipal buildings to maximize energy efficiency
- **Policy COS-5.7: Energy Conservation Awareness.** The City shall increase awareness about energy efficiency and conservation to encourage residents, businesses, and industries to conserve energy.

New development facilitated by the General Plan would require new electric and gas connections to formerly vacant parcels. These new expanded infrastructure facilities to provide power and gas to new development could have significant environmental impacts. Much of the land within the Planning Area, adjacent to the City limits are agricultural or vacant parcels that are identified for residential, commercial and industrial development under the 2040 General Plan. As each area is developed, large scale infrastructure for PG&E could be required to meet the new demand. All discretionary development that could occur in line with the 2040 General Plan Planning Area would be required to go through individual environmental review processes that would ensure any possible impacts to the environment are known and mitigated to the extent feasible. Though new development may require new and expanded systems for electric and natural gas; the policies listed in the 2040 General Plan as stated above, in addition to state and federal policies, would reduce impacts to less than significant.

Telecommunications

As detailed in Section a above, existing broadband infrastructure for the City of Kerman lacks fixed cable connections for businesses, relying heavily on wireless services. Additional development in the City may reduce speeds due to increased activity on the system.

Economic Development Element Goals and Policies

Goal ED-3: To foster a thriving local economy through the expansion of local businesses and attraction of new industries to provide quality employment opportunities for residents, as well as stable businesses and a sound tax base.

- **Policy ED-3.1: Diversified Employment Base.** The City shall diversify the employment base, while enhancing its agricultural economic base.

As part of the implementation of the above policy, the City Program I – Enhance Broadband Capacity, states that the City shall coordinate with broadband providers and the regional broadband consortium to explore opportunities to install gigabit speed broadband capacity in Kerman. This program is necessary to ensure adequate services are available to the City by buildout of the General Plan. Development of the required infrastructure to increase telecommunication services to the City could have significant environmental impacts. As areas within the City limits and SOI are developed, large scale and expanded broadband infrastructure may be required to meet demand. The impacts related to development of new telecommunications infrastructure would be further analyzed when determinations are made on the type, scope, location, and timing of the facilities. Such an analysis would be speculative at this time. Though new development may require new and expanded broadband and telecommunication systems, the policies listed in the 2040 General Plan, in addition to state and federal policies, would reduce impacts to less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the General Plan have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Impact UTL-2 THE 2040 GENERAL PLAN WOULD HAVE SUFFICIENT WATER SUPPLIES AVAILABLE TO SERVE FUTURE DEVELOPMENT DURING NORMAL, DRY, AND MULTIPLE DRY YEARS. IMPACTS ON WATER SUPPLIES DUE TO BUILDOUT OF THE 2040 GENERAL PLAN WOULD BE LESS THAN SIGNIFICANT.

The City of Kerman 2015 UWMP quantifies the City's water use projections through the year 2040 based on the 2007 General Plan. The UWMP concluded that because of large volumes of available groundwater and the fact that water levels are very stable in the subbasin and the Kerman area, groundwater would be able to meet all the water supply needs projected for the City for the next 25 years and beyond, even in drought periods such as the severe one-year drought experienced in 1977 and the prolonged drought of 1987 to 1992.

The UWMP analyzes water usage assuming a growth rate of 2.69 percent to the year 2040, roughly 1.19 percent greater than the growth rate projected for the 2040 General Plan at 1.5 percent over the next 20 years. Based on a slower growth projection, and the reliability of the City's water supply, it is anticipated that the City would have sufficient supplies available to serve the 2040 General Plan during normal, dry and multiple dry years. Issues with water quality and the City's potential requirements to address them are detailed in Impact UTL-1 above. In addition, the 2040 General Plan includes goals, policies, and programs related to the conservation, protection, and planning of the City's water supply to ensure quality and reliable water as detailed in Impact UTL-1 above. Therefore, impacts to the City's water supply would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3: Would the General Plan result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Impact UTL-3 THE CITY'S WASTEWATER TREATMENT PLANT IS PROJECTED TO HAVE ADEQUATE CAPACITY TO SERVE THE PROJECTED DEMAND FROM BUILDOUT OF THE 2040 GENERAL PLAN IN ADDITION TO EXISTING COMMITMENTS. IMPACTS TO WASTEWATER TREATMENT WOULD BE LESS THAN SIGNIFICANT.

Wastewater for the City of Kerman is treated at the City of Kerman Wastewater Treatment Plant (WWTP), operated by the City. The Central Valley Regional Water Quality Control Board (RWQCB) issued wastewater treatment requirements for the WWTP in Order R5-2007-0115. The facility is subject to the permit requirements that establish pollutant limits for effluent discharges to receiving waters. A violation of the WWTP permit requirements would occur if effluent discharges exceeded adopted limits for one or more pollutants or if the daily maximum permitted treatment volume is exceeded and excess discharge is released into downstream water bodies. In 2011, the Kerman WWTP was upgraded to a state-of-the-art facility with the capacity to treat 2.0 mgd (millions of gallons per day) of wastewater, greatly exceeding existing average daily flows (City of Kerman,

2017). The City's WWTP had an average daily flow of 0.98 mgd in 2018 (City of Kerman 2018). The flows at the treatment plant exhibit very little seasonal variation because flows are predominately from residential uses since there are no major industrial, agriculture-related or seasonally-operated industries within the City.

The 2015 Urban Water Management Plan (UWMP) projected the WWTP would meet capacity by the year 2027 with an average growth rate of three percent over 12 years. The 2040 General Plan projects a growth rate of roughly one percent over 22 years, which is less than the rate anticipated by the UWMP. Updated wastewater flow projections anticipate the average daily flow (ADF) rates for the WWTP to be 56 percent of capacity by 2027 (City of Kerman 2018). The anticipated addition of 1,500 homes would not exceed the current remaining capacity of 44 percent. The current housing count is at 4,215 units, utilizing 56 percent of capacity (Table 4.17-4). Future residential development will result in typical wastewater discharges and will not require new methods or equipment for treatment that are not currently permitted for the existing treatment facility. In addition, the 2040 General Plan includes Policy PFS-2.1, PFS-2.3, and PFS-2.4 within Chapter 8, Public Facilities and Services, to ensure new development would be compatible with the existing infrastructure of the WWTP. Therefore, the project has adequate capacity to serve the 2040 General Plan to buildout.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 4: Would the General Plan 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?

Threshold 5: Would the General Plan comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Impact UTL-4 DEVELOPMENT FACILITATED BY THE 2040 GENERAL PLAN WOULD INCREASE DEMAND FOR SOLID WASTE SENT TO LANDFILLS. LANDFILLS SERVING THE CITY OF KERMAN HAVE ADEQUATE CAPACITY TO ACCEPT ADDITIONAL WASTE UNTIL AUGUST 2036. THE CITY HAS MET THE TARGET DISPOSAL RATE UNDER SB 1016 IN 2017. IT IS ANTICIPATED THAT ANY ADDITIONAL GROWTH WOULD INCREASE THE POPULATION DISPOSAL RATE TO ABOVE ALLOWABLE LEVELS. THIS IMPACTS WOULD SIGNIFICANT AND UNAVOIDABLE AS THE CITY DOES NOT HAVE JURISDICTION OVER COUNTY LANDFILL OPERATIONS AND THEREFORE CANNOT MITIGATE THIS IMPACT.

The City of Kerman contracts with Mid Valley Disposal (MVD) for solid waste, recycling, and composting services. MVD hauls solid waste to the American Avenue Landfill, about 6 miles southwest of Kerman, and recyclables to the MVD new Material Recover Facility (MRF) in Fresno which is capable of processing 35 tons of material an hour for division to manufacturer and can process wood into wood chips and mulch for safe public use (Kerman 2019). The MRF recovers 90% of material it sorts out of landfills (MVD 2019). The MVD facility in Kerman is a transfer station that operates under Permit 10-AA-0201, consistent with federal, state, and local management and reduction statutes and regulations related to solid waste. The site was approved for expansion to

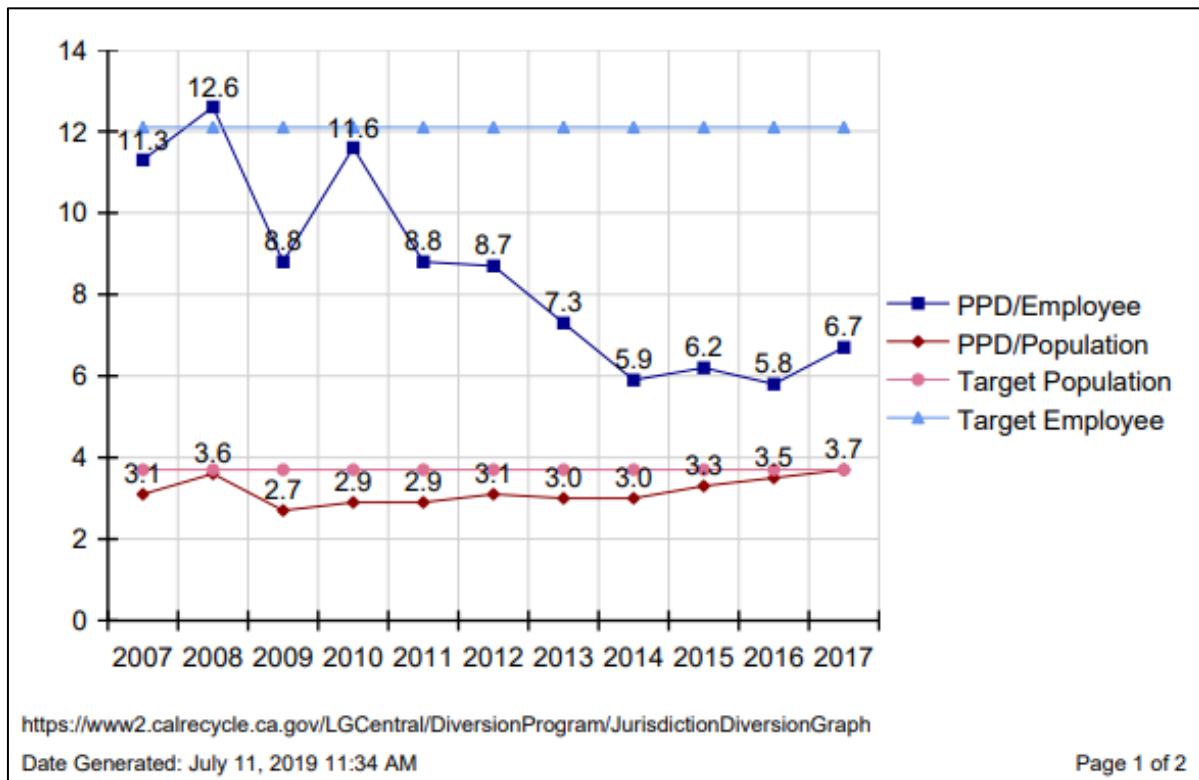
develop an adjacent 28 acres in 2013, over three phases, and was completed in 2017. The full buildout of the facility included the completion of the MRF and increased the facility's ability to handle recycling and transfer station operations (CalRecycle 2012). The site is permitted for a throughput of 1,500 tons per day maximum of solid waste with a max permitted capacity of 49,000 cubic yards (CalRecycle, 2018). In addition the facility processes compostable organic wastes with the ability to handle 60,000 tons of organic material per year, producing high quality finished compost (Kerman, 2019). The composting area is permitted for 5.5 acres and has a design maximum capacity of 218,686 cubic yards. The most recent permit for the facility also noted that MVD is in the process of adding medium volume in-vessel digestion as part of the facility with a permitted area of 1.2 acres and maximum design capacity of 10,900 cubic yards (CalRecycle 2018).

The American Avenue Landfill is owned and operated by Fresno County and began operation in 1992 for public and commercial solid waste haulers. The landfill has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards. The maximum permitted throughput is 2,200 tons per day (CalRecycle Facility/Site Summary Details 2019). It is estimated that the landfill will be able to continue operation until August 3, 2036 when it is estimated to be full and will have to be closed. This is based on calculations completed on June 30, 2019 (Dan Amann, Fresno County Public Works, Resources Division, Personal call 2019). Landfill capacity is recalculated on a regular basis based on the most current conditions so it is possible that capacity could reach into 2040, but is unknown at this time. Future development throughout Fresno County may contribute to a reduced life span of the American Avenue Landfill. Additional landfill area is currently anticipated to be necessary in 2036 due to the anticipated overall growth of Fresno County and municipalities within the County. As the American Avenue Landfill reaches its capacity, the City of Fresno and/or County of Fresno will be responsible for acquisition of additional landfill area or possibly privatization at additional landfill locations.

As detailed in Section 2, *Demographics and Economic Conditions*, the growth associated with the General Plan is consistent with the Fresno Council of Governments (COG) population growth projections. Since the landfill capacity model relied on the 2007 General Plan population growth projections which were significantly higher than those projected for the 2040 General Plan buildout, the MVD facilities incorporate the growth associated with the General Plan. As new development occurs, landfill facilities may need to be expanded to accommodate growth. The expansion of these facilities could result in significant environmental impacts. Any discretionary development that could occur within the 2040 General Plan, including landfill and transfer facility expansions or upgrades, would be required to go through an individual environmental review process that would ensure any possible impacts to the environment are known and mitigated to the extent feasible. The impacts related to development of new landfill facilities would be further analyzed when determinations are made on the type, scope, location, and timing of the facilities. Such an analysis would be speculative at this time. Though new development may require the expansion of solid waste facilities and transfer stations within the Planning Area, the policies listed in the 2040 General Plan, in addition to state and federal policies, would reduce impacts to less than significant.

Pursuant to Senate Bill 1016 (SB 1016), jurisdictions have been assigned target disposal per capita rates for residents and employees. Target rates for the City of Kerman are 3.7 pounds per resident per day and 12.1 pounds per employee per day. According to the 2017 Jurisdiction Diversion/Disposal Rate Detail for the City of Kerman, the disposal rate for the City was 3.7 pounds per resident per day and 6.7 pounds per employee per day (CalRecycle 2017). Figure 4.17-1 below shows the disposal rate trends for the City from 2007 to 2017.

Figure 4.17-1 Per Capita Disposal Rates Trends: Kerman 2007-2017



The policies in the 2040 General Plan would promote waste diversion and ensure sufficient landfill capacity to accommodate the estimated increase in solid waste generation.

Public Facilities and Services Element Goals and Policies

Goal PFS-1: To provide quality public facilities and services that enhance social opportunities and quality of life.

- **Policy PFS-1.3: Integrated Waste Management System.** The City shall continue ensuring that residents and businesses have a cost-effective, integrated waste management system.

Goal PFS-4: To support and invest in efficient energy practices at City facilities and events.

- **Policy PFS-4.3: Recycling Receptacles and Biodegradable/Recycled-Materials Products.** At City facilities and events, the City shall increase the availability of recycling and composting receptacles and use biodegradable or recycled-material products instead of single-use plastic products

Development under the proposed 2040 General Plan would be required to comply with SB 1016 related to solid waste. The implementation of the transfer station in 2017 allowed Kerman to increase waste diversion to comply with SB 1016. In addition, listed goals and policies in the General Plan, compliance with the City of Kerman Municipal Code requirements, and diversion requirements regarding solid waste disposal, would ensure that the City continues to meet SB 1016 targets. But due to the American Landfill currently estimated to reach capacity ahead of the General Plan horizon of 2040, and the City not having jurisdiction over the landfill, this impact must be considered significant and unavoidable.

Mitigation Measures

No mitigation measures are available as Kerman does not jurisdiction or control over County landfills.

Significance After Mitigation

Impacts would be significant and unavoidable.

Cumulative Impacts

Infrastructure Facilities Expansion

Cumulative buildout associated with the 2040 General Plan would require additional infrastructure for electrical, gas, telecommunications, wastewater, water, and solid waste as development occurs. The 2040 General Plan policies promote the orderly growth of the City and would require additional environmental analysis as type and scope of developments are realized. With adherence to the 2040 General Plan policies, associated expansion of infrastructure facilities would not result in cumulatively considerable impacts.

Wastewater

Cumulative buildout associated with the 2040 General Plan would increase demands on the existing wastewater treatment and conveyance facilities. The analysis provided under Impact UTL-1 is cumulative in nature and considers wastewater generation associated with the cumulative buildout. With implementation of General Plan 2040 policies, as described under Impact UTL-1, the proposed General Plan 2040 would not result in cumulatively considerable impacts related to wastewater infrastructure.

Water

The analysis provided under Impact UTL-1 is cumulative in nature and considers water demand imposed by the buildout associated with the 2040 General Plan. General Plan 2040 includes policies to minimize increased water demand associated with new developments. The policies promote water conservation, addresses water quality, and require new developments to incorporate water-efficient design features. With adherence to these 2040 General Plan policies, associated buildout would not result in cumulatively considerable water supply impacts.

Solid Waste

Cumulative buildout associated with the 2040 General Plan would increase solid waste generation. As discussed under Impact UTL-4, the area landfill will be at capacity by 2036, however the City of Fresno and/or County of Fresno will be responsible for acquisition of additional landfill area or possibly privatization at additional landfill locations. Cumulatively, other areas which utilize the same landfills would also continue to experience growth and associated increases in solid waste generation. State-mandated solid waste diversion rates (for recycling) would continue to minimize the quantity of waste directed to area landfills, and compliance with applicable regulations and Kerman 2040 General Plan goals, policies, and actions would maintain or improve upon existing solid waste diversion rates. The City will need to monitor this, but because the City does not have jurisdiction over landfill management or expansion, and the landfill will reach capacity ahead of the plan horizon of 2040, mitigation is not available to the City and therefore cumulative impacts on solid waste facilities would be cumulatively considerable.

4.18 Effects Found Not to be Significant

During evaluation of the 2040 General Plan, certain impact areas included in the California Environmental Quality Act (CEQA) Appendix G checklist were found to have a less than significant impact or no impact. As allowed under CEQA Guidelines Section 15128, this section discusses why impacts to these environmental topics were determined to have a less than significant impact or no impact and therefore are not discussed in detail in the Draft Environmental Impact Report (EIR) as individual sections.

4.18.1 Aesthetics

- b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

California's Scenic Highway Program designates scenic highways with the intention of protecting their corridors from change that would diminish the aesthetic value of adjacent lands. Fresno County has one officially designated State Scenic Highway: State Route (SR) 180 (Caltrans 2011). Although SR 180 borders the City's northern boundary, the portion of SR Route 180 that is officially designated, is located over 30 miles to the east. Because implementation of the 2040 General Plan would have no impact on scenic resources within the vicinity of a state scenic highway, there would be no impact.

4.18.2 Forestry Resources

- c. Would the project 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))?*
- d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

The City of Kerman planning area consists primarily of agricultural and urban land uses and does not contain any forest land or woodlands. No Timber Harvesting Plans (TPH) currently (2018) exist in Kerman planning area and no Timber Preservation Zones (TPZ) exist within the planning area (CalFire 2012; Fresno County 2018). Because there are no forest or timberland areas in the Planning Area, implementation of the 2040 General Plan would not result zoning conflicts or loss/conversion of forest land. There would be no impact.

4.18.3 Biological Resources

- f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local regional, or state habitat conservation plan?*

The City of Kerman does not currently have a habitat conservation plan, natural community conservation plan, or any other similar approved plan. Therefore, implementation of the 2040 General Plan would not conflict with any habitat conservation plan or natural community conservation plan. There would be no impact.

4.18.4 Geology and Soils

- a.4 Would the project directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving landslides?*

Due to the flat topography present in the Planning Area, there are no identified landslide hazard areas in the City of Kerman or immediate vicinity (City of Kerman 2019). The nearest landslide hazard area is located 75 miles to the southeast in the Sierra Nevada range near Kings Canyon National Park (City of Kerman 2019). There would be no impact.

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

Soils with relatively high clay content are considered expansive because of the capacity of clay minerals to take in water and expand to greater volumes. Four soil types underlie the City of Kerman: Hanford course sandy loam, Hesperia sandy loam, Traver sandy loam, and Tujunga loamy sand. All four types have low to moderate shrinks/swell potential and are not considered expansive (City of Kerman 2019). All future development would be required to adhere to California Building Code (Chapter 15.04 of the Kerman Municipal Code), which would ensure that buildings are built in accordance with the most recent structural regulations for building safety. No impacts related to expansive soils would occur.

- e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

New development facilitated by the 2040 General Plan would occur where existing sewer systems are in place or extended to serve new development. New development under the 2040 General Plan would not require the use of septic systems or alternative wastewater disposal systems. Because no new septic tank or alternative wastewater disposal system would be allowed under the plan, there would be no impact related to soils incapable of handling such systems. There would be no impact.

4.18.5 Hazards and Hazardous Materials

- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The nearest active airports to the City of Kerman are the Fresno Chandler Executive Airport and Sierra Sky Park Airport, both located about 12 miles to the east in Fresno. Kerman is located outside the Airport Influence Areas associated with these airports, noise contour maps, and safety compatibility zones (City of Fresno 1995; 2014). Bland Field, a former privately-owned airstrip, is located approximately 0.7 mile southeast of Kerman city limits, south of Church Avenue, and east of Goldenrod Avenue. This airstrip is closed and therefore does not currently pose a risk of aviation hazards to the community. As a result, implementation of the 2040 General Plan would not subject residents or workers to substantial aviation related hazards. There would be no impact.

- g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

As designated by the California Department of Forestry and Fire Protection, the City of Kerman is located in an unzoned local responsibility area according to the most recent Fire Hazard Severity Zones map. The nearest mapped hazard zone is listed as a moderate fire hazard severity zone and is located five miles northwest of the City of Kerman between the City of Mendota and the unincorporated community of Tranquility. The nearest very-high fire hazard severity zone is located 30 miles to the southwest near the community of Huron. In addition, there are no wild or forestlands located in the City (see 4.17.1, Forestry Resources). Because the Planning Area is not located in a fire hazard severity zone, does not contain nor located near wildland areas, implementation of the 2040 General Plan would not exacerbate impacts related to wildfire hazards. There would be no impact.

4.18.6 Mineral Resources

- a. Would the project result in a loss of availability of a known mineral resource that would be of value to the region and residents of the state?*
- b. Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

The entire City of Kerman is located in the Fresno County Production-Consumption Region, which is primarily mined for Portland concrete cement grade (PCC) aggregate resources. The Surface Mining and Reclamation Act of 1975 (SMARA) requires the state geologist [Division of Mines and Geology (DMG)] to identify and classify all mineral deposits in California. In 1979, the state Board of Mining and Geology adopted guidelines that require local general plans to reference identified mineral deposits and sites that are identified for conservation. The City of Kerman is not located in an area identified mineral deposit significance and per the most recent Department of Conservation's Active Mine Operations Map, there are no active mine operations in the planning area (DMG 2019; Division of Mine Reclamation 2019). The nearest active mine, Glamis Pit, is located over five miles to the northeast from the planning area. The 2040 General Plan would not facilitate any new mining activity and would not result in the loss of availability of known mineral resources. There would be no impact.

4.18.7 Noise

- c. 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, would the project expose people residing or working in the project area to excessive noise levels?*

The nearest active airports to the City of Kerman are the Fresno Chandler Executive Airport and Sierra Sky Park Airport, both located about 12 miles to the east in Fresno. Kerman is located outside both airports noise contour maps (City of Fresno 1995; 2014). Bland Field, a former privately-owned airstrip, is located approximately 0.7 mile southeast of Kerman city limits, south of Church Avenue, and east of Goldenrod Avenue. This airstrip is closed and therefore does not currently generate any sources of noise to the community. As a result, implementation of the 2040 General Plan would not subject residents or workers to excessive noise levels. There would be no impact.

4.18.8 Wildfire

- a. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*
- b. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- c. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?*
- d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

As designated by the California Department of Forestry and Fire Protection, the City of Kerman is located in an unzoned local responsibility area according to the most recent Fire Hazard Severity Zones map. The nearest mapped hazard zone is listed as a moderate fire hazard severity zone and is located five miles northwest of the City of Kerman between the City of Mendota and the unincorporated community of Tranquility. The nearest very-high fire hazard severity zone is located 30 miles to the southwest near the community of Huron. Because the Planning Area is not located in a fire hazard severity zone, implementation of the 2040 General Plan would not impair adopted emergency response in a fire hazard area or exacerbate impacts related to wildfire hazards. There would be no impact.

5 Other CEQA Required Discussions

This section discusses growth-inducing impacts, irreversible environmental impacts, and energy impacts that would be caused by the proposed project.

5.1 Growth Inducement

Section 15126(d) of the CEQA Guidelines requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth inducing potential is therefore considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas. The project itself is to plan for and in anticipation of the growth of Kerman. The potential impacts associated with this growth would be mitigated through the goals and policies included in the General Plan that provide for orderly and planned growth in the City. This planned growth in existing urbanized areas would assist in reducing growth elsewhere in the more rural and agricultural sections of the County. Analysis of project related growth is analyzed through this EIR for individual environmental issue areas in Sections 4.1 through 4.18.

5.1.1 Population and Employment Growth

As discussed in Section 4.13, *Population and Housing*, development associated with the General Plan could accommodate an estimated 4,170 new residents, 1,010 new jobs and 1,500 new households in the City. With the estimated growth as part of the proposed project, Kerman would have a 2040 population of approximately 19,650, along with 3,580 jobs and 5,715 households. This would not exceed FCOG growth projections for 2040. As discussed in Section 4.13, *Population and Housing*, employment in the City is projected to increase by approximately 1.2 percent per year by 2040. Therefore, the project would not directly or indirectly induce significant population growth in the City beyond that already anticipated.

5.1.2 Removal of Obstacles to Growth

The 2040 General Plan's focus is on controlled development in the existing urbanized portions of the City. State and regional demographic trends are anticipated to limit citywide growth to within the forecast amounts. Because no exceedance of the population forecast is anticipated, the 2040 General Plan would not induce substantial population growth. One of the fundamental purposes of the 2040 General Plan is to direct future development in such a way as to minimize the impacts of growth by emphasizing the intensification and reuse of already developed areas, thus minimizing pressure to develop on the remaining open space and agricultural land. Specific goals and policies in the Land Use and Housing Elements of the 2040 General Plan direct the City to emphasize this pattern of development, to ensure that the 2040 General Plan does not result in substantial unplanned growth. Therefore, although development of vacant lands would require new infrastructure and expansion of services, new development would occur primarily where existing roads, water, and sewer are in place and in a manner that minimizes the impact of development on

existing facilities and services. In addition, the goals, policies, and programs of the Land Use and Housing Elements would limit development in Kerman, thereby controlling, rather than removing, obstacles to growth. These policies would support growth management in order to protect and/or enhance whenever feasible the environment, maintain the existing infrastructure in the City, retain Kerman's small-town character, discourage development that "leapfrogs" over vacant and unused land, and encourage development around employment centers to provide local residents with opportunities to live and work in the same community (Policies LU-3.2 to LU-3.5, and Policies HE-1.4 to HE-1.7 and HE-1.9 as well as the Urban Reserve (UR)).

5.2 Irreversible Environmental Effects

The CEQA Guidelines require that EIRs evaluating projects involving amendments to public plans, ordinances, or policies contain a discussion of significant irreversible environmental changes. CEQA also requires decision-makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the development that would be facilitated by implementation of the proposed project.

Construction activity associated with planned development that would be accommodated under the 2040 General Plan would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development in the region and are not unique to Kerman or the proposed 2040 General Plan. The addition of new residential and non-residential development in the City through 2040 would irreversibly increase local demand for non-renewable energy resources such as petroleum and natural gas. However, increasingly efficient building fixtures and automobile engines, as well as implementation of policies included in the 2040 General Plan, are expected to offset the demand to some degree. It is not anticipated that growth accommodated under the 2040 General Plan would significantly affect local or regional energy supplies.

Growth facilitated by the 2040 General Plan would also require an irreversible commitment of City services, water supply, and wastewater treatment. As discussed in Section 4.14, *Public Services*, and Section 4.17, *Utilities and Service Systems*, impacts to public services and utilities would be reduced to a less than significant level with implementation of policies included in the 2040 General Plan. However, impacts associated with solid waste capacity would be significant as the anticipated closure date of the American Avenue Landfill is in 2036, ahead of the 2040 plan date of the General Plan.

The additional vehicle trips associated with growth from implementation of 2040 General Plan would incrementally increase local traffic, noise levels, and regional air pollutant and greenhouse gas (GHG) emissions. As discussed in Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, implementation of the 2040 General Plan policies, regional air pollution programs, and mitigation measures would reduce the air pollutant and GHG emissions associated with individual future development projects. Air quality pollutants would be reduced to below significance thresholds; however, GHG emissions would not be reduced to below significant thresholds and would result in a significant unavoidable impact. As discussed in Section 4.12, *Noise*, implementation of proposed policies and mitigation measures would reduce the noise impacts associated with future growth to less than significant. As discussed in Section 4.15, *Transportation/Traffic*, the 2040 General Plan policies and mitigation measures would reduce

impacts to the majority of traffic and Vehicle Miles Traveled (VMT). However, population growth facilitated by the 2040 General Plan and the region would result in additional vehicle trips on area roadways, resulting in significant and unavoidable VMT impacts.

5.3 Significant and Unavoidable Impacts

The environmental effects of the proposed project, along with recommended mitigation measures, are discussed in detail in Section 4, *Environmental Impact Analysis*, of this EIR and summarized in the Executive Summary. The following environmental issues were determined to be less than significant, or can be reduced to less than significant with the incorporation of mitigation measures:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Tribal Cultural Resources

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to less than significant levels, as a result of implementation of the project. The following environmental issues were determined to result in potential significant and unavoidable impacts.

- Greenhouse Gas Emissions: increase in greenhouse gas emissions beyond local threshold.
- Transportation and Traffic: increase in VMT impacts beyond City threshold.
- Utility and Service Systems: solid waste capacity reached at year 2036 before 2040.

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6 Alternatives

The 2040 General Plan has been described and analyzed in the previous chapters of this EIR, with an emphasis on potentially significant environmental impacts and recommended mitigation measures to reduce those impacts. This chapter's purpose is to describe and analyze a range of reasonable alternatives that could feasibly attain most of the objectives of the project, while avoiding or substantially lessening any of the significant effects of the project (*CEQA Guidelines*, Section 15126.2(a)).

6.1 Introduction

Under CEQA, the identification and analysis of alternatives to a project is a fundamental part of the environmental review process, Public Resources Code Section 21002.1(a) establishes the need to address alternatives in an EIR by stating that in addition to determining a project's significant environmental impacts and indications potential means of mitigating or avoiding those impacts, *"the purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."*

Direction regarding the definition of project alternatives is provided in *CEQA Guidelines* Section 15126.6(a) as follows:

"An EIR shall describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives."

The *CEQA Guidelines* emphasize that the selection of project alternatives should be based primarily on the ability to reduce impacts relative to the proposed project, *"even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly"* (Section 15126.6(b)). In addition, Section 15126.6(f) of the *CEQA Guidelines* further directs that the range of alternatives be guided by a "rule of reason" which requires the EIR to set forth only those alternatives necessary to permit an informed and reasoned choice by the lead agency, and to foster meaningful public participation.

Beyond these factors, the *CEQA Guidelines* require the analysis of a no project alternative and an evaluation of alternatives to the project, if feasible. Based on the alternative analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the no project alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (*CEQA Guidelines* Section 15126.6(e)(2)). In addition, *CEQA Guidelines* Section 15126.6(c) requires that an EIR identify any alternatives that were considered for analysis but rejected as infeasible and discuss the reasons for their rejection.

Project alternatives considered were evaluated for their potential feasibility, their ability to achieve most of the project objectives, and their ability to reduce or substantially lessen significant environmental effects. The following sections provide an overview of the significant environmental

effects of the project, a project objectives/guiding principles and then describes the alternatives that were considered but ultimately rejected from further consideration in this section, as well as the alternatives that are analyzed in detail.

6.2 Significant Environmental Effects

Potentially significant impacts of the 2040 General Plan can be mitigated to less-than-significant levels with the exception of the following significant unavoidable impacts described in Chapter 4, *Environmental Impact Analysis*, of this EIR.

- **Greenhouse Gas (GHG) Emissions** (see Section 4.8)
- **Transportation and Traffic** – Vehicle Miles Travelled (VMT (see Section 4.15)
- **Utilities and Service Systems** – Solid Waste (see Section 4.17)

6.3 Project Description/Objectives

As discussed in Section 2.0, *Project Description*, the 2040 General Plan vision, and thus the objectives for the future are as follows:

Kerman is located in the heart of the Central Valley. In order to maintain the small agricultural town charm of the City, the General Plan would provide four main defining features that includes General, Comprehensive, Long-Range, and Integrated and Coherent guidance for the future economy of Kerman.

The 2040 General Plan consist of the following Elements:

- **Economic Development Element.** The Economic Development Element focuses on supporting traditional employment sectors, including agriculture, manufacturing, construction, transportation, and warehousing, while ensuring the city is responsive to cost pressures, shifting consumer demands, and competition.
- **Land Use Element.** The Land Use Element establishes the pattern and intensity of land use in the city and sets forth policies and standards to guide future development. This Element serves as the primary vehicle for ensuring that new land uses are logically organized and developed in a way that preserves Kerman’s small-town, Central Valley charm as well as surrounding agricultural and open space lands.
- **Circulation Element.** The Circulation Element focuses on providing a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel.
- **Housing Element.** The Housing Element ensures that there is adequate land in place to accommodate Kerman’s fair share of new residents. The City adopted the 2015-2023 Housing Element in 2016 to identify and address housing needs in the city in compliance with State housing law. The 2040 General Plan integrates the City’s current 2015-2023 Housing Element by formatting the document to be consistent with the 2040 General Plan update.
- **Conservation, Open Space, Parks and Recreation Element.** The Conservation, Open Space, Parks and Recreation Element focuses on conserving the city’s natural and open space environment for present and future residents, as well as enhancing important attributes to Kerman that provide recreation for residents and visitors.

- **Public Health and Safety Element.** The Public Health and Safety Element establishes a policy framework for protecting people and property from unreasonable risks from natural disasters, crime, noise, and other events. It also focuses on disaster and emergency response.
- **Public Facilities and Services Element.** The Public Facilities and Services Element guides decision-making concerning public and private infrastructure, utilities, and services.

6.4 Alternatives Considered But Rejected

Other alternatives considered include various scenarios that would reduce GHG emissions, vehicle miles traveled, and solid waste. The possibility of increasing office and industrial land uses to offset the jobs and housing balance could result in a reduction in GHG and VMT, however there has been an availability of industrial land since adoption of the 2007 General Plan that has not been developed and a saturation of industrial uses depending on market forces would result in other significant and unavoidable impacts to the City's wastewater system and potential contamination to the City's water supplies. This alternative would also increase industrial solid waste.

Increasing density within the City limits and Sphere of Influence (SOI) would result in similar GHG and VMT impacts as the area will continue to see the same commute pattern of Kerman residents driving to Fresno. This alternative would also increase solid waste disposal with the additional population growth.

Adding a fixed rail transit service from Kerman to Fresno would increase ridership for public transit services and reduce GHG and VMTs. This alternative would be monetarily beyond the scope of the City's abilities and would require State and federal support as well as buy-in from Amtrak and owners of the rail line to develop and utilize the necessary infrastructure.

Incentivizing electrical vehicle (EV) use would reduce emissions from non-stationary sources but would not have an impact on VMT or solid waste reduction. Increasing EV use would require increasing tax credits, adding EV charging stations, and other incentives that are beyond the control of the City. These incentives would likely not be able to increase the EV use sufficiently to reduce GHG emissions below a level of significance.

Therefore, these scenarios were rejected from further consideration.

6.5 Alternatives Evaluated in the Draft EIR

Included in this analysis are two alternatives, including the CEQA-required "no project" alternative and an alternative that involve changes to the project that potentially reduce the significant environmental impacts identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project/ Build out of current 2007 General Plan
- Alternative 2: 2040 General Plan with a Reduction in Residential Growth and Increased Transportation Alternatives

Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.5.1 through 6.5.5.

6.5.1 Alternative 1: No Project Alternative

Description

The No Project Alternative involves continued implementation of the 2007 General Plan. Under this alternative, the 2040 General Plan would not be adopted and the existing General Plan, including the land use map, SOI boundaries, and all of the General Plan goals and policies, would remain in place through the horizon year of 2040. Thus, any new development in Kerman would occur consistent with the existing land use designations and the allowed uses within each designation. Similarly, any new infrastructure would occur as envisioned in the 2007 General Plan without the new 2040 General Plan Circulation Element policies that would address VMT impacts. The 2040 General Plan proposes to expand the 2007 SOI; this new area would remain designated as Agriculture and would not be developed. Growth patterns between the 2007 General Plan and 2040 General Plan would be similar within the City under the No Project Alternative.

Based on the projections for growth in the 2007 General Plan, the overall growth would be greater with implementation of the No Project Alternative as compared to the proposed project due to the population projections of 83,384 and approximately 15,183 dwelling units at buildout. This would be an increase in overall development and growth compared to the 2040 General Plan which anticipates approximately 720 dwelling units and a population of approximately 19,650. However, the growth projections at the time were significantly higher than the actual growth rate for Kerman that occurred. Therefore, growth from the No Project Alternative compared to the proposed project is similar as both land use scenarios are similar. The land use patterns and density allowances within the development areas do not substantially differ and therefore, physical environmental impacts are assumed to be relatively similar for the No Project Alternative compared to the project.

6.6 Impact Analysis

a. Aesthetics

Development under this alternative would continue the land use pattern that currently exists in Kerman. The City's visual character, and light and glare conditions, would be similar to the proposed project because under this alternative infill development and overall development would result in comparable visibility, light and glare impacts. Impacts to scenic vistas under this alternative would be similar to the 2040 General Plan due to the low-density character of the existing uses. Therefore, this alternative would, as would the proposed project, not have a significant and unavoidable impact to the view of the Sierra Nevada Mountains and maintain existing views. Both the 2007 General Plan and the 2040 General Plan include goals, policies, and implementation measures that promote good design within new development, and the similar low-density development under this alternative would result in similar light and glare impacts. Impacts would be less than significant and similar to the 2040 General Plan.

b. Agriculture

Development under this alternative would continue the land use pattern that currently exists within Kerman City limits, however the amount of agricultural lands is significantly less compared to the 2040 General Plan. The 2007 General Plan reported approximately 410 acres of agricultural land within the sphere of influence. The 2040 General Plan increased the Planning Area to encompass more acres of Agriculture lands to approximately 5,940 acres; these parcels are designated for

agricultural use under the General Plan, similar to the current County zoning. The 2007 General Plan reported the conversion of Prime Farmland would be significant and unavoidable. Despite the increase in agricultural land in the 2040 General Plan, impacts under the No Project Alternative would be greater because the 2007 General Plan does not include the goals and policies consistent with the Department of Conservation's Recommended Mitigation for agricultural preservation at a 1 to 1 acreage ratio as does the 2040 General Plan. Impacts to the conversion of agricultural land and Williamson Act land would be significant and unavoidable under this alternative compared to the 2040 General Plan.

c. Air Quality

The No Project Alternative would be similar in overall development to the proposed project. Short-term emissions that would occur from construction would be similar under this alternative to the 2040 General Plan. Similarly, non-residential development would be increased under this alternative, resulting in slightly higher construction-related emissions as compared to the 2040 General Plan. Therefore, this alternative would have similar construction-related impacts on air quality.

Because the land use pattern in Kerman under this alternative does not significantly differ than the 2007 General Plan, the long-term on-site emissions from use of natural gas for residential heating, cooking, and water heating would be similar compared to the 2040 General Plan. This alternative would result in similar or greater daily VMT compared to the 2040 General Plan due to the lack of policies to reduce internal automobile trips but have the same commute pattern, resulting in greater or similar operational emissions associated with mobile sources.

In-fill development would be similar under this alternative resulting in similar density development within Kerman. Therefore, the No Project Alternative would result in similar toxic air contaminants (TAC) for sensitive receptors near arterial corridors compared to the 2040 General Plan. However, as described in Section 4.3, *Air Quality*, the 2040 General Plan would require implementation of Mitigation Measure AQ-3, which requires health risk assessments and implementation of measures to reduce exposure to TACs for projects near roadways with high average daily trips. There is no equivalent measure in the 2007 General Plan.

Under the No Project Alternative, VMT and the service population compared to the 2040 General Plan would incrementally increase above existing conditions. Because VMT associated with buildout of the 2007 General Plan was not projected, the predicted growth rate under this alternative is considered similar to the 2040 General Plan, thereby resulting in VMT impacts that would also be significant and unavoidable. Overall, compared to the 2040 General Plan, the No Project Alternative would have greater air quality impacts due to an increase in TACs and an increase in the rate of VMT compared to the 2040 General Plan from additional internal trips.

d. Biological Resources

As described in Section 4.4, *Biological Resources*, the land within City limits is Urban Built-up and potential habitat suitable for special status species would be highly unlikely within the Planning Area. However, areas designated as open space and agriculture would be able to provide suitable potential habitats for special status species under both this alternative and the 2040 General Plan. There would be no change in the land use designations for these potential habitat areas between the current 2007 General Plan and the 2040 General Plan. Therefore, impacts to biological resources in these sensitive areas would be similar to the 2040 General Plan.

Under this alternative, similar parcels would be developed as under the 2040 General Plan, but densities would be reduced compared to the 2040 General Plan. Nonetheless, this alternative could have the potential to impact nesting birds in the Planning Area. Therefore, potential impacts to special status species under the No Project Alternative would be potentially significant and similar to the 2040 General Plan. However, both General Plans contains policies applicable to biological resources that would reduce biological impacts related to nesting birds. Therefore, similar to the 2040 General Plan, the No Project Alternative would have less than significant impacts to wetland areas, trees, riparian habitats, and migratory wildlife corridors. Overall, compared to the 2040 General Plan, the No Project Alternative would have similar biological resources impacts.

e. Cultural Resources

The No Project Alternative would have the potential to impact cultural and historic resources in Kerman through development of individual projects. The 2007 General Plan designates development within the same Urban and Built-up areas of Kerman as the 2040 General Plan, and overall development would be similar to the 2040 General Plan. Therefore, the No Project Alternative would have similar, but still potentially significant impacts to cultural and historic resources as the 2040 General Plan. This is because the 2007 General Plan does not include adequate policies that would protect cultural resources under CEQA and the National Historic Preservation Act and lacks proper mitigation for cultural resources that would be potentially significant compared to the 2040 General Plan. Impacts would be potentially significant and greater than the 2040 General Plan.

f. Energy

The 2040 General Plan and No Project Alternative do not substantially differ in development footprints. However, the 2040 General Plan's land use scenario encourages a slightly greater degree of Medium Density, Commercial, Industrial and mixed-use development. The proximity of residences and jobs minimizes vehicle trip lengths and, in some cases, reduces additional vehicle trips and associated transportation fuel consumption. Therefore, as compared to the No Project Alternative, the land use scenario of the 2040 General Plan is designed to reduce vehicle trips and related energy consumption. Therefore, the No Project Alternative would have greater energy consumption than the 2040 General Plan. In addition, the 2007 General Plan does not contain energy efficiency and renewable energy policies that require the City to implement an array of energy efficiency and renewable energy measures through the year 2040, nor is it consistent with energy efficiency goals mandated by the State of California. The inefficient and unnecessary consumption of energy would be greater under the No Project Alternative. Overall, compared to the 2040 General Plan, the No Project Alternative would have increased energy impacts.

g. Geology and Soils

Under this alternative development would occur within similar areas of Kerman as the 2040 General Plan, but development would be similar density compared to the 2040 General Plan. Therefore, development under the No Project Alternative would occur on the same geologic units, soils, and slopes as developed under the 2040 General Plan, but development would not be as intensive as the 2040 General Plan. The potential for loss of topsoil, placement of development atop expansive soils, or accidental discovery of paleontological resources would thus be reduced under this alternative because although it would occur in similar areas there would be less dense development. Development under this alternative would be required to comply with applicable regulations, such

as the California Building Code, the Uniform Building Code, the Kerman Municipal Code, and the Clean Water Act, risks associated with topsoil loss, and expansive soils would be similar under this alternative.

Growth and development under this alternative would be subject to seismic hazards, similar to development facilitated under the 2040 General Plan. However, mandatory compliance with applicable building codes and regulations would reduce potential risks associated with seismic hazards. Both the 2040 General Plan and the 2007 General Plan contain policies and implementation programs aimed at preventing and minimizing potential risks associated with earthquake hazards. However, the 2040 General Plan modifies policies in the current 2007 General Plan to encourage greater earthquake safety. While the current 2007 General Plan does not include these policies, full buildout of the 2007 General Plan would accommodate a similar number of residents and housing units as the 2040 General Plan. Therefore, compared to the 2040 General Plan, the No Project Alternative would expose a similar number of people and structures to risks from seismic hazards within the City. Overall, impacts of the No Project Alternative would be less than significant and similar to the 2040 General Plan.

h. Greenhouse Gas Emissions

Implementation of the No Project Alternative would be similar in overall development, but lower associated density than the 2040 General Plan. Therefore, this alternative would have similar construction related GHG emissions. Additionally, the No Project Alternative would result in more VMT and related GHG emissions due to the lower density development which would result in potentially significant and unavoidable impacts. While this alternative would result in similar sources of construction GHG emissions, the land use scenario and the associated GHG emissions envisioned under this alternative would not be consistent with applicable state regulations including Assembly Bill 32, Senate Bill 32, or the 2017 Scoping Plan. Similarly, development facilitated by the 2040 General Plan would result in 2040 GHG emissions that exceed reductions necessary to meet statewide GHG emission reduction goals. However, the 2040 General Plan contains policies and implementation programs intended to facilitate greater GHG emission reductions than is mandated under the 2007 General Plan. Because this alternative would not include these emissions reduction policies and programs, GHG emissions would be higher than the 2040 General Plan and would have significant and unavoidable impacts as would the 2040 General Plan. Therefore, although both alternatives would result in significant and unavoidable impacts related to GHG emissions. The No Project Alternative would result in potentially greater impacts than the 2040 General Plan regarding consistency with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions and likely higher overall GHG emissions.

i. Hazards/Hazardous Materials

The No Project Alternative would be similar in overall development, but lower associated density than the 2040 General Plan. Therefore, the No Project Alternative would expose the same number of people to potential hazards and hazardous materials as compared to the 2040 General Plan. In addition, compliance with existing regulatory requirements would address potential impacts related to hazards and hazardous materials. Therefore, impacts related to the use, handling, transport, or emissions of hazardous materials under the No Project Alternative would be similar to the 2040 General Plan.

The No Project Alternative would result in a similar land use pattern in Kerman as the 2040 General Plan. Therefore, the potential for projects to be located on a site which is included on a list of

hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be similar under this alternative as under the 2040 General Plan. Impacts would be less than significant and similar to the 2040 General Plan.

The 2040 General Plan contains several policies and implementation programs in addition to the policies and implementation programs contained in the 2007 General Plan intended to strengthen emergency and disaster preparedness. Therefore, impacts related to emergency disaster preparedness would be slightly greater under this alternative. However, the 2007 General Plan would facilitate a similar number of residents due to the land use pattern similarities and affect the same number of people to a potential emergency disaster as the 2040 General Plan. As a result, impacts related to hazards and hazardous materials resulting from implementation of the No Project Alternative would be similar to the 2040 General Plan.

j. Hydrology and Water Quality

The No Project Alternative would result in similar development as compared to the 2040 General Plan. However, development under this alternative would consist of a similar land use pattern as the 2040 General Plan. Therefore, development under this alternative would result in similar impervious surfaces and stormwater runoff volumes and velocity as the 2040 General Plan. Both the 2007 General Plan and the 2040 General Plan contain policies to reduce potential water quality impacts. Additionally, development under this alternative would be subject to the same regulatory requirements, such as NPDES permit requirements, governing runoff and protecting water quality and supply as the 2040 General Plan. This alternative would not address the existing water quality issues due to contamination within the Kerman water system. These issues would not be addressed or be consistent with the State of California water quality standards. Impacts under this alternative would be less than significant and similar to the 2040 General Plan except for the water quality issues where impacts would be potentially significant and unavoidable compared to the 2040 General Plan.

k. Land Use and Planning

Development under the No Project Alternative would occur in a similar land use pattern as the 2040 General Plan. This alternative encourages orderly development in designated focus areas and would not divide established communities, similar to the 2040 General Plan. However, the 2007 General Plan was adopted prior to the development and adoption of 2018-2042 FCOG RTP/SCS (FCOG 2018). Therefore, the 2007 General Plan is inconsistent with several FCOG Regional goals and measures to reduce environmental impacts, such as reducing adverse health impacts by substantially reducing emissions. Therefore, impacts under this alternative would be potentially significant. Impacts would be greater compared to the 2040 General Plan, which is consistent with 2018-2042 FCOG RTP/SCS.

l. Noise

Buildout of the 2007 General Plan would result in similar development compared to the 2040 General Plan. Therefore, similar construction and associated construction noise and vibration would occur under the No Project Alternative as compared to the 2040 General Plan, particularly in the already developed areas of the city. The 2007 General Plan contains policies to reduce construction noise during nighttime hours, similar to the 2040 General Plan. Construction noise under this alternative may still exceed City standards, similar to the 2040 General Plan. However, the 2040 General Plan provides Mitigation Measure N-1 and N-2 to reduce these noise impacts. No

equivalent mitigation measures are in the 2007 General Plan; this alternative would have greater noise impacts compared to the 2040 General Plan. Impacts would be potentially significant.

Daily VMT on area roadways would be greater or similar under this alternative as compared with the 2040 General Plan. More VMT would result in increased vehicle noise as compared to the 2040 General Plan. Overall, noise and vibration impacts would be greater or similar compared to the 2040 General Plan.

m. Population and Housing

Under the No Project Alternative, the existing land use designations in the 2007 General Plan would continue to define the type of development that occurs throughout Kerman. Higher growth rates were projected under this alternative than the 2040 General Plan. Implementation of the No Project Alternative estimated an annual average of 5.69 percent growth per year. The estimates for 2017 ranged between 18,685 and 23,000 and in 2027 ranged from 26,613 and 40,561 residents. The 2040 General Plan population estimated 19,650 residents. Thus, compared to the 2040 General Plan, the No Project Alternative, based on the older projected growth rates, would result in greater impacts due to population growth. Since the prediction of growth rates does not directly cause an increase, it is most accurate to state growth rates would be similar since the land use scenarios are similar.

The current 2007 General Plan provides for orderly development and growth. The displacement of people or housing units as a result of the No Project Alternative would be minimal because development in Kerman would continue pursuant to the existing 2007 General Plan. Impacts would be less than significant. Compared to the 2040 General Plan, the No Project Alternative would have greater or similar impacts on population and housing.

n. Public Services

Under the No Project Alternative, the existing land use designations in the 2007 General Plan would continue to define the type of development that occurs throughout Kerman. The No Project Alternative would result in similar development as compared to the 2040 General Plan. Therefore, the No Project Alternative would generate similar demand for fire, police, school, and library services. However, as discussed in Section 4.14, *Public Services*, the 2040 General Plan includes policies that direct the City to strive to maintain adequate public service facilities. Impacts would be less than significant, and overall, similar to the 2040 General Plan.

o. Transportation and Traffic

Implementation of the No Project Alternative would involve similar overall development and lower associated density than would be projected to occur under the 2040 General Plan, specifically in the City's SOI and Planning Area. Overall traffic volumes in the 2007 General Plan projected an increase in 2.91 and 3.61 percent per year due to anticipated growth. As of January 2019, 78.5 percent of residents drive alone to work, while 15.6 percent carpool under the existing development pattern with many commuting to Fresno. The 2007 General Plan uses Level of Service (LOS) to measure traffic impacts. Under current growth patterns, the existing roadways LOS would continue to degrade without additional funds for expansion of infrastructure or public transportation. It is anticipated that under the No Project Alternative, the LOS for major arterial and collector streets would slowly degrade over time. In addition, without the additional Vehicle Miles Traveled (VMT) reduction goals provided for in the 2040 General Plan, the No Project Alternative would result in a significant and unavoidable increase in VMT, similar or greater than the 2040 General Plan.

p. Tribal Cultural Resources

As discussed in Section 4.15, *Tribal Cultural Resources*, tribal cultural resources impacts are highly dependent on both the individual project site conditions and the characteristics of the proposed activity. Under the No Project Alternative, the existing land use designations in the 2007 General Plan would continue to define the type of development that occurs throughout Kerman. Because the 2007 General Plan facilitates development within the same areas of Kerman as would be facilitated by the 2040 General Plan, the potential to encounter tribal cultural resources would be similar under this alternative as to the 2040 General Plan. Development under this alternative could result in similar impacts to tribal cultural resources because the potential for ground disturbance during construction activities, as the land use patterns are similar in both General Plans. However, development under this alternative would not include the additional policies of the 2040 General Plan to protect these resources under current laws and regulations requiring Native American consultation, protection of human remains, and pre-historic artifacts. Compared to the 2040 General Plan, the No Project Alternative would have greater impacts on tribal cultural resources. Impacts would be potentially significant.

q. Utilities and Service Systems

Implementation of the No Project Alternative would involve similar overall development and lower associated density compared to the 2040 General Plan. As discussed in Section 4.17, *Utilities and Service Systems*, the 2040 General Plan's potential impacts related to landfill capacity would be significant and unavoidable due to the population growth projections in addition to growth rates in other neighboring communities. The County anticipates the landfill capacity model to be full and will require closer in August of 2036. This Alternative would lead to similar growth, requiring solid waste disposal to the landfill. It is anticipated that any additional growth beyond that projected by the 2040 General Plan would increase population disposal rates to above allowable levels. The City does not have jurisdiction over County landfill operations and therefore cannot mitigate this impact. Thus, impacts would be significant and unavoidable for the No Project Alternative, similar to the 2040 General Plan.

r. Wildfire

As discussed in Section 4.18, *Effects Found Not to Be Significant*, Kerman is not located within or near a fire hazard severity zone. The No Project Alternative would not expand the current development footprint into an area prone to wildfire hazard or areas at risk of wildfire. Because the Planning Area is not located in a fire hazard severity zone, implementation of the No Project Alternative would not impair adopted emergency response in a fire hazard area or exacerbate impacts related to wildfire hazards. Overall, impacts would have no impact, similar to the 2040 General Plan.

6.7 Alternative 2: 2040 General Plan with a Reduction in Residential Growth and Increased Transportation Alternatives

6.7.1 Description

Alternative 2 would involve re-designating parcels currently designated Medium Density Residential near the northern City limits to either Urban Reserve or Agriculture land use designations. The goal of this re-designation would be to reduce growth by approximately 30 percent. This alternative would also add additional transit incentives and opportunities in the City to reduce the existing single occupancy vehicle commute pattern to Fresno from Kerman by approximately 20 percent.

Reduction to Residential Growth

Under the 2040 General Plan, an estimated 4,170 new residents and 720 new dwelling units would be added to the City of Kerman through 2040. This alternative proposes to add 2,919 new residents and 504 new dwelling units to the City of Kerman through 2040, a 30 percent reduction in planned growth compared to the 2040 General Plan. This alternative would result in a reduction of 1,251 new residents and 216 new dwelling units when compared to the 2040 General Plan.

In order to facilitate this reduction, under Alternative 2 land uses on the northern side of the City that are currently designated as Medium Density Residential would change to Urban Reserve or Agriculture. This reduction in residential growth would increase the jobs/housing balance under the assumption that the 780 new jobs would be added between 2018 and 2040, the same as the 2040 General Plan. A reduction in population growth for Kerman proposed under this alternative may have the unintended consequence of increasing growth in other rural areas of the county.

Transportation Opportunities

The 2040 General Plan's Circulation Element includes goals and policies that would provide a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel. Figure 4-1 and Figure 4-2 of the 2040 General Plan shows the proposed multi-modal transportation network within the City. These proposed transportation improvements within the City limits would be near existing and proposed active transportation facilities that would incentivize the use of active transportation for internal trips. With Kerman's proximity to the City of Fresno 15 miles to the east, a major employment center for the region, addressing the consistent commute pattern would provide the best way to reduce VMTs.

Under Alternative 2, the City would work with Fresno Council of Governments (FCOG) to increase public transportation service to and from the City by providing more times for fixed-route service to major metropolitan and job centers including Fresno, increase van pooling and carpooling, and collaborate to work with large employers in Fresno to provide incentives for employees to take public transit services for their commutes instead of single occupancy vehicles, in addition to other incentives. To encourage and increase active transportation usage within the City, Alternative 2 proposes to implement a bike share or scooter share program along with associated safety and education for these alternatives to further reduce internal trips. It is anticipated that a combination of effective marketing and increased public transportation options and funds, including incentives

such as reduced ridership fees, could potentially increase ridership by approximately 20 percent by 2040.

Under Alternative 2, the reduction in residential housing and population, plus an increase in transit/rideshare options would have the potential to reduce VMT and impacts to GHG and the amount of solid waste generated in Kerman compared to the 2040 General Plan.

6.7.2 Impact Analysis

a. Aesthetics

Under this alternative, development areas designated for residential uses would be converted to an urban reserve or agricultural use which would decrease the existing land use pattern compared to the 2040 General Plan. The increase in transportation opportunities would occur in areas already developed and would have similar impacts as the 2040 General Plan. Therefore, less development of residential housing to preserve the existing surrounding agricultural setting would result in reduced impacts on visibility, light and glare. Impacts to scenic vistas such as the Sierra Nevada Mountains would be reduced under this alternative due to the lack of development of physical buildings compared to the 2040 General Plan. Therefore, under Alternative 2, impacts are less than significant and lower than the 2040 General Plan.

b. Agriculture

Under this alternative, development areas designated for residential uses would be converted to an urban reserve or agricultural use, which would increase land for agricultural use within the Planning Area by 30 percent. As such, Alternative 2 would have the potential to more directly impact local agricultural productivity and associated impacts from rural residential development in unincorporated, agriculturally productive areas of the County.

The 2040 General Plan would increase the Planning Area to encompass more acres of agriculture lands to approximately 5,940 acres. Alternative 2 would not result in greater impacts to the conversion of agricultural lands compared to the 2040 General Plan because Alternative 2 would include the 2040 General Plan Land Use Element goals, policies and protections consistent with the Department of Conservation's Recommended Mitigation for agricultural preservation at a 1 to 1 acreage ratio. However, potential unintended consequences may occur due to the reduced housing options which would increase pressure to develop rural residential housing outside of the City limits due to less land being available in Kerman for housing. Cumulative impacts to agricultural land would be potentially significant.

Therefore, overall impacts to the conversion of agricultural land and Williamson Act land would be less than significant with mitigation under this alternative and result in similar or lesser impacts compared to the 2040 General Plan. However, cumulative impacts to agriculture conversions would be greater and potentially significant compared to the 2040 General Plan.

c. Air Quality

Alternative 2 would reduce overall development and associated growth compared to the 2040 General Plan. Short-term emissions that would occur from construction would be less under this alternative than the 2040 General Plan. Similarly, non-residential development would be decreased under this alternative due to the reduced growth, resulting in lower construction-related emissions

as compared to the 2040 General Plan. Therefore, this alternative would have less construction-related impacts on air quality.

Due to the decrease in available land for development and growth, the long-term on-site emissions from use of natural gas for residential heating, cooking, and water heating would also be less compared to the 2040 General Plan. Impacts of daily VMT compared to the 2040 General Plan would include policies that would reduce internal automobile trips. Since Alternative 2 and the 2040 General Plan have the same commute pattern, this would result in less or similar operational emissions associated with mobile sources.

In-fill development would be slightly less under this alternative due to the reduced residential development areas. Therefore, Alternative 2 would result in lower toxic air contaminants (TAC) for sensitive receptors near arterial corridors compared to the 2040 General Plan. Alternative 2 would also introduce increased transportation opportunities to promote multi-modal transportation methods which would assist in reducing TACs. However, as described in Section 4.3, *Air Quality*, the 2040 General Plan would require implementation of Mitigation Measure AQ-3, which requires health risk assessments and implementation of measures to reduce exposure to TACs for projects near roadways with high average daily trips. Therefore, Alternative 2 would have less or similar impacts to TACs compared to the 2040 General Plan.

Under Alternative 2, VMT and the service population compared to the 2040 General Plan would be reduced below existing conditions. VMT under Alternative 2 was not projected, however, the predicted growth rate under this alternative would aim to reduce population growth by 30 percent. Because VMT data from the Fresno COG accounts for regional commuter trips, it is unknown if the reduction in growth would result in reduced VMT under this Alternative. Therefore, it would be conservative to assume that VMT would be reduced lower than the 2040 General Plan. However, VMT impacts would still be significant and unavoidable. Overall, compared to the 2040 General Plan, Alternative 2 would have a lesser or similar rate of VMT compared to the 2040 General Plan, and therefore less air quality impacts than the 2040 General Plan.

d. Biological Resources

Alternative 2 would reduce residential development by approximately 30 percent as compared to the 2040 General Plan, but would not alter the land uses identified in the 2040 General Plan. Less development potentially would result in reduced impacts to biological resources. Overall, impacts to biological resources under Alternative 2 would be less than the 2040 General Plan. Impacts would remain less than significant because the existing biological resources protections would continue to be in place. Therefore, Alternative 2 would have less than significant impacts to wetland areas, trees, riparian habitats, and migratory wildlife corridors, similar or less compared to the 2040 General Plan.

e. Cultural Resources

Buildout of Alternative 2 would have the potential to impact cultural and historic resources in Kerman, similar to the 2040 General Plan. Reduced development would reduce impacts to cultural resources because fewer historic and archaeological impacts would be potentially disturbed. In addition, goals and policies in the 2040 General Plan would continue to protect valuable cultural resources. Overall, impacts to cultural resources under this alternative would be less than the 2040 General Plan with implementation of Mitigation Measure CR-1 as this cultural resources protection program would still apply.

f. Energy

Alternative 2 would reduce development in Kerman at a goal of 30 percent, although the 2040 General Plan and Alternative 2 do not substantially differ in their 2040 development land use pattern. Less dense development would result in less construction and thus reduced energy consumption for construction vehicles. A reduced level of development would result in reduced consumption of energy from operational uses including heating and transportation fuel. Similarly, Alternative 2 would increase transportation options within the City such as expanding the existing transit route within the City and implementing a regional commuter route that would result in reduced fuel consumption within Kerman.

Alternative 2 would still promote in-fill development, which leads to lower energy consumption. Similar to the 2040 General Plan, Alternative 2 would promote alternative transit modes that are consistent with new energy efficiency and renewable energy policies and implementation programs that would reduce energy consumption and would be consistent with energy goals and policies contained in the 2017 Scoping Plan. Therefore, impacts would be less than significant and Alternative 2 would have reduced energy consumption. Overall, Alternative 2 would have similar energy impacts compared to the 2040 General Plan.

g. Geology and Soils

Alternative 2 would facilitate development within the same areas of Kerman as the 2040 General Plan, although new residences and other development would be reduced by approximately 30 percent. Therefore, development under Alternative 2 would occur on the same but less geologic units, soils, and slopes as developed under the 2040 General Plan. Reduced development under this alternative would reduce geology and soils impacts as compared to the 2040 General Plan because there would be less impacts from subsidence liquefaction, collapse, and other geologic hazards in the Planning Area. However, similar to the 2040 General Plan development would be required to comply with applicable regulations, such as the California Building Code, the Uniform Building Code, the Kerman Municipal Code, and the Clean Water Act that include erosion control, best management practices, and engineering design to reduce geologic hazards.

Less overall development would reduce impacts to paleontological resources because less ground disturbance would occur under this alternative. Impacts would remain less than significant, similar to the 2040 General Plan because Mitigation Measure GEO-1 requires implementation of a paleontological resource's protection program, which would apply to Alternative 2 as well.

Alternative 2 would implement the same policies and programs as the 2040 General Plan aimed at preventing and minimizing potential risks associated with earthquake hazards and paleontological resources. Overall, impacts of Alternative 2 would be less than significant and similar or less to the 2040 General Plan.

h. Greenhouse Gas Emissions

Alternative 2 would reduce residential development by approximately 30 percent as compared to the 2040 General Plan but would not alter the land uses identified in the 2040 General Plan. Implementation of Alternative 2 would also involve an increase in overall ridership for public transportation by approximately 20 percent which is greater than what would occur under the 2040 General Plan.

Under the 2040 General Plan, combined annual GHG emissions from new development and increased population would increase CO₂e per service person per year (CO₂e/SP/year) by 508

percent above the locally appropriate threshold. Even with the incorporation of Mitigation Measures and General Plan Policies addressed in Section 4.8, *Greenhouse Gas Emissions*, due to the rural nature of the City and based on the regional data available for VMT modeling, this alternative would still result in significant and unavoidable impacts because it would not likely reduce the projected 26.7 MT CO₂e/SP/year to below the locally-appropriate threshold of 4.39 MT CO₂e/SP/year. This would require an 83 percent reduction to reach the locally-appropriate threshold.

The proposed changes under Alternative 2 would result in a 20 percent reduction in VMTs as well as a reduction in GHG emissions from single occupancy vehicles. This would reduce mobile emissions from 123,203.1 MT CO₂e/SP/year to 98,562.5 MT CO₂e/SP/year, reducing the total emissions to 21.7 MT CO₂e/SP/year, which is still much higher than the locally appropriate threshold of 4.39 MT CO₂e/SP/year. Thus, even with an increase in public transportation ridership of 20 percent and reduction in development, impacts would be significant and unavoidable for Alternative 2, similar but less compared to the 2040 General Plan.

i. Hazards/Hazardous Materials

Buildout of Alternative 2 would accommodate approximately 30 percent less residents than the 2040 General Plan. Therefore, Alternative 2 would expose fewer people to potential hazards and hazardous materials as compared to the 2040 General Plan. Similar to the 2040 General Plan, compliance with existing regulatory requirements would reduce potential impacts related to hazards and hazardous materials. Therefore, impacts related to the use, handling, transport, or emissions of hazardous materials under Alternative 2 would be less than significant and slightly reduced as compared to the 2040 General Plan.

Alternative 2 facilitates development within the same areas of Kerman as would be facilitated by the 2040 General Plan. Therefore, the potential for projects to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be similar under this alternative and the 2040 General Plan. Impacts would be less than significant, similar to the 2040 General Plan.

Alternative 2 would implement the same policies and programs as included in the 2040 General Plan intended to strengthen emergency and disaster preparedness. Therefore, Alternative 2 would result in similar impacts regarding emergency preparedness as the 2040 General Plan. Additionally, as described above, Alternative 2 would result in fewer residences, reducing the number of people affected by a potential emergency disaster. As a result, impacts related to hazards and hazardous materials under Alternative 2 would be less than significant and reduced as compared to that of the 2040 General Plan.

j. Hydrology and Water Quality

Buildout of Alternative 2 would reduce development by approximately 30 percent as compared to the 2040 General Plan. Alternative 2 would develop the same areas of Kerman as would be developed during buildout of the 2040 General Plan. Although the same areas would be developed, development facilitated under Alternative 2 would result in fewer impervious surfaces as the 2040 General Plan. Stormwater runoff volumes and velocity would therefore be reduced under this alternative compared to the 2040 General Plan. Similar to the 2040 General Plan, Alternative 2 contains policies that would reduce potential water quality impacts. Additionally, development under this alternative would be subject to the same regulatory requirements, such as NPDES permit requirements, governing runoff and protecting water quality and supply as the 2040 General Plan.

Because Alternative 2 would result in reduced development, the demand for groundwater would be reduced compared to the 2040 General Plan. Impacts under this alternative would be less than significant and slightly less than the 2040 General Plan.

k. Land Use and Planning

Buildout of Alternative 2 would reduce development by 30 percent as compared to the 2040 General Plan. Implementation of Alternative 2 would also involve an increase in transportation options to increase overall ridership for public transportation by approximately 20 percent. Similar to the 2040 General Plan, Alternative 2 encourages orderly development in designated focus areas and would not divide established communities. The increased transportation options would allow for residents to continue residing in Kerman and commute regionally. Because the same goals and policies would be implemented under Alternative 2 as the 2040 General Plan, this alternative would be consistent with and compatible to other applicable land use plans, policies, and regulations. As with the 2040 General Plan, Alternative 2 would be consistent with the 2018-2040 FCOG RTP/SCS goals and measures to reduce environmental impacts. Similar to the 2040 General Plan, this alternative would include provisions for providing adequate housing. Impacts would be similar to the 2040 General Plan and less than significant.

l. Noise

Buildout of Alternative 2 would reduce development by 30 percent as compared to the 2040 General Plan. Therefore, less construction and associated construction noise and vibration would occur under Alternative 2 as compared to the 2040 General Plan. Implementation of Alternative 2 would also involve an increase in transportation options to increase overall ridership for public transportation by approximately 20 percent. This would reduce vehicle trips and reduce associated noise impacts as compared to the 2040 General Plan.

Alternative 2 would contain policies to reduce construction noise during nighttime hours, as well as policies that control measures be included as a standard condition of approval of new projects, similar to the 2040 General Plan. As a result, construction noise and vibration levels would be substantially reduced under Alternative 2 as compared to the 2040 General Plan. Impacts would be less than significant with mitigation similar to the 2040 General Plan.

Daily VMT on area roadways would be less under buildout of Alternative 2 as compared with the 2040 General Plan because there would be less overall development and more transit options. Less VMT would result in reduced noise from motor vehicles at sensitive receptors located along area roadways. Overall, noise and vibration impacts under this alternative would be less than significant with Mitigation Measures N-1 and N-2 noise included in Alternative 2. Therefore, similar or less impacts would occur under Alternative 2 compared to the 2040 General Plan.

m. Population and Housing

Alternative 2 would reduce development by approximately 30 percent below the 2040 General Plan and increase transit opportunities. However, land use designations would remain similar to the 2040 General Plan defining the type of development that occurs throughout Kerman. Buildout of Alternative 2 would accommodate approximately 18,399 residents and 4,719 housing units in Kerman. This would be approximately 1,251 fewer residents and 216 fewer housing units than would be developed under the 2040 General Plan. Thus, compared to the 2040 General Plan, Alternative 2 would result in less population growth. Similar to the 2040 General Plan, Alternative 2 would provide for orderly development and growth. Goals and policies from the 2040 General Plan

would also apply to Alternative 2, which would ensure that development of new housing occurs in accordance with state and local requirements, while preserving existing residential neighborhoods. Impacts would be less than significant. Compared to the 2040 General Plan, Alternative 2 would have slightly reduced impacts on population and housing.

n. Public Services

Buildout of Alternative 2 would accommodate 30 percent fewer residents and housing units than the 2040 General Plan. Therefore, Alternative 2 would generate less demand for fire, police, school, and library services compared to the 2040 General Plan. Additionally, as discussed in Section 4.14, *Public Services*, the 2040 General Plan includes policies that direct the City to strive to maintain adequate public service facilities, which would be implemented under Alternative 2. Therefore, impacts would be less than significant, and overall, reduced as compared to the 2040 General Plan.

o. Transportation and Traffic

Buildout of Alternative 2 would reduce development by 30 percent as compared to the 2040 General Plan. Implementation of Alternative 2 would also involve an increase in overall ridership for public transportation than would occur under the 2040 General Plan. This alternative is anticipated to increase ridership by 20 percent by 2040. The 2040 General Plan would increase VMT over the 2018 baseline by 62 percent. As mentioned above, the challenge for VMT reduction is Kerman's location in relation to Fresno, a major employment center for the region. It is anticipated that growth under the 2040 General Plan would increase overall trips, a reflection of an increased population.

Although Alternative 2 would substantially reduce the traffic volume, traffic impacts would remain significant and unavoidable, because this alternative would not remove enough trips from area roadways. As compared to the regional VMT per service population, VMT under this alternative would not reduce VMT per service population by 62 percent and, therefore, impacts to VMT would remain significant and unavoidable.

The goals and policies in the 2040 General Plan would still apply under this alternative. Therefore, Alternative 2 would support emergency access and safety design, and would not conflict with policies contained in 2018-2040 FCOG RTP/SCS. Overall, this alternative would result in fewer impacts to study roadway segments than those associated with the 2040 General Plan and would reduce impacts to a less than significant level similar to the 2040 General Plan.

p. Tribal Cultural Resources

As discussed in Section 4.16, *Tribal Cultural Resources*, tribal cultural resources impacts are highly dependent on both the individual project site conditions and the characteristics of the proposed activity. Under Alternative 2, similar land use pattern would occur as the 2040 General Plan and would define development that occurs throughout Kerman, however development would be reduced by 30 percent. Overall, tribal cultural resources impacts under Alternative 2 would be less than the 2040 General Plan because reduced development would have less potential to unearth tribal cultural resources. Similar to the 2040 General Plan, development under Alternative 2 would be subject to laws and regulations requiring Native American consultation, protection of human remains, and pre-historic artifacts. Impacts would be less than significant with adherence to applicable laws and regulations. Overall, tribal cultural resources impacts under Alternative 2 would be less than the 2040 General Plan and impacts would remain less than significant, similar to the 2040 General Plan.

q. Utilities and Service Systems

As discussed in Section 4.17, *Utilities and Service Systems*, the Kerman Public Works Department would have adequate water supply that would accommodate a 2.69 growth rate until year 2040. The 2040 General Plan projects a 1 percent per year growth rate. Under Alternative 2, the growth rate would be reduced by approximately 30 percent. Impacts to water supply would be less than significant under this alternative similar to the 2040 General Plan. Additionally, the goals and policies in the 2040 General Plan related to water supply and wastewater reduction would be implemented under this alternative to further reduce impacts to utilities and service systems.

The 2040 General Plan's potential impacts related to landfill capacity would be significant and unavoidable. Under Alternative 2, impacts to landfills would be slightly reduced as compared to the 2040 General Plan because there would be 30 percent less overall development. However, Alternative 2 would not provide for any reasonable mitigation for the approximate 2036 closing date of the American Landfill similar to the 2040 General Plan. Thus, overall impacts to Utility and Service Systems would be less than significant; except for impacts related to solid waste which would still be significant and unavoidable for Alternative 2, similar to the 2040 General Plan.

r. Wildfire

As discussed in Section 4.18, *Effects Found Not to Be Significant*, Kerman is not located within or near a fire hazard severity zone. Alternative 2 reduces the current development footprint by 30 percent and the Planning Area is not prone to wildfire hazard or areas at risk of wildfire. Because the Planning Area is not located in a fire hazard severity zone, implementation of Alternative 2 would not impair adopted emergency response in a fire hazard area or exacerbate impacts related to wildfire hazards. Overall, no impacts would occur, similar to the 2040 General Plan.

6.8 Environmentally Superior Alternative

Table 6-1 below indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed project for each of the issue areas studied. Based on the alternatives analysis provided above, Alternative 2 would be the environmentally superior alternative.

Alternative 1 (*No Project*) would not be considered environmentally superior overall because it would involve an increase in population and result in similar ground disturbance than the 2040 General Plan without added protections in the 2040 General Plan. Although Alternative 1 would entail continued growth as dictated by the existing 2007 General Plan, new policies included in the 2040 General Plan, such as those related to growth management, greenhouse gas reduction, and vehicle miles travel would not be implemented. Additionally, under Alternative 1, daily VMT and GHG emissions are anticipated to be greater under this alternative than for the 2040 General Plan. Alternative 1 would not eliminate the significant and unavoidable GHG emissions, VMTs, or solid waste disposal impacts, and increase these impacts when compared to the 2040 General Plan.

Alternative 2 (*Decrease Residential Development and Increase Transit Opportunities*) performs better than the 2040 General Plan in regard to GHG emissions and VMT. This alternative would involve 30 percent less residential growth and a 20 percent increase in public transportation ridership, and therefore less impacts to environmental resources overall. Alternative 2 would still have significant and unavoidable VMT impacts, but these impacts would be greatly reduced compared to the 2040 General Plan. Alternative 2 would also have significantly reduced GHG

emissions impacts, but these would also still be significant and unavoidable. Similar to Alternative 1, the landfill will likely still be impacted similar to that of the 2040 General Plan.

Based on the information presented herein, Alternative 2 is determined to be the environmentally superior alternative when considering overall significant and unavoidable impacts relative to the performance metrics. However, reduced growth is inconsistent with the goals and vision of the 2040 General Plan, and may have the unintended consequence of impacting more agricultural areas and other associated impacts from rural residential development in Fresno County by pushing development into more rural areas of the County.

Table 6-1 Alternative Comparison

Issue	Alternative 1	Alternative 2
Aesthetics	=	=
Agriculture	-	= / +
Air Quality	-	= / +
Biological Resources	=	= / +
Cultural Resources	-	+
Energy	-	=
Geology and Soils	=	= / +
Greenhouse Gas Emissions/Climate Change	-	= / +
Hazards/Hazardous Materials	=	= / +
Hydrology and Water Quality	=/-	= / +
Land Use and Planning	=/-	=
Noise	=/-	= / +
Population and Housing	=/-	+
Public Services	=	+
Transportation	=/-	+
Tribal Cultural Resources	-	+
Utilities and Service Systems	=	= / +
Wildfire	=	=
+ Superior to the proposed project (reduced level of impact) = Similar level of impact to the proposed project - Inferior to the proposed project (increased level of impact) = / + Slightly superior to the proposed project in one or more aspects, but not significantly superior = / - Slightly inferior to the proposed project in one or more aspects, but not significantly inferior + / - Some areas inferior to the proposed project, and some areas superior, but not significantly inferior or superior		

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