Chapter 4 Environmental Impact Analysis

This analysis addresses the potential for significant environmental effects that may occur as a result of implementation of the Fowler 2040 GP. Significant effect is defined by CEQA Guidelines Section 15382 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 baseline conditions 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 Fowler and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential impacts 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 Section 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 Section 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 mandatory policies and identified, feasible, mitigation measures that would eliminate or reduce the corresponding potentially significant environmental impacts. The analysis then discusses the residual or remaining impacts and the resulting level of significance after implementation of the policies and mitigation measure(s). The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed Project in conjunction with other planned and pending developments as identified in Section 2.5.

Because the proposed project is a general plan, cumulative impacts are treated somewhat differently than would be the case for a project-specific development. CEQA Guidelines Section 15130(b)(1)(B) provides the following direction relative to cumulative impact analysis. The discussion:

> *"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 as far as it considers cumulative development that could occur within a city's plan area. Therefore, the analysis of project impacts effectively constitutes the cumulative analysis.

4.1 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 Fowler 2040 GP 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 to provide a reasonable forecast of future environmental conditions and can more accurately gauge the impacts of a series of projects. CEQA does not require an analysis of incremental impacts 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 .

Because the proposed project is the GP, cumulative impacts are treated somewhat differently than would be the case for a project-specific development. Section 15130 of the 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 as far as it considers cumulative development that could occur within a city's planning area over a defined timeframe.

4.2 Aesthetics

This section evaluates impacts to aesthetic resources, including scenic vistas, scenic resources, visual character and quality, and light and glare that could result from implementation of the Fowler 2040 GP.

4.2.1 Environmental Baseline

General Visual Character

Fowler is located in Fresno County, which is located in the San Joaquin Valley. Like most cities in the San Joaquin Valley, Fowler is an agricultural community that is surrounded by farmland. Fowler is situated between the Sierra Nevada Mountain Range to the northeast and the Coastal Mountain Range to the west. Fowler is located approximately 11 miles from downtown Fresno, the most populous city in the San Joaquin Valley. The nearest scenic resource that can be viewed from Fowler is the Sierra Nevada Mountain Range approximately 40 miles to the northeast. Additionally, the Coastal Mountain Range, approximately 45 miles east of Fowler, runs northwest-southeast along the California coast sprawling inland easterly. Fowler's center is a commercial hub with residential neighborhoods radiating outward.

Fowler features a flat landscape organized around a primarily orthogonal system of roadways. Most of Fowler's land area is developed with low-density residential neighborhoods. Because the community started as a farming town and is still surrounded by agricultural land uses, it retains a rural, small-town atmosphere. The suburban/rural interface is most prominent on Fowler's eastern, western, and southwestern edges. In these locations, new housing subdivisions are sited between working farms and large residential estate lots of two to five acres. The area beyond Fowler's boundaries to the west, east, northeast, and north is dominated by agricultural uses and undeveloped open spaces.

Scenic Vistas

Scenic vistas may be designated at the federal, State, or local level and generally includes an expansive view, usually from an elevated point or open area. A designated scenic vista is a view that possesses visual and aesthetic qualities of high value to the community. Scenic vistas can provide views of natural features or significant structures and buildings.

Scenic Resources

Scenic resources contribute to a sense of community identity and can provide economic value from tourism. The definition and value of a scenic resource is subjective, but the term generally refers to the uniqueness, unity, and appeal of a view. In a city context, this can mean a variety of things, including views and viewpoints, scenic corridors, view streets, and visual focal points. It should be noted that scenic resources can be elements of either the natural or built environment valued for aesthetics. In Fowler there are two main sources for scenic resources: 1) built structures that help define the identity and aesthetic quality of Fowler (including gateways providing identifiers unique to Fowler, signaling the entrance to the city), and 2) views of the natural and human made landscape, including the Sierra Nevada mountains and agricultural land. Existing Community Gateways are shown in Figure 4-1. The "Blossom Trail", a trail that is characterized by orchard groves that blossom each spring, is located within the vicinity of Fowler, to the northeast of the planning area.[9]

Light and Glare

Within the city limits of Fowler, homes and businesses emit light both during the day and night. Light sources present within developed areas of the City and would be included as new development occurs

[9] (Fresno County 2022)

within the planning area. Light and glare from indoor or outdoor uses can reduce visibility of the night sky, create potential hazards to drivers, and be a nuisance to residential areas. The planning area has typical light conditions found in suburban areas (e.g., roadway lighting, commercial parking lot and building lighting, residential buildings, headlights from motor vehicles). Sources of daytime glare include direct beam sunlight and reflections from windows, architectural coatings, glass, and other shiny reflective surfaces. Nighttime lighting and associated glare is produced by both stationary and mobile sources. Stationary sources of nighttime light include structure illumination, decorative landscape lighting, lighted signs, and streetlights. The primary source of mobile nighttime light is motor vehicle headlights, particularly from SR 99 and other high-traffic roadways. Sources of light and glare in residential areas include street lighting along major roads, residential security lighting, and parking lot lighting. In commercial and industrial areas, parking lots, lighted signage, and strip mall development are sources of light pollution.

Figure 4-1: Community Gateway Sign

4.2.2 Regulatory Setting

Federal

There are no federal regulations, plans, programs, or guidelines associated with aesthetics that are applicable to the Project.

State

California Scenic Highway Program

Caltrans maintains the California Scenic Highway Program to protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to those highways. The Caltrans Scenic Highway program allows local jurisdictions to officially designate a scenic highway to ensure protection of the visual resources along its corridor. Caltrans identifies highways as eligible for the program, and the local

jurisdiction submits an application to be officially designated. The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.[10] Protection of visual resources for the designated corridor include regulating land use and development, outdoor advertising, landscaping, and building design.

California Building Code

The California Building Code (CBC), Part 2 of Title 24 in the CCR, is based on the International Building Code and combines three types of building standards from three different origins:

- Building standards that have been adopted by State agencies without change from building standards contained in the International Building Code;
- Building standards that have been adopted and adapted from the International Building Code to meet California conditions;
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the International Building Code that have been adopted to address particular California concerns.

The CBC includes standards for outdoor lighting that are intended to improve energy efficiency, and to reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls.

Scenic Rivers

According to Rivers.org, there are no wild and scenic rivers located within the planning area.[11] The nearest wild and scenic river to Fowler is the Kings River, which is officially designated approximately 42.5 miles to the northeast of Fowler and runs northeast to southwest.

Scenic Highways

According to Caltrans, there are no designated scenic highways within the Project area.[12] The nearest officially designated scenic highway is State Route 180, approximately 14.5 miles to the northeast of the city. The FCOG is working on a "Highway 99 Beautification" project that involves the portion of SR 99 that runs through Fowler. A master plan for the project was released in 2016 and is currently being implemented.[13]

Local

Fowler Municipal Code

The Fowler Municipal Code contains standards and regulations that help shape the aesthetic character of Fowler and are used to implement and enforce the goals and policies of the GP. The following regulations aim to maintain the aesthetic quality of Fowler:

- Title 5, Chapter 21: Nuisances – addresses property nuisances related to neighborhood preservation (5-21.101), weeds, vegetation and rubbish (5-21.102), garbage (5-21.103), inoperative or abandoned motor vehicles (5-21.104), and nuisance vacant buildings (5-21.301). The City regulates property maintenance and appearance and restricts any conditions which the City has determined to be a visual nuisance or offense.

[10] (California Department of Transportation 2022)
[11] (National Wild and Scenic Rivers System 2022).
[12] (California Department of Transportation 2022)
[13] (Fresno Council of Governments 2021)

- Title 8, Chapter 10: Administrative Code - regulates the erection, construction, enlargement, alteration, repair, moving, removal, conversion, demolition, occupancy, equipment, use height area, and maintenance of all buildings and structures and equipment as therefor in the Fowler, and providing for the issuance of permits and the collection of fees therefor, the City adopts the 1994 edition of the Uniform Administrative Code and all appendix, as prepared by the International Conference of Building Officials.
- Title 10, Chapter 1: City Parks and Recreation – establishes rules and regulations for activities permitted within City parks and other public facilities to protect the aesthetic quality of the public spaces. Such activities prohibited include the destruction of vegetation or soil, littering, and posting or removing signs.

Fowler Building Code

This ordinance is found in Title 5, Chapter 21: Article 2 of the Municipal Code. Fowler acts in accordance with the current regulations of the California Building, Fire, Housing, Plumbing, Mechanical, Electrical, and related codes, as well as the Uniform Administrative Code and Uniform Code for the Abatement of Dangerous Buildings. Violations of this ordinance are considered a nuisance.

Street Tree Law of the Fowler

Found in Title 7, Chapter 1 of the Municipal Code, this law regulates the planting, trimming, pruning, and removal of any tree or shrub within any public area and prohibits such activities without the permission of the City Superintendent.

Fowler Zoning Ordinance

Land uses established by the GP are implemented by other local regulatory documents, primarily the Zoning Ordinance. The Zoning Ordinance classifies all land within the city limits in order to regulate "the uses of land; the density of population; the uses and locations of structures; the height and bulk of structures; the open spaces about structures, the appearance of certain uses and structures; the areas and dimensions of sites; the location, size and illumination of signs and requiring off-street parking and off-street loading facilities." Because the GP and Zoning Ordinance work together to regulate development activity, all aspects of zoning are required to be consistent with the General Plan.

4.2.3 Methodology and Thresholds of Significance

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 Fowler's visual environment from existing conditions to buildout of the Fowler 2040 GP. It is important to underscore that the Project is a general plan and does not propose specific development. This analysis therefore focuses on land use and infrastructure changes envisioned under the Fowler 2040 GP, and their aesthetic impacts on the community in terms of arrangement of development to open space, density and intensity of development, and lighting sources. Individual projects would be subject to design review for consistency with adopted standards and potential environmental impact evaluation when proposed. State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to aesthetics. The Fowler 2040 GP would have a significant impact if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly

accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or

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

4.2.4 Impacts

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

No Impact. Fowler has not designated specific scenic vistas for protection, nor has Fresno County designated such vistas in the immediate vicinity of Fowler. There are also no designated State scenic highways or scenic rivers in the planning area. Fowler is an agricultural community that is surrounded by farmland and is situated approximately 40 miles west of the Sierra Nevada Mountain Range. Although agricultural land could be considered to have scenic qualities, it is not a designated scenic resource by any applicable regulation. In the same manner, the Sierra Nevada Mountain Range could subjectively be considered to be of scenic quality it is not a designated scenic resource by any applicable regulation. As there are no scenic vistas within Fowler, development as proposed in the Fowler 2040 GP would have no impact on a designated scenic vista.

Threshold 2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Fowler is located on the San Joaquin Valley floor, which is characterized by its generally flat topography. Due to its flat topography, Fowler does not have any geologic formations considered to be scenic. According to Caltrans, there are no designated scenic highways within the Project area with the closest designated scenic highway located approximately 14.5 miles to the northeast. While there are no scenic highways within Fowler or in its vicinity, Fresno COG has adopted the "Highway 99 Beautification Master Plan", which has been adopted for the purpose of providing an aesthetically pleasing corridor from the San Joaquin River to the Kings River, where Highway 99 bisects communities within Fresno County.. In order to facilitate visually appealing development along the SR 99 corridor, the Fowler Municipal Code (FMC) contains the Highway Beautification Overlay District, which applies enhanced development standards to land adjacent to the highway. However, as Fowler does not contain scenic resources within a State scenic highway, there would be no impact.

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

Less than Significant Impact. Fowler does not fall within the definition of 'urbanized area' in CEQA Guidelines Section 15387. That said, Fowler possesses many urban characteristics. Its central core contains residential, commercial, and public uses with industrial development extending north and south along Golden State Boulevard and additional residential development extending west and east away from the core; this type of development is typical of a city. In contrast, the perimeter of Fowler is bordered primarily by agricultural land.

The planning area consists of the incorporated limits of Fowler along with surrounding portions of unincorporated Fresno County. Zoning and other regulations governing scenic quality applicable to the Fowler include FMC provisions relating to development review and subdivision design. Policies in the Fowler 2040 GP are intended to complement and further the intent of these provisions regulating scenic

quality and resources and design guidelines, and any development occurring under the Fowler 2040 GP would be subject to regulations in the FMC.

Development accommodated under the Fowler 2040 GP would result in an incremental increase in new residential, commercial, and industrial uses within planning area. However, new development or redevelopment being under the Fowler 2040 GP would comply with applicable zoning and other regulations governing scenic quality. For these reasons, the impact of the Project on scenic quality within Fowler would be less than significant.

Threshold 4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant. Nighttime illumination and glare impacts are effects of a project's exterior lighting upon adjoining uses and areas.

New development resulting from implementation of the Fowler 2040 GP would necessitate the use of additional light fixtures and would contribute to existing conditions of light and glare. New light sources may include residential and non-residential interior and exterior lighting, parking lot lighting, commercial signage lighting, and lamps for streetscape and public recreational areas. Most new development resulting from the Project would take place in or near developed and urbanized areas, where moderate light and glare already exist, and would not be out of character with the urban environment. The FMC contains provisions that would limit light and glare for new residential and non-residential development, including shielding light sources from neighboring properties or public rights-of-way. Further, policy CH-5 and CDES-19 and action items CDES 19a and CDES-23a, as outlined below, further limits the impact of new sources of light and glare on surrounding areas.

Policy CH-5	Establish lighting standards that limit public lighting to produce a warm color temperature that protects circadian rhythms.
Policy CDES-19	Require commercial projects to provide transitions when new or expanded commercial development is proposed adjacent to planned or zoned residential areas.
Action Item CDES-19a	Review and revise, as needed, the Zoning Ordinance to integrate compatibility standards for commercial development adjacent to residential and other sensitive users. Such compatibility standards shall address, at a minimum, increased building setbacks, enhanced landscaping, lighting standards, masonry wall requirements, and/or loading or operational limitations.
Action Item CDES-23a	Adopt industrial standards in consideration of the following design principles: Exterior lighting should be integrated within the architectural design for industrial buildings. Light sources should not be visible and should be shielded to reflect down onto the ground and not into streets or neighboring property. Utility connections should be coordinated with architectural elements of the site and/or building so as not to be a visual nuisance. Utilities should be underground or screened from view from the street. Storage facilities should be screened and constructed to prevent visual clutter. Permanent outdoor storage should be screened by landscaping or materials compatible with the surrounding buildings' architecture.

Varied architectural details should be applied to all façades exposed to public view. Blank end walls and long, monotonous façades shall be avoided. Treatments shall include architectural features, landscaping, or art elements that tie into the overall design theme.

Compliance with existing regulations, such as the FMC, as well as the Fowler 2040 GP policy and action item listed above would ensure that potential impacts related to light and glare are less than significant.

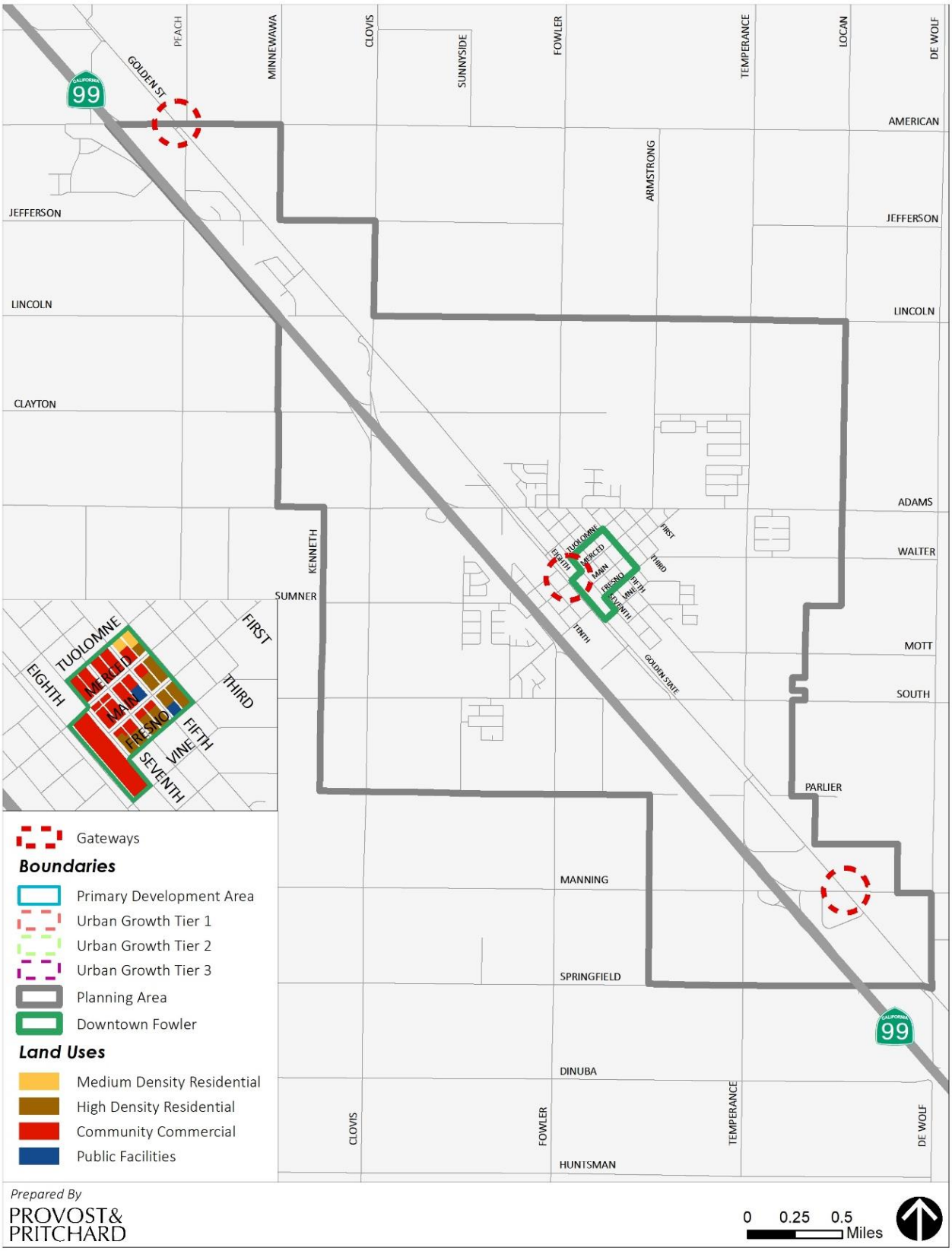
4.2.5 Mitigation Measures

Mitigation measures are not required.

4.2.6 Cumulative Impacts

The scope for considering cumulative impacts to aesthetics are the geographic areas covered by the Fowler 2040 GP planning area. Cumulative development in the planning area would intensify urban development. This new development would incrementally contribute to regional urbanization in Fresno County. However, the overall land use vision and policies in Fowler 2040 GP would ensure the visual compatibility of new development with the existing community and would minimize degradation of scenic resources. As described above, construction of future development projects allowed under full buildout would be required to comply with regulatory requirements and the policies and action items related to the preservation and enhancement of viewsheds and the protection of scenic resources. Accordingly, the Project would have a less than cumulatively considerable impact to visual and scenic resources.

Figure 4-1: Community Gateways and Downtown Area



4.3 Agriculture and Forestry Resources

This section evaluates impacts to agricultural resources within the planning area, including direct impacts associated with the conversion of agricultural land to non-agricultural use and potential indirect impacts to adjacent agricultural operations that could result from implementation of the Fowler 2040 GP.

4.3.1 Environmental Baseline

Fowler's identity, history, and economy derive from its location in a rich agricultural region. Fowler is positioned in the heart of the San Joaquin Valley of California, one of the largest producers of agricultural products in the world. This region exports billions of dollars' worth of crops every year. Fowler is a community reliant on agriculture as a major part of its economy and culture. Land surrounding the City is almost exclusively used for agricultural purposes. While most of Fowler is developed, there are some spots where agricultural uses can be found within the city limits. The CDFW and the USFS (United States Forest Service) do not recognize any of the lands in or near Fowler to contain any forest or timberland.[14]

Farmland Mapping and Monitoring Program:

The California Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP) is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The FMMP maps are updated every two years (although most recently in 2018) with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below:[15]

- PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.
- URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential,

[14] (California Department of Fish and Wildlife 2022)
[15] (Calfornia Department of Conservation 2022)

industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- WATER (W): Perennial water bodies with an extent of at least 40 acres.

Figure 4-2 illustrates the various FMMP designations within the planning area. While the dominant designation within the city limits is "urban and built-up land," there are also small areas of "farmland of local importance" and "other lands". Lands surrounding Fowler are primarily designated as "prime farmland" along with some areas that are "farmland of statewide importance". The FMMP also provides land use conversion information for decision makers to use in their planning for the future of California's agricultural land resources.

Agricultural/Urban Interface Issues

Development within and adjacent to agricultural areas can create a variety of potential conflicts for both growers and urban uses. Existing areas of potential conflict are located in the east, south, and northwest portions 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

- 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; and
- Farmworker parking.

Potential Concerns for Agricultural Interests

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

4.3.2 Regulatory Setting

Federal

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent practicable, federal programs are compatible with state and local governments and private programs and policies that protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are reviewed by a federal agency or with assistance from a federal agency. Under FPPA, farmland includes Prime Farmland, Land of Statewide or Local Importance, and Unique Farmland. Farmland subject to FPPA requirements does not

have to be currently used for crop production, but can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban uses (i.e., residential, commercial, or industrial uses).

The Natural Resource Conservation Service administers the FPPA and uses a land evaluation and site assessment system to establish a farmland conversion impact rating score on proposed sites of federally funded or assisted projects. This score is an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level.

Farm Bill Conservation Programs

The Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill) designated funding for Natural Resource Conservation Service farmland conservation programs, including the Farm and Ranch Lands Protection Program, Wetland Reserve Program, Grassland Reserve Program, Conservation of Private Grazing Land Program, Conservation Reserve Program, Conservation Stewardship Program, Environmental Quality Incentives Program, Agricultural Water Enhancement Program, and Wildlife Habitat Incentives Program.

United States Department of Agriculture and United States Forest Service

The United States Department of Agriculture, United States Forest Service is a federal agency that manages public lands in national forests and grasslands. The United States Forest Service is the largest forestry research organization in the world and provides technical and financial assistance to State and private agencies whose purpose it is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

State

Williamson Act

The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use through a tax incentive model. The intent of the program is to preserve active, productive agricultural lands by discouraging their premature and unnecessary conversion to urban uses. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Landowners may apply to contract with the local agency to voluntarily restrict their land to agricultural and compatible uses. Restrictions are enforced through a rolling 10-year term contract. Unless the landowner or the local agency files a notice of nonrenewal, the 10-year contract is automatically renewed at the beginning of each year. In return for the voluntary restriction, contracted parcels are assessed for property tax purposes at a rate consistent with their actual (agricultural) use, rather than potential market value. The 5,690-acre planning area contains approximately 1,374 acres of land under Williamson Act contracts (24.1 percent of the planning area), of which 159 acres have been non-renewed (See Figure 4-3).

Farmland Security Zones

In 1998, the State legislature established the Farmland Security Zone (FSZ) program. FSZs function similarly to Williamson Act contracts, although the land subject to the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. FSZ contracts have a minimum 20-year term, during which property owners are offered an incentive of greater property tax reductions compared to Williamson Act contract tax incentives. The nonrenewal and cancellation procedures are like those for Williamson Act contracts.

Land Evaluation and Site Assessment Model

The DOC also employs a land evaluation and site assessment model that incorporates that of the federal model and adds factors to evaluate a given project's size, the soil resource quality at the project site, water

resource availability, surrounding a soil resource quality, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. These factors are rated, weighted, and combined into numeric score that provides the basis for determining a project's potential significance relative to agricultural land conversion.

California Timberland Productivity Act

To ensure that timber resource lands are available in the future, the California Timberland Productivity Act of 1982 (GC Section 51100, et seq.) provided mechanisms by which lands being used for timber production can be zoned as "timberland production zones" where uses are limited to timber production and related activities.

Forest Practice Act

The Forest Practice Act of 1973 ensures logging is done in a manner that preserves and protects fish, wildlife, forests, and streams in the State. The California Department of Forestry and Fire Protection (CAL FIRE) enacts and enforces this and associated rules that protect these resources.

CAL FIRE ensures that private landowners abide by these laws when harvesting trees. Although there are specific exemptions in some cases, compliance with the Forest Practice Act and Board rules apply to all commercial harvesting operations for landowners of small parcels, to ranchers owning hundreds of acres, and large timber companies with thousands of acres. The Timber Harvesting Plan is the environmental review document landowners present to CAL FIRE, and it outlines what will be harvested, how it will be harvested, and the steps that will be taken to prevent damage to the environment.

Urban & Community Forestry Program

Under PRC Section 4799.06, the California Resources Agency and CAL FIRE manage the California Urban Forestry Act of 1978, which offers initiatives to local jurisdictions to participate in the Urban Greening Program. This program is part of California Climate Investments, a statewide initiative to reduce greenhouse gas emissions and their effects. Adding millions of trees to urban landscapes in urban areas adds to healthy communities and supports statewide sustainability initiatives.[16]

Local

Local Agency Formation Commission

Under the Cortese-Knox-Hertzberg Act, each county has a Local Agency Formation Commission (LAFCo) with the power to review and act on proposals for the expansion of city or special district boundaries. LAFCos have no 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.

Fresno County LAFCo is a five-member body with two county representatives, two city representatives, and one public member, along with three alternate members. The Commission is supported by an Executive Officer, counsel, and other staff. State law requires LAFCos to consider agricultural land and open space preservation in all decisions related to expansion of urban development.

Zoning Ordinance

Fowler's Zoning Ordinance does not contain a specific zone district for agriculture; however, the Urban Reserve zone district serves to protect lands designated for eventual urban development to ensure the orderly conversion of these lands to nonagricultural use; to preserve lands best suited for agriculture from the encroachment of incompatible uses; and to provide appropriate areas for certain open uses of land that are not injurious to agriculture but that may not be harmonious with urban uses.

[16] (California Department of Forestry and Fire Protection 2022)

4.3.3 Methodology and Thresholds of Significance

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to agriculture and forestry resources. The Fowler 2040 GP could have a significant impact if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by GC Section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- 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.

According to the California DOC, loss of prime farmland or farmland of statewide importance with a Land Evaluation and Site Assessment (LESA) score of 80 to 100 points is considered a significant adverse impact. The loss of agricultural land with a LESA score of between 60 and 79 is considered significant if either the Land Evaluation or the Site Assessment subcategories have scores of 20 or better. The loss of agricultural land with a LESA score of between 40 and 59 is considered significant if both the Land Evaluation and the Site Assessment subcategories have scores of 20 or better.[17] Analysis of whether or not a project would have a significant impact under the LESA model would be considered on a case-by-case basis for individual projects.

4.3.4 Impacts

Threshold 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?

Potentially Significant Impact. Development and buildout associated with the Fowler 2040 GP would result in the conversion of lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the FMMP to a non-agricultural use. The acreages of each classification of the FMMP within the Fowler planning area is contained in Table 4-2 below;[18] also, refer to Figure 4-2 for a corresponding exhibit.

Table 4-2: FMMP Acreages

FMMP Land Designation	Acreage Within 2040 Planning Area
Urban and Built-up Land	1,682
Farmland of Local Importance	151
Prime Farmland	3,487
Rural Residential	15
Farmland of State Importance	129
Semi-Agricultural and Rural Commercial	56
Unique Farmland	58

[17] (California Department of Conservation 1997)
[18] (California Department of Conservation 2018)

FMMP Land Designation	Acreage Within 2040 Planning Area
Vacant or Disturbed Land	112
Total	**5,690**

As shown in the table above, Fowler's 2040 planning area is inclusive of approximately 3,487 acres of Prime Farmland, approximately 58 acres of Unique Farmland, and approximately 129 acres of Farmland of State Importance, totaling approximately 3,674 acres. Development consistent with the General Plan would result in conversion of all of these lands to non-agricultural uses. The loss of Prime Farmland, Unique Farmland, or Farmland of State Importance would constitute a significant impact. Mitigation banks and conservation easements have been discussed throughout the State as a way to mitigate for the conversion of Prime Farmland, Unique Farmland, and Farmland of State Importance; however, these options would only serve to preserve agriculture in areas that are not subject to development pressures or conversion due to urban development, rather than benefiting the immediate area or project vicinity. In addition, the use of agriculture easements within the planning area as mitigation would be dependent upon voluntary agreements by landowners to sell their property. Some property owners within the planning area may be more willing to sell their land than others, which could result in a scattering of easements throughout the planning area. The resulting patchwork pattern of development would be detrimental to both the agricultural and urban uses. In lieu fees have also been discussed as a way to mitigate for the loss of agricultural lands; however, Fowler does not have a program to administer such a fee. In addition, if a mitigation fee program is established in the future, the payment for mitigation is arbitrary and is not necessarily based on an amount that corresponds to the level of mitigation that the fee provides. The fees would be used to pay for conservation and restoration in places outside of the planning area and would not necessarily result in an equal substitute for the loss of agriculture land for which the fee would attempt to mitigate. Accordingly, the use of mitigation banks, in lieu fees, and conservation easements both within and outside the planning area have been deemed infeasible. At this time, the City has not identified a measure that would mitigate the loss of Prime Farmland, Unique Farmland, and Farmland of State Importance within its planning area; however, the policies listed below would help to minimize potential impacts to an extent. The use of growth management tiers, discussed in policies LU-8 and LU-9, would ensure that growth under the Fowler 2040 GP would occur in a logical manner, helping to reduce the severity of impacts on farmland. However, due to the infeasibility of any mitigation measures to minimize the impact on the conversion of agricultural land to non-agricultural use, the Fowler 2040 GP would have a significant and unavoidable impact regarding the conversion of Prime Farmland, Unique Farmland, and Farmland of State Importance to non-agricultural use.

Policy LU-8

Annex land into the City in accordance with adopted growth management thresholds and reject proposals for annexation that do not comply with requirements of General Plan policies relating to orderly and contiguous development and provision of public services and facilities.

Policy LU-9

Allow annexation of residential land uses in the Tier I, Tier II, and Tier III development boundaries, as shown in *Figure 4 3: Growth Management Tiers*, according to the following thresholds:

<u>Tier I:</u>

- Annexation of property designated Medium High Density Residential or High Density Residential may occur within Tier I once:
    - 112 building permits for new dwelling units located on property designated either Medium High Density Residential or High Density

Residential in the Primary Development Area (PDA) have been issued after December 31, 2021.

- Annexation of property designated Low Density Residential, Medium Low Density Residential, or Medium Density Residential may occur within Tier I once both of the following have occurred:
    - 1,512 building permits for new dwelling units located on property designated Low Density Residential, Medium Low Density Residential, or Medium Density Residential in the PDA have been issued after December 31, 2021.
    - 155 building permits for new dwelling units located on property designated Medium High Density Residential or High Density Residential in the PDA have been issued after December 31, 2021.

Tier II:

- Annexation of property designated Medium High Density Residential or High Density Residential may occur within Tier II once:
    - 789 building permits for new dwelling units located on property designated either Medium High Density Residential or High Density Residential in the PDA or Tier I have been issued.
- Annexation of property designated Low Density Residential, Medium Low Density Residential, or Medium Density Residential may advance to Tier II once:
    - 3,005 building permits for new dwelling units located on property designated Low Density Residential, Medium Low Density Residential, or Medium Density Residential in the PDA or Tier I have been issued after December 31, 2021.
    - 1,068 building permits for new dwelling units on property designated Medium High Density Residential and High Density Residential in the PDA or Tier I have been issued after December 31, 2021. Building permits counted towards the higher density residential threshold may also be counted towards this threshold.

Tier III:

- Annexation of property designated Medium High Density Residential and High Density Residential may advance to Tier III once:
    - 1,492 building permits for new dwelling units on property designated Medium High Density Residential or High Density Residential in the PDA, Tier I, or Tier II have been issued after December 31, 2021.

- Annexation of property designated Low Density Residential, Medium Low Density Residential, and Medium Density Residential may advance to Tier III once:

    - 5,245 building permits for new dwelling units on property designated Low Density Residential, Medium Low Density Residential, and Medium Density Residential in the PDA, Tier I, or Tier II have been issued after December 31, 2021.

    - 2,053 building permits for new dwelling units on property designated Medium High Density Residential or High Density Residential in the PDA, Tier I, or Tier II have been issued after December 31, 2021. Building permits counted towards the higher density residential threshold may also be counted towards this threshold.

    Exceptions: The following exceptions apply to the growth thresholds for each growth tier:

- The development of deed restricted affordable housing may occur in the next growth tier, regardless of whether the building permit issuance threshold in the previous tier has been met.

- The City may provide an exception to the growth tier thresholds for master planned properties that include properties within two growth tiers.

Policy SAF-33	Promote the preservation and economic viability of agricultural land adjacent to the Fowler Planning Area.
Action Item SAF-33a	Amend local ordinances to require open space or other buffers for new development abutting agricultural areas planned for long-term use.
Policy SAF-34	Discourage the premature conversion of productive agricultural lands.
Action Item SAF-34a	Utilize master plans and the Capital Improvement Program (CIP) to implement the extension of urban services efficiently and responsibly.
Action Item SAF-34b	Support the use of Williamson Act contracts to prevent the premature conversion of farmland and review and revise, as needed, the Fowler Municipal Code to facilitate the continuation of Williamson Act Contracted parcels, as appropriate, following annexation.
Action Item SAF-34c	Review and revise, as appropriate, zoning regulations allowing for continued agriculture uses in the City limits where no development is proposed in the near-term.
Policy SAF-35	Require new development occurring in proximity to existing agricultural uses to acknowledge the potential effects of agricultural operations.
Action Item SAF-35a	Adopt a Right-to-Farm Ordinance.
Action Item SAF-35b	Prior to adoption of a Right-to-Farm Ordinance, continue to require that purchasers of homes located in the vicinity of agricultural operations be provided a Right-to-Farm notification of such activities by way of deeds and/or escrow documentation.

Compliance with Fowler 2040 GP policies LU-8, LU-9, SAF-33, SAF-34, SAF-35, and action items SAF-33a, SAF-34a, SAF-34b, SAF-34c, SAF-35a, and SAF-35b, and the use of growth management tiers, as discussed

above, would help to reduce the severity of many potentially significant impacts to agricultural resources, however, not all impacts to agricultural resources would be able to be reduced to a less than significant level. As a result, impacts would be significant and unavoidable..

Threshold 2: Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Potentially Significant Impact. Fowler's Zoning Ordinance does not contain a specific zone district for agriculture; however, agricultural land that is currently within Fresno County (zoned AE-20; Exclusive Agriculture, 20-Acre Minimum) would be annexed into Fowler to facilitate development and would be prezoned for non-agricultural use pursuant to GC Section 65859; such prezoning would become effective upon completion of the annexation. Development of the planning area boundary is likely to result in the conversion of land currently under a Williamson Act contract to a non-agricultural use. According to 2016 data from the County, the 2040 planning area includes approximately 1,374 acres that were under a Williamson Act contract (See Figure 4-2). The DOC is in the process of developing the 2018 data sets for the FMMP mapping tool. As a result, the 2016 data used in this document is the most recently available data for FMMP mapping. Prior to development of land subject to a Williamson Act contract, the contract must either expire through the nonrenewal process or the owner must petition the City or County (whichever has land use jurisdiction at the time of the request) to cancel the contract. Among other provisions, cancellation requires the owner to pay a penalty equal to 12.5 percent of the market value of the land. Buildout of the Fowler 2040 GP would require nonrenewal and/or cancellation of all Williamson Act contracts within the planning area. While new Williamson Act contracts could be created, they would be required to be within an agricultural preserve and require an agreement between a landowner and the city or county.[19] The conflict with and cancellation of a Williamson Act contract to facilitate future development would constitute a significant impact. In addition, while future development could be planned in such a way to avoid Williamson Act parcels to the extent possible, this would create a development structure that is non-contiguous with the rest of existing Fowler. Development in a non-contiguous manner would create inefficiencies in infrastructure, circulation, and other services provided to the residents of Fowler and therefore is infeasible. In addition, this solution has the potential to create County islands, which runs contrary to LAFCo's statutory obligations, nor would Fowler be likely to approve development in this manner. Therefore, no feasible mitigation measures have been identified in relation to the cancellation of Williamson Act contracts within the 2040 planning area. Therefore, impacts would be Significant and Unavoidable.

Compliance with Fowler 2040 GP policies LU-8, LU-9, SAF-33, SAF-34, SAF-35, and action items SAF-33a, SAF-34a, SAF-34b, SAF-34c, SAF-35a, and SAF-35b, and the use of growth management tiers, as discussed above, would help to reduce the severity of many potentially significant impacts to agricultural resources, however, not all impacts to agricultural resources would be able to be reduced to a less than significant level. As a result, impacts would be significant and unavoidable.

Threshold 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))?

No Impact. The Fowler 2040 GP would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. According to the USDA and USFS, there is no forest land or timberland within or in the immediate vicinity of the planning area.[20] The nearest public

[19] (California Department of Conservation 2019)
[20] (United States Department of Agriculture 2009)

or privately owned timberland to the City is located approximately 17 miles to the northeast of the City.[21] In addition, Fowler's Zoning Ordinance does not include any zone district that accommodates or delineates forest land or timberland. The Fowler 2040 GP would not cause the conversion of any forest land or timberland within the planning area. Therefore, there would be no impact.

Threshold 4: Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Fowler 2040 GP would not result in the loss of forest land or conversion of forest land to non-forest use. As discussed above, Fowler does not contain any forest land or timberland, nor does it contain any zone district for forest land or timberland use. The Fowler 2040 GP would not affect any forest land within the planning area, or within the immediate vicinity of the planning area. Therefore, there would be no impact.

Threshold 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?

Potentially Significant Impact. As referenced in the discussions of Thresholds 1 and 2 above, the Fowler 2040 GP would result in the conversion of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance to non-agricultural use and would result in conflicts with, or cancellation of, Williamson Act contracts. It is unknown if any other changes to the existing environment which, due to their location or nature, could result in other changes within the existing environment. Impacts that are known at this time would result in a significant impact on the environment.

Compliance with Fowler 2040 GP policies LU-8, LU-9, SAF-33, SAF-34, SAF-35, and action items SAF-33a, SAF-34a, SAF-34b, SAF-34c, SAF-35a, and SAF-35b, and the use of growth management tiers, as discussed above, would help to reduce the severity of many potentially significant impacts to agricultural resources, however, not all impacts to agricultural resources would be able to be reduced to a less than significant level. As a result, impacts would be significant and unavoidable.

4.3.5 Mitigation Measures

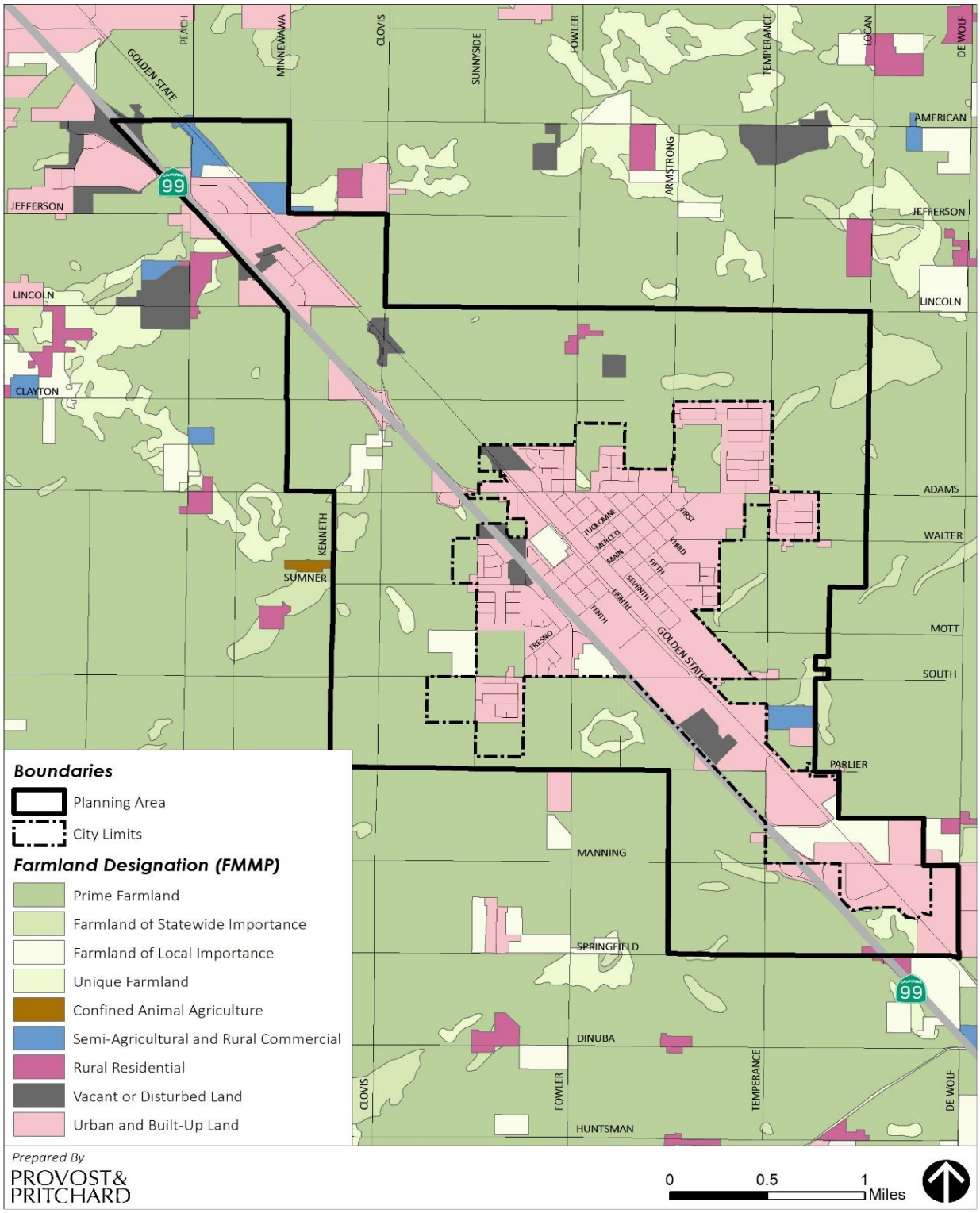
No feasible mitigation measures have been identified.

4.3.6 Cumulative Impacts

Future development and buildout of the Fowler 2040 GP would result in impacts to agricultural lands within the 2040 planning area. Development and buildout of the Fowler 2040 GP would not have a cumulative impact on forestry and forestry resources as there are no forests or timberlands located within the planning area. Any potential impacts due to the conversion of Prime Farmland, Unique Farmland, or Farmland of State Importance and any potential impacts resulting from the cancellation of a Williamson Act contract would be considered on a case-by-case basis for the subject property that an individual project would develop.

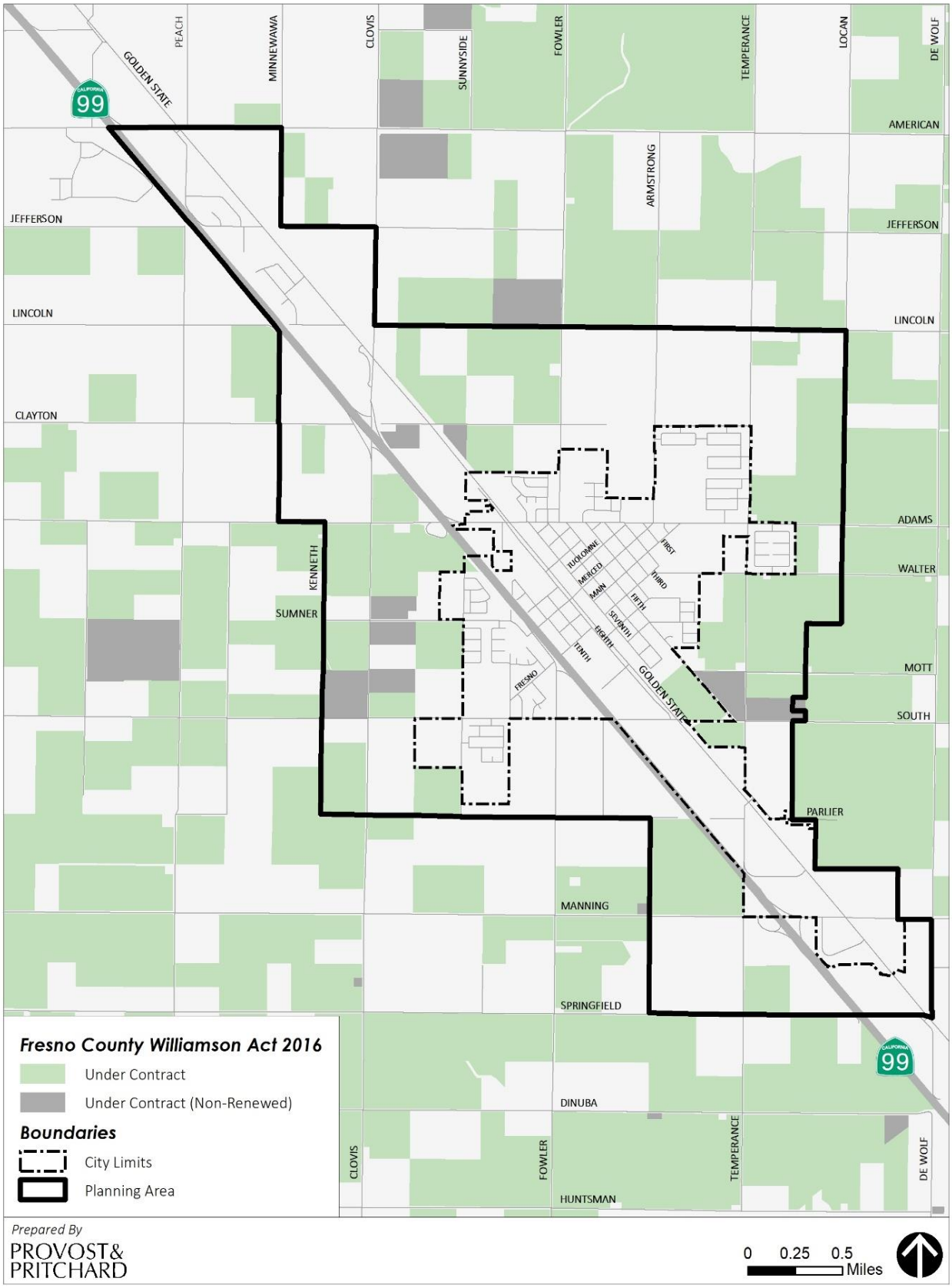
[21] (California Department of Fish and Wildlife 2022)

Figure 4-2: Agricultural Resources[22]



[22] (California Department of Conservation 2016)

Figure 4-3: Williamson Act Contracts



4.4 Air Quality

This section evaluates impacts to air quality, including direct impacts affecting implementation of applicable air quality plans, exposure to pollutants, impacts to sensitive receptors, and other emissions in the planning area along with potential indirect impacts that could result from implementation of the Fowler 2040 GP.

4.4.1 Environmental Baseline

Climate Meteorology, Topography, and Pollutant Dispersion

The SJVAB, in which Fowler is situated, has an inland Mediterranean climate characterized by warm, dry summers and cooler winters. Summer temperatures often exceed 100°F and can vary as much as 30°F. Winters are for the most part mild and humid, with average high in the 50s, while the average daily low temperature is approximately 45°F.

The vertical dispersion of air pollutants in the Valley is limited by the presence of persistent temperature inversions. Air temperature usually decreases as altitude increases. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because of differences in air density thereby restricting air pollutant dispersal.

Wind speed and direction play an important role in the dispersion and transport of air pollutants. During summer periods, winds typically originate from the northern San Joaquin Valley and flow in a south-southeasterly direction through the Valley, down through the Tehachapi Pass and into the neighboring Southeast Desert Air Basin. During winter months, winds occasionally originate in the opposite direction, from the south end of the Valley, and flow in a north-northwesterly direction. Also, during winter months, the Valley experiences light, variable winds, less than 10 miles per hour. Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB is generally flat, bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San Joaquin-Sacramento Delta empties into the San Francisco Bay. The region’s topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality.

Air Pollutants of Primary Concern

Criteria Air Pollutants

For the protection of public health and welfare, the federal Clean Air Act (CAA) required that the United States Environmental Protection Agency (USEPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the USEPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established for the protection of human health are referred to as primary standards; whereas standards established for the prevention of environmental and property damage are called secondary standards. The CAA allows states to adopt additional or more health-protective standards. The following provides a summary discussion of the criteria air pollutants of primary concern.

Ozone (O_3) is a reactive gas consisting of three atoms of oxygen. In the troposphere, it is a product of the photochemical process involving the sun's energy. It is a secondary pollutant that is formed when oxides of nitrogen (NO_X) and volatile organic compounds (VOC), also referred to as reactive organic gases (ROG) react in the presence of sunlight. Ozone at the earth's surface causes numerous adverse health effects and is a criteria pollutant. It is a major component of smog. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation.

High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. Ozone also damages natural ecosystems such as forests and foothill communities, agricultural crops, and some man-made materials, such as rubber, paint, and plastics.

Reactive Organic Gas (ROG) is a reactive chemical gas, composed of hydrocarbon compounds that may contribute to the formation of smog by their involvement in atmospheric chemical reactions. No separate health standards exist for ROG as a group. Because some compounds that make up ROG are also toxic, like the carcinogen benzene, they are often evaluated as part of a toxic risk assessment. Total Organic Gases (TOGs) includes all of the ROGs, in addition to low reactivity organic compounds like methane and acetone. ROGs and VOC are subsets of TOG.

Volatile Organic Compounds (VOC) are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and may also be toxic. VOC emissions are a major precursor to the formation of ozone. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints.

Oxides of Nitrogen (NO_X) are a family of gaseous nitrogen compounds and is a precursor to the formation of ozone and particulate matter. The major component of NO_X, nitrogen dioxide (NO_2), is a reddish-brown gas that is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of this air pollutant.

Particulate Matter (PM), also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. USEPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. USEPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles (PM_{10})," such as those found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5-10}$ is deposited in the thoracic region of the lungs.
- "Fine particles ($PM_{2.5}$)," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- “Ultrafine particles (UFP),” are very small particles less than 0.1 micrometers in diameter largely resulting from the combustion of fossils fuels, meat, wood and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, its high surface area, deep lung penetration, and transfer into the bloodstream can result in disproportionate health impacts relative to its mass.

PM_{10}, $PM_{2.5}$, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources include these same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust.

Numerous scientific studies have linked both long- and short-term particle pollution exposure to a variety of health problems. Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and also acute (short-term) bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone). The main source of CO is on-road motor vehicles. Other CO sources include other mobile sources, miscellaneous processes, and fuel combustion from stationary sources. Because of the local nature of CO problems, California Air Resources Board (CARB) and USEPA designate urban areas as CO nonattainment areas instead of the entire basin as with ozone and PM_{10}. Motor vehicles are by far the largest source of CO emissions. Emissions from motor vehicles have been declining since 1985, despite increases in vehicle miles traveled, with the introduction of new automotive emission controls and fleet turnover.

Sulfur Dioxide (SO_2) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. However, like airborne NO_X, suspended sulfur oxides (SO_X) particles contribute to the poor visibility. These SO_X particles can also combine with other pollutants to form $PM_{2.5}$. The prevalence of low-sulfur fuel use has minimized problems from this pollutant.

Lead (Pb) is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically.

Hydrogen Sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations; especially in enclosed spaces (800 ppm can cause death). Occupational Safety and Health Administration (OSHA) regulates workplace exposure to H_2S.

Other Pollutants

The State of California has established air quality standards for some pollutants not addressed by federal standards. CARB has established State standards for hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. The following section summarizes these pollutants and provides a description of the pollutants' physical properties, health and other effects, sources, and the extent of the problems.

Sulfates (SO_4^{2-}) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2

during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The CARB sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilator function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property.

Visibility Reducing Particles: Are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The 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.

Vinyl Chloride (C_2H_3Cl or VCM) is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloroethylene are broken down. Vinyl chloride is used to make polyvinyl chloride which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Odors

Typically, odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e., irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low

concentrations.[23] Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the CAA or the California Clean Air Act (CCAA) and are thus not subject to National or California AAQS (CAAQS). Instead, the USEPA and CARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the USEPA has established National Emission Standards for HAPs (NESHAPs), in accordance with the requirements of the CAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

At the state level, the CARB has authority for the regulation of emissions from motor vehicles, fuels, and consumer products. Most recently, Diesel-exhaust particulate matter (DPM) was added to the CARB list of TACs. DPM is the primary TACs of concern for mobile sources. Of all controlled TACs, emissions of DPM are estimated to be responsible for about 70 percent of the total ambient TAC risk. The CARB has made the reduction of the public's exposure to DPM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles.[24]

At the local level, air districts have the authority over stationary or industrial sources. All projects that require air quality permits from the South Coast Air Quality Management District (SCAQMD) are evaluated for TAC emissions. The SCAQMD limits emissions and public exposure to TACs through a number of programs. The SCAQMD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The SCAQMD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to AB 2588.

Land Use Compatibility with TAC Emission Sources

CARB published an informational guide entitled: *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) in 2005. The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of sensitive land uses near major sources of air pollution. CARB's Handbook includes recommended separation distances for various land uses that are based on relatively conservative estimations of emissions based on source-specific information. However, these recommendations are not site specific and should not be interpreted as defined "buffer zones." It is also important to note that the recommendations of the Handbook are advisory and need to be balanced with other State and local policies.[25] Depending on site and project-specific conditions, an assessment of potential increases in exposure to TACs may be warranted for proposed development projects located

[23] (United States Environmental Protection Agency 1991)
[24] (California Air Resources Board 2005)
[25] Ibid

within the distances identified. CARB-recommended separation distances for various sources of emissions are summarized in Table 4-3.

Table 4-3: Recommendations on Siting New Sensitive Land Uses Near Air Pollutant Sources

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

Recommendations are advisory, are not site specific, and may not fully account for future reductions in emissions, including those resulting from compliance with existing/future regulatory requirements.
Source: CARB 2005

Sensitive Receptors

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term “sensitive receptors” refers to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses. Sensitive land uses within the Fowler consist predominantly of residential land uses, schools, and community parks.

Ambient Air Quality

Air pollutant concentrations are measured at several monitoring stations in the SJVAB. The Fresno-Drummond Street monitoring station is the closest representative monitoring station with sufficient data to meet USEPA and/or CARB criteria for quality assurance. The Fresno-Drummond Street monitoring station monitors ambient concentrations of O_3, NO_2, and PM_{10}. The Fresno-Hamilton and Winery monitoring station is the closest station monitoring $PM_{2.5}$. Ambient monitoring data were obtained for the last three years of available measurement data (i.e., 2019 through 2021) and are summarized in Table 4-3. As depicted, the state and federal O_3 and $PM_{2.5}$, and PM_{10} standards were exceeded on numerous occasions during the past 3 years.

Table 4-4: Summary of Ambient Air Quality Monitoring Data

Pollutant	Monitoring Year		
	2019	2020	2021
Ozone (O_3)[1]			
Maximum concentration (1-hour/8-hour average)	0.099/0.080	0.123/0.091	0.125/0.099
Number of days state/national 1-hour standard exceeded	1/0	11/0	9/1
Number of days 2008 national/2015 national 8-hour standard exceeded	2/10	14/27	16/39
Nitrogen Dioxide (NO_2)[1]			
Maximum concentration (1-hour average)	42.3	66.8	64.5
Annual average	NA	NA	11
Number of days state/national standard exceeded	0/0	0/0	0/0
Suspended Particulate Matter ($PM_{2.5}$)[2]			
Maximum concentration (national/state)	44.7/44.7	143.3/143.3	81.3/81.3
Annual Average (national/state)	11.2/NA	18.5/NA	13.7/NA
Number of days national standard exceeded (measured/calculated)	3/9.3	13/39.3	27/27.7
Suspended Particulate Matter (PM_{10})[1]			
Maximum concentration (national/state)	175.6/181.3	350.4/349.2	151.8/149.8
Number of days state standard exceeded (measured/calculated)	13/78.3	25/NA	20/NA
Number of days national standard exceeded (measured/calculated)	1/6.1	1/5.8	0/NA

ppm = parts per million by volume, µg/m³ = micrograms per cubic meter, NA=Not Available

1. *Based on ambient concentrations obtained from the Fresno-Drummond Street Monitoring Station.*
2. *Based on ambient concentrations obtained from the Fresno-Hamilton and Winery Monitoring Station*
2. *Measured days are those days that an actual measurement was greater than the standard. Calculated days are estimated days that a measurement would have exceeded the standard had measurements been collected every day.*

Source: CARB 2022a

4.4.2 Regulatory Setting

Federal

United States Environmental Protection Agency

At the federal level, the USEPA has been charged with implementing national air quality programs. The USEPA's air quality mandates are drawn primarily from the CAA, which was signed into law in 1970. Congress substantially amended the CAA in 1977 and again in 1990.

The USEPA designates areas for ozone (O_3), carbon monoxide (CO), and nitrogen dioxide (NO_2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (SO_2), areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The USEPA uses the

same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, USEPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for particulate matter of 10 microns or less (PM_{10}) based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

Clean Air Act

The CAA was first signed into law in 1970. In 1977, Congress added several provisions, including nonattainment requirements for areas not meeting NAAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. The USEPA is responsible for administering the CAA. NAAQS are summarized in Table 4-5.

Toxic Substances Control Act

The Toxic Substances Control Act first authorized the USEPA to regulate asbestos in schools and Public and Commercial buildings under Title II of the law, which is also known as the Asbestos Hazard Emergency Response Act (AHERA). AHERA requires Local Education Agencies to inspect their schools for asbestos-containing building materials (ACBM) and to prepare management plans to reduce the asbestos hazard. The Act also established a program for the training and accreditation of individuals performing certain types of asbestos work.

National Emission Standards for Hazardous Air Pollutants

Pursuant to the CAA of 1970, the USEPA established the NESHAPs. These are technology-based source-specific regulations that limit allowable emissions of HAPs. Among these sources include ACBM. NESHAPs include requirements pertaining to the inspection, notification, handling, and disposal of ACBM associated with the demolition and renovation of structures.

State

California Air Resources Board

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing the California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The CAAQS are summarized in Table 4-5. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

Table 4-5: Summary of Ambient Air Quality Standards & Attainment Designations

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Non-Attainment	–	Non-Attainment
	8-hour	0.070 ppm		0.070 ppm	
Particulate Matter (PM_{10})	AAM	20 µg/m³	Non-Attainment	–	Attainment
	24-hour	50 µg/m³		150 µg/m³	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m³	Non-Attainment	12 µg/m³	Non-Attainment
	24-hour	No Standard		35 µg/m³	
Carbon Monoxide (CO)	1-hour	20 ppm	Unclassified/ Attainment	35 ppm	Unclassified/ Attainment
	8-hour	9 ppm		9 ppm	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified/ Attainment
	1-hour	0.18 ppm		0.100 ppb[b]	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	0.03 ppm	Unclassified/ Attainment
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	–		--	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m³	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		1.5 µg/m³	
	Rolling 3-Month Average	–		0.15 µg/m³	
Sulfates	24-hour	25 µg/m³	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m³)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m³)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Unclassified		

Source: SJVAPCD 2022

The State and national attainment status designations for the SJVAB are summarized in Table 4-5. The SJVAB is currently designated as a nonattainment area with respect to the state ozone, PM_{10}, and $PM_{2.5}$ standards, as well as the national 8-hour ozone and $PM_{2.5}$ standards.

California Clean Air Act

The CCAA requires that all air districts in the State endeavor to achieve and maintain CAAQS for O_3, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Under the CCAA, CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment

designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Assembly Bill 170

Requires cities and counties in the Valley to incorporate strategies to improve air quality in their general planning efforts.

Senate Bill 709

Gave the San Joaquin Valley Air Pollution Control District (SJVAPCD) more responsibility in terms of permitting, fee implementation, and agricultural assistance, but also gives the air district the authority to require the use of best available control technology (BACT) for existing sources, promote cleaner-burning alternative fuels, and encourage and facilitate ridesharing. It also allows the air district to adopt a surcharge on motor vehicle registration fees in counties within the air district.

Senate Bill 656 (Chapter 738, Statutes of 2003)

In 2003, the California Legislature enacted Senate Bill (SB) 656 (Chapter 738, Statutes of 2003), codified at Health and Safety Code Section 39614, to reduce public exposure to PM_{10} and $PM_{2.5}$. SB 656 required CARB, in consultation with local air pollution control and air quality management districts (air districts), to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be employed by CARB and the air districts to reduce PM_{10} and $PM_{2.5}$ (collectively referred to as PM). The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for $PM_{2.5}$ and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal $PM_{2.5}$ attainment plans, as well as for State ozone plans. This ensures continuing focus on PM reduction and progress towards attaining California's more health protective standards. CARB adopted the list of air district control measures on November 18, 2004. CARB also developed a list of State PM control measures for mobile and stationary sources, including measures planned for adoption as part of CARB's Diesel Risk Reduction Plan.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce diesel particulate matter (DPM) and oxides of nitrogen (NO_X) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. The regulation applies to self-propelled diesel-fueled vehicles that cannot be registered and licensed to drive on-road, as well as two-engine vehicles that drive on road, with the limited exception of two-engine sweepers. Examples include loaders, crawler tractors, skid steers, backhoes, forklifts, airport ground support equipment, water well drilling rigs, and two-engine cranes. Such vehicles are used in construction, mining, and industrial operations. The regulation does not apply to stationary equipment or portable equipment such as generators. The off-road vehicle regulation, establishes emissions performance

requirements, establishes reporting, disclosure, and labeling requirements for off-road vehicles, and limits unnecessary idling.

Small Off-Road Engine Exhaust Emission Regulations

In December 2021, CARB approved the Small Off-Road Engines regulation. This will require most newly manufactured small off-road engines such as those found in leaf blowers, lawn mowers and other equipment be zero emission starting in 2024. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028. Despite their small size, these engines are highly polluting. The volume of smog-forming emissions from this type of equipment has surpassed emissions from light-duty passenger cars and is projected to be nearly twice those of passenger cars by 2031. Older equipment can continue to be used and resold as this rule only impacts new equipment.

Advanced Clean Cars II Regulations

In August 2022, CARB approved the Advanced Clean Cars II program. The rule establishes a year-by-year roadmap so that by 2035 100% of new cars and light trucks sold in California will be zero-emission vehicles, including plug-in hybrid electric vehicles. Beginning in model year 2026 automakers sales of new vehicles will be required to be made up of 35% zero emission and plug-in hybrid electric vehicles. The regulation applies to automakers and covers only new vehicle sales. It does not impact existing vehicles on the road today, which will still be legal to own and drive.

Local

San Joaquin Valley Air Pollution Control District

The SJVAPCD is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective, and entrepreneurial air quality-management strategies. SJVAPCD's ten core values include: protection of public health; active and effective air pollution control efforts with minimal disruption to the Valley's economic prosperity; outstanding customer service; ingenuity and innovation; accountability to the public; open and transparent public process; recognition of the uniqueness of the Valley; continuous improvement; effective and efficient use of public funds; and respect for the opinions and interests of all Valley residents. To achieve these core values the SJVAPCD has adopted air quality plans pursuant to the CCAA and a comprehensive list of rules to limit air quality impacts. The air plans currently in effect in the SJVAB and specific rules that apply to the proposed Project are listed and described further below.

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the SJVAB. Relevant SJVAPCD air quality plans, rules and regulations are summarized below:

SJVAPCD Air Quality Plans

- 2016 Ozone Plan**.** The SJVAB is designated nonattainment of state and federal health-based air quality standards for ozone. USEPA established 8-hour ozone standards in 1997 (84 parts per billion [ppb]), 2008 (75 ppb), and 2015 (70 ppb). The San Joaquin Valley is currently classified as in nonattainment for each of these increasingly stringent standards. The district has adopted plans for the 1997 and 2008 ozone standards and is on track to meet the attainment deadlines for both.

  This plan included an in-depth analysis of all possible control measures and projected that the Valley will achieve the 8-hour ozone standard (as set by USEPA in 2008) for all areas of the SJVAB no later than 2031. This plan went above and beyond minimum legal requirements by including a "Fast Track" control strategy. Through Fast Track, new strategies produce real reductions (even

though they cannot be legally counted in the plan at this time) and will clean the air before the deadline.

Currently the air district is drafting their 2022 Ozone Plan with goal of attaining the 70-ppb standard by the 2037 deadline. "Given that over 85% of remaining NO_X emissions in the Valley come from mobile sources under state and federal jurisdiction, it will be particularly important that continued efforts to reduce emissions from passenger vehicles, heavy duty trucks, locomotives, and other mobile sources be pursued."

- ***2007 PM_{10} Plan***. The Air District's *2007 PM_{10} Maintenance Plan and Request for Redesignation,* approved on September 21, 2007, assures that the Valley will continue to meet the PM_{10} standard and requests that USEPA formally redesignate, or label, the Valley to attainment status. The PM_{10} Maintenance Plan was adopted on September 25, 2008.[26]

- ***$PM_{2.5}$ Attainment Plan***. Throughout the years the SJVAPCD has implemented several plans to reduce $PM_{2.5}$ and its effects on residents in the Valley. The most recent plan 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards (Plan) builds on existing plans and measure adopted by the district and CARB to address federal air quality standards. This Plan integrates a comprehensive strategy that contains new stationary source measures that will be applied Valley wide and measures focused on reducing emissions in areas with the most difficult attainment challenges. Through the implementation of this comprehensive strategy, the Valley will experience air quality improvements as the region attains the federal $PM_{2.5}$ standards as expeditiously as practicable. The 2018 $PM_{2.5}$ Plan estimates that the SJVAB will reach the 2012 $PM_{2.5}$ standard in 2025.

SJVAPCD Rules & Regulations

- ***Regulation VIII. Fugitive PM_{10} Prohibitions.*** The purpose of this regulation is to reduce ambient concentrations of PM_{10} by prohibiting, reducing, or mitigating anthropogenic emissions of fugitive dust, including emissions associated with various construction and operational activities.

- ***Rule 4002. National Emissions Standards for Hazardous Air Pollutants.*** This rule may apply to projects in which portions of an existing building would be renovated, partially demolished, or removed. With regard to asbestos, the NESHAP specifies work practices to be followed during renovation, demolition or other abatement activities when friable asbestos is involved. Prior to demolition activity, an asbestos survey of the existing structure may be required to identify the presence of any ACBM. Removal of identified ACBM must be removed by a certified asbestos contractor in accordance with California Division of Occupational Safety and Health (Cal/OSHA) requirements.

- ***Rule 4102. Nuisance.*** Applies to any source operation that emits or may emit air contaminants or other materials.

- ***Rule 4103. Open Burning.*** This rule regulates the use of open burning and specifies the types of materials that may be open burned. Section 5.1 of this rule prohibits the burning of trees and other vegetative (non-agricultural) material whenever the land is being developed for non-agricultural purposes.

- ***Rule 4601, Architectural Coatings***. This rule sets VOC limits on architectural coatings used in or on buildings, and on streets and parking lots.

- ***Rule 4901, Woodburning Fireplaces***. On June 20, 2019, the SJVAPCD adopted and amendments to Rule 4901 to reduce the public's exposure to harmful particulates from wood smoke. Residential

[26] (San Joaquin Valley Air Pollution Control District n.d.)

wood burning is one of the largest sources of $PM_{2.5}$ in the San Joaquin Valley during the winter season. Under the rule installation of new wood burning fireplaces and heaters is restricted at elevations below 3,000 ft. The rule also requires any modifications made to an existing fireplace or chimney must install an USEPA certified, gas fueled or electric device.

- ***Rule 4641. Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations.*** This rule applies to the manufacture and use of cutback, slow cure, and emulsified asphalt during paving and maintenance operations.
- ***Rule 4905, Natural Gas-fired Central Furnaces***. The purpose of this rule is to limit NO_X emission from natural gas-fired furnaces.
- ***Rule 9510, Indirect Source Review (ISR).*** The purpose of this rule is to reduce construction and operational emissions associated with the use of development projects through implementation of design features, on-site emission-reduction measures, or off-site measures or the payment of an off-site emissions reduction fee to the SJVAPCD. For projects subject to this rule, the ISR rule requires developers to mitigate and/or offset emissions sufficient to achieve: (1) 20-percent reduction of construction equipment exhaust NO_X; (2) 45-percent reduction of construction equipment exhaust PM_{10}; (3) 33-percent reduction of operational NO_X over 10 years; and (4) 50-percent reduction of operational PM_{10} over 10 years. SJVAPCD ISR applications must be filed "no later than applying for a final discretionary approval with a public agency."

Fresno Council of Governments

The Fresno Council of Governments (FCOG) is a voluntary association of local governments, one of California's 38 regional planning agencies, and one of 500+ nationwide. FCOG undertakes comprehensive regional planning with an emphasis on transportation. FCOG is responsible for regional transportation planning in Fresno County and participates in developing mobile source emissions inventories used in air quality attainment plans.

Fresno County Regional Transportation Plan

FCOG's 2022 Regional Transportation Plan (RTP) comprehensively assesses all forms of transportation available in Fresno County, as well as travel and goods movement needs through 2040. FCOG's first RTP was adopted in 1975. Updated editions have been published every four years per federal statutes refinements of the original and subsequent plans, making this the 19th edition. Federal and state legislation mandates that these long-range transportation plans extend at least 20 years into the future. As the federally designated Metropolitan Planning Organization (MPO) and state-designated Regional Transportation Planning Agency, FCOG has developed the 2022 RTP update through a continuous, comprehensive, and cooperative framework. This process has involved the region's 15 cities, the County of Fresno, staff from related local public agencies, the SJVAPCD, Caltrans, other state and federal agencies, and the public. 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 more efficient use of autos and light trucks, as well as improve the overall quality of life in the region.

Local

Local regulations specifically pertaining to air quality are absent.

4.4.3 Methodology and Thresholds of Significance

San Joaquin Valley Air Pollution Control District Thresholds

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts*.[27] This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts associated with project-level analyses. The SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed development project would result in a significant air quality impact. The SJVAPCD's recommended thresholds of significance are summarized in Table 4-6.

- Short-term Emissions—At the project level, construction impacts associated with proposed development projects would be considered potentially significant if project-generated emissions would exceed 100 tons per year (TPY) of CO, 10 TPY of ROG or NO_X, 27 TPY of SO_X, or 15 TPY of PM_{10} or $PM_{2.5}$.
- Long-term Emissions—Operational impacts associated with the proposed project would be considered potentially significant if project generated emissions would exceed 100 TPY of CO, 10 TPY of ROG or NO_X, 27 TPY of SO_X, or 15 TPY of PM_{10} or $PM_{2.5}$.
- Conflict with or Obstruct Implementation of Applicable Air Quality Plan—Due to the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if project-generated emissions of ozone precursor pollutants (i.e., ROG and NO_X) or PM would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans.
- Local Mobile-Source CO Concentrations—Local mobile source impacts associated with the proposed project would be considered potentially significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e., 9.0 ppm for 8 hours or 20 ppm for 1 hour).
- Exposure to TACs would be considered potentially significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.
- Odor impacts associated with the proposed project would be considered potentially significant if the project has the potential to frequently expose members of the public to objectionable odors. Individual projects that would result in the creation of a new major odor source near existing sensitive receptor(s), or the location of a new sensitive receptor(s) near an existing major source of odor may result in a potentially significant impact that requires further analysis. Major sources of potential odors and SJVAPCD-recommended screening distances are summarized in Table 4-7 .

[27] (San Joaquin Valley Air Pollution Control District 2015)

Table 4-6: SJVAPCD-Recommended CEQA Significance Thresholds

Pollutant	Construction Emissions (tons/year)	Operational Emissions (tons/year)
CO	100	100
NO_X	10	10
ROG	10	10
SO_X	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15
Source: SJVAPCD 2015		

Table 4-7: SJVAPCD Screening Distances for Major Potential Odor Sources

Type of Facility	Screening Distance
Wastewater Treatment Facilities	2 Miles
Sanitary Landfill	1 Mile
Transfer Station	1 Mile
Composting Facility	1 Mile
Petroleum Refinery	2 Miles
Asphalt Batch Plant	1 Mile
Chemical Manufacturing	1 Mile
Fiberglass Manufacturing	1 Mile
Painting/Coating Operations (e.g., Auto Body Shops)	1 Mile
Food Processing Facility	1 Mile
Feed Processing Facility	1 Mile
Rendering Plant	1 Mile
Source: SJVAPCD 2015	

In addition to the above thresholds, the SJVAPCD also recommends the use of daily emissions thresholds for the evaluation of individual project impacts on localized ambient air quality conditions. Accordingly, individual projects would also be considered to result in a significant contribution to localized ambient air quality if on-site emissions or ROG, NO_X, PM_{10}, $PM_{2.5}$, CO, or SO_2 associated with either short-term construction or long-term operational activities would exceed a daily average of 100 pounds per day for each of the pollutants evaluated.[28]

Methodology

Short-term emissions associated with construction activities are largely dependent on the type of development proposed, area of ground disturbance, number of buildings to be demolished, equipment required, and construction schedules. Because much of this information for specific future development projects is unknown at this time, construction-related impacts were qualitatively discussed.

Long-term operational increases in emissions of criteria air pollutants associated with energy use and area sources (e.g., landscaping activities, use of consumer products) using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. Emissions associated with energy use and area sources were calculated based on default usage rates contained in the model for Fresno County. Mobile-source emissions were calculated based on projected increases in vehicle miles traveled (VMT) and emission factors for

[28] (San Joaquin Valley Air Pollution Control District 2015)

Fresno County derived from the Emission Factor 2021 (EMFAC2021) computer program.[29] Increases in vehicle miles traveled were derived from the traffic analysis prepared for the proposed GP, including the assumption that full buildout of the Fowler 2040 GP would occur by 2042 to align with the Fresno COG transportation model horizon.[30] Emissions modeling files are provided in Appendix C. Increased exposure of sensitive land uses to localized pollutant concentrations were qualitatively assessed.

4.4.4 Impacts

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

Potentially Significant Impact. Long-term emissions under the Fowler 2040 GP would be 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 determine whether a project is consistent with all applicable air quality plans. The most recently adopted air quality attainment plans in the San Joaquin Valley Air Basin are the SJVAPCD 2016 Ozone Plan, the 2018 $PM_{2.5}$ Plan, the 2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-hour Ozone Standard, and the 2004 Revisions to the Carbon Monoxide Maintenance Plan. These SJVAPCD Air Quality Attainment Plans contain measures to promote air quality elements in county and city general plans as one of the primary indirect source programs. If the General Plan would conflict with or obstruct the implementation of any air quality plan control measure, it would be inconsistent with the applicable air quality plans. All future development and infrastructure projects within the planning area would be subject to the General Plan goals, policies, and actions, which were adopted to reduce emissions and air quality impacts.

Daily VMT for the planning area under existing (year 2019) conditions and future year 2042 conditions is summarized in Table 4-8. As shown, daily VMT for the Fowler planning area under existing conditions is 247,894. Under future year conditions (buildout of the Fowler 2040 GP), the projected daily VMT would be 1,240,395. In comparison to existing conditions, VMT would increase by approximately 992,501, or 400%.

Table 4-8: Projected Daily VMT Increase

Source	Amount
Existing VMT	247,894
Future VMT	1,240,395
VMT Increase Compared to Existing:	992,501
Percent increase in VMT:	400%
Source: Kittelson & Associates, 2022	

Population for the planning area under existing (year 2019) conditions and future year 2042 conditions is summarized in Table 4-9. As shown, the Fowler planning area has an existing estimated population of

[29] (California Air Resources Board 2022)
[30] (Kittelson & Associates 2022)

approximately 6,808. At full buildout of the Fowler 2040 GP the City's population is estimated to total of 48,404, an increase in population of approximately 41,596 new residents.

Table 4-9: Projected Population Growth

Source	Amount
Existing Population	6,808
Future Population	48,404
Population Increase Compared to Existing:	41,596
Percent increase in Population:	611%
Source: Kittelson & Associates, 2022	

Implementation of the Fowler 2040 GP would result in an increase in the population of approximately 611 percent, whereas VMT would increase by approximately 400 percent. The estimated increase in VMT associated with the Fowler 2040 GP would be lower than the estimated increase in population growth. As a result, the Fowler 2040 GP would not be anticipated to result in overall VMT increases on a per capita basis and is discussed further in Section 4.18.

Implementation of the Fowler 2040 GP is anticipated to result in a substantial increase in mobile-source emissions, as depicted in Table 4-12. In addition to increases in mobile-source emissions, additional sources of emissions would include area sources, and energy use. Emissions associated with area sources would be predominantly associated with the use of consumer products (e.g., cleaning supplies), over which the City and SJVAPCD have little to no control. Landscaping equipment currently accounts for 24 annual tons of CO area emissions, which is anticipated to reduce to 0 tons in 2042 with the recent enactment of the SORE amendment.

Future development would be required to comply with SJVAPCD and state requirements, including (but not limited to) SJVAPCD Rule 9510, Title 24 energy-efficiency regulations, the SORE and Advanced Clean Cars II rule, which would help to reduce overall emissions associated with individual development projects.

Policy LU-13	Planned unit developments may include any combination of single family and multifamily dwellings. Planned unit developments larger than 10 acres in size may also include related office and commercial uses.
Action Item LU-13a	Review and revise the Zoning Ordinance, as necessary, to reflect increased density allowances for planned unit developments at the City's discretion. Granting of additional density (not to exceed 25%) will depend on the developer's demonstration of the quality of design in such areas as access, circulation, building placement, parking, provision of open space, and architectural design and compatibility with the surrounding area.
Policy LU-18	Residential uses shall be permitted in the Community Commercial designation in support of mixed-use development.
Action Item LU-18a	Review and revise the Zoning Ordinance, as needed, to allow residential uses in the Community Commercial Designation.
Policy LU-19	Support neighborhood-serving commercial uses located near residential development with strong connectivity through walkable infrastructure.
Action Item LU-19a	Review and revise the Zoning Ordinance, as needed, to permit neighborhood-serving commercial uses, such as food markets, in residential zones through the Conditional Use Permit process.
Policy LU-21	Encourage large, employment-generating developments to provide services such as cafeterias, childcare, and business support services that reduce the need for vehicle trips.

Policy CDES-16	Locate parking areas within commercial projects in a manner that promotes pedestrian activity.
Policy CDES-18	New commercial projects are designed in such a way that they enhance Fowler's character.
Action Item CDES-18a	Adopt commercial standards in consideration of the following design principles: • Commercial sites are designed with human scale and pedestrian amenities. • Landscaping is used to unify and improve the visual quality of commercial sites. • Where appropriate, commercial development should be oriented along the street edges of new commercial sites, at street corners, or along main roadways internal to larger developments. • Encourage the use of shared parking amongst various commercial and office uses where possible. Minimize required off-street parking.
Policy CDES-31	Electric vehicle charging facilities shall be permitted in accordance with the most recent state regulations.
Policy CH-1	Implement an active transportation network that links residential uses with schools, shopping, entertainment, recreation, and employment centers.
Action Item CH-1a	Identify gaps in the existing pedestrian and bicycle network to inform capital improvements programming and grant funding opportunities.
Action Item CH-1b	Prioritize pedestrian and bicycle improvement projects that close gaps in the mobility network and those which link the east and west sides of the city.
Action Item CH-1c	Amend road design standards, as necessary, to include complete street design principles.
Action Item CH-1d	Develop and implement an Active Transportation Plan.
Action Item CH-1e	Pursue funding for the adoption of a Safe Routes to School Master Plan to assist in the planning and funding of bicycle and pedestrian infrastructure improvements along school routes.
Policy CH-2	Promote walking and bicycling and reduce vehicle miles traveled by allowing complementary land uses in close proximity to one another.
Policy CH-3	Consider pedestrian and bicyclist safety and comfort in the design and development of streets, parks, and public spaces.
Action Item CH-3a	Conduct a visual quality assessment of bicycle and pedestrian facilities to determine the efficacy of existing active transportation improvements and to help prioritize future improvements.
Action Item CH-3b	Require street lighting within the rights-of-way of all public streets.
Policy CH-4	Require street trees or other shade coverage along key pedestrian and bicycle routes and near transit stops.
Action Item CH-4a	Establish street design standards for each land use zone and require street trees of "medium" size or larger in commercial, residential, and mixed-use zones.
Policy CH-6	Evaluate land use decisions for consistency with siting recommendations as outlined in California Air Resources Board's (CARB's) Land Use Compatibility Handbook.
Policy CH-7	Consider the use of solid and vegetative barriers as a means for reducing near-roadway air pollution concentrations along SR 99 and local expressways.
Policy OS-10	The City shall implement the community trail network as shown *Figure 8-2: Trail Facilities*.

Policy OS-11	Neighborhood trails should be planned as part of a connected, City-wide open space network which connects neighborhoods, parks, community trails, and other destinations including the downtown and shopping districts.
Policy OS-12	Placement of neighborhood trails should be constructed along the most direct alignment possible to close network gaps in the trail system. Neighborhood trails may be required to be constructed as part a new development in order to accommodate that connection.
Policy MOB-4	Support the creation of a transportation network that provides for efficient movement of people and goods while accounting for environmental effects.
Action Item MOB-4a	Prepare guidelines for the evaluation of vehicle miles travelled. The guidelines should include significance criteria for evaluating impacts, thresholds of applicability for discretionary projects, and guidance on analyzing transportation impacts.
Action Item MOB-4b	Identify a range of actions available for developments to mitigate transportation impacts, specifically targeted at reducing vehicle miles travelled.
Policy MOB-5	Encourage a Level of Service (LOS) "C" throughout the local circulation network. LOS “D” may be allowed during peak hours at intersections of major streets, at SR 99 interchanges, and along street segments where additional improvements are not feasible. LOS “D” may also be allowed along streets with the potential for a high level of pedestrian and bicyclist activity. LOS “E” may be permitted during peak hour use of certain road intersections and segments where pedestrian and bicycle activity is prioritized
Policy MOB-6	Use Intelligent Transportation Systems (ITS) to improve the safety and performance of the circulation network, consistent with the Fresno County ITS Strategic Plan.
Policy MOB-9	New development may be required to provide off-site pedestrian and/or bicycle facilities to address gaps in the active transportation network.
Policy MOB-10	Develop a multi-purpose recreational bikeway network and support facilities.
Action Item MOB-10a	Review and revise, as needed, the Zoning Ordinance to include provisions for short-term and long-term bicycle parking and storage facilities.
Policy MOB-11	Ensure street and road projects are adequately designed to accommodate safe and convenient pedestrian and bicyclist access.
Action Item MOB-11a	Review and revise, as needed, public works standards to include pedestrian and bicycle safety features where appropriate.
Action Item MOB-11b	Establish design standards to ensure the bikeway network is easily identifiable and consistent with standard signs and markings, as designated by the State of California Traffic Control Devices Committee and the State Bikeway Committee.
Policy MOB-12	Require traffic calming techniques in the design of new local streets where such techniques will manage traffic flow and improve safety for pedestrian and bicyclist users.
Policy MOB-13	Coordinate with Caltrans, Fresno COG, Fresno County Rural Transit Agency (FCRTA,) and other responsible agencies to identify the need for additional mobility infrastructure and/or services along major commuter travel corridors.
Policy MOB-14	Identify opportunities for a multi-modal transit hub within the City.
Policy MOB-15	Support the development of paratransit service programs.
Policy MOB-16	Support transit operator efforts to maximize return for short- and long-range transit needs.

Action Item MOB-16a	Actively participate in the development of short and long-range transit plans, including the Fresno County Long Range Transit Plan and transit plans prepared by the Fresno County Rural Transit Agency (FCRTA).
Policy MOB-17	Incorporate the potential for public transit service expansion throughout the City.
Action Item MOB-17a	Review and revise, as needed, public works standards to incorporate design features to accommodate future public transit stops.
Policy MOB-18	Improve route options and access for public transit City-wide, specifically west of SR 99.
Action Item MOB-18a	Coordinate with Fresno County Rural Transit Agency (FCRTA) and other public transit agencies to facilitate additional transit stops.
Action Item MOB-18b	Ensure that pedestrian and bicycle facilities are provided along and/or near transit routes, whenever feasible, to improve access and connectivity.

Implementation of policies LU-13, LU-18, LU-19, LU-21, CDES-16, CDES-18, CDES-31, CH-1, CH-2, CH-3, CH-4, CH-6, CH-7, OS-10, OS-11, OS-12 MOB-4, MOB-5, MOB-6, MOB-9, MOB-10, MOB-11, MOB-12, MOB-13, MOB-14, MOB-15, MOB-16, MOB-17, MOB-18 and action items LU-13a, and CDES-18a of the Fowler 2040 GP would improve air quality by reducing emissions associated with future development projects, reducing the VMT per capita, and supporting sustainable development by helping to maintain a balanced ratio of jobs to housing units, placing an emphasis on connectivity with the community, multi-modal connectivity, and improved public transit throughout Fowler.

However, given the region's current nonattainment status and uncertainty regarding the effectiveness of the proposed policies on individual development projects, this impact would be considered potentially significant.

Implementation of Mitigation Measure AQ-1 would reduce emissions associated with future development projects. However, given the region's current nonattainment status and uncertainty regarding the effectiveness of future mitigation for individual development projects, this impact would be considered significant and unavoidable.

Threshold 2: Would the project 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?

Potentially Significant Impact. The 2040 Fowler GP consists of developing parcels that are currently vacant, or under-developed and have the potential for enhanced or further development. Future development within Fowler's planning area, and associated increases in daily VMT are summarized in Table 4-8. As noted in Table 4-10, future development within the planning area would result in approximately 12,494 additional dwelling units. Daily VMT associated with future residential development would total approximately 457,846 miles. As noted in Table 4-11, future non-residential development would result in an increase of approximately 18,243,344 square feet and 383,368 miles traveled per day.

Table 4-10: Summary of Residential Land Uses within Planning Area

Land Use	Dwelling Units 2019	Daily VMT 2019	Dwelling Units 2042	Daily VMT 2042
Residential Low Density	391		2,275	
Residential Medium Low Density	636		4,122	
Residential Medium Density	1,214		4,752	
Residential Medium High Density	0		2,193	

Land Use	Dwelling Units 2019	Daily VMT 2019	Dwelling Units 2042	Daily VMT 2042
Residential High Density	775		1,449	
Mixed- Community Commercial	208		927	
Total Residential:	3,224	136,275	15,718	594,121
Increase Compared to Existing:			12,494	457,846
Kittelson & Associates, Fowler Land Use Assumptions 2022 *Kittelson & Associates, Fowler VMT Impact Assessment 2022*				

Table 4-11: Summary of Non-Residential Land Uses within Planning Area

Land Use	Acres 2019	Daily VMT 2019	Acres 2042	Daily VMT 2042
Commercial Neighborhood	1.91		5.68	
Commercial Community	9.54		21.26	
Commercial General	19.96		41.92	
Industrial Light	33.01		178.70	
Industrial Heavy	100.42		331.54	
Public Park	15.80		55.03	
Public Facility	8.77		12.33	
Total Non-Residential	**189.41**	**118,857**	**646.46**	**502,225**
Increase Compared to Existing:			457.05	383,368
Kittelson & Associates, Fowler Land Use Assumptions 2022 *Kittelson & Associates, Fowler VMT Impact Assessment 2022*				

Table 4-12: Summary of Operational Emissions Within Planning Area

Source	Emissions (tons/year)[1]				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Existing Year 2019 Conditions					
Area[2]	60.0	1.5	24.6	0.2	0.2
Energy[2]	1.2	10.3	7.3	0.8	0.8
Mobile[3]	24.0	68.4	200.8	3.7	1.9
Total:	**85.2**	**80.2**	**232.7**	**4.7**	**2.9**
Proposed Year 2042 GP Buildout					
Area[2]	250.6	7.2	118.9	1.1	1.1
Energy[2]	4.7	41.2	27.9	3.2	3.2
Mobile[3]	43.1	114.7	359.5	14.6	5.5
Total:	**298.4**	**163.1**	**506.3**	**18.9**	**9.8**
Net Increase Compared to Existing Conditions:	213.3	82.9	273.6	14.2	6.9
SJVAPCD Significance Thresholds[4]:	10	10	100	15	15

1. Totals may not sum due to rounding.
2. Emissions calculated using CalEEMod2020.4.0. Area source emissions are predominantly associated with the use of consumer products (e.g., cleaning supplies). Other area sources include landscape maintenance equipment, natural gas-fired appliances, and architectural coatings.
3. Emissions calculated based on data derived from the VMT analysis prepared for this project and emission factors for Fresno County derived from EMFAC2021. Annual emissions of SO_X associated with typical development are anticipated to be negligible and were not included.
4. SJVAPCD Significance Thresholds apply to individual projects and are presented for informational purposes only.
5. Refer to Appendix C for emissions modeling assumptions and results.

Short-Term Air Quality Impacts

Construction activity associated with the 2040 Fowler GP would cause temporary emissions of various air pollutants from demolition, grading, construction worker travel, hauling of construction supplies, fuel combustion by equipment, and architectural coating would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The extent of daily emissions, particularly ROGs 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 PM_{10} emissions would depend on the amount of disturbed soils, the length of disturbance time, whether existing structures are demolished, whether excavation is involved, and whether transporting excavated materials offsite is necessary. Dust emissions can lead to both nuisance and health impacts.

The SJVAPCD has not established plan-level significance thresholds for construction air pollutant emissions. At this time, most projects facilitated by the 2040 Fowler GP do not have sufficient detail to allow project-level analysis. As a result, short-term air quality impacts would be considered **potentially significant**.

Long-Term Air Quality Impacts

Long-term operational emissions associated with future development were quantified using the CalEEMod2020.4.0 based on the estimated increases in residential and non-residential development (refer to Table 4-10 and Table 4-11, respectively). Estimated annual emissions associated with the proposed 2040 Fowler GP are summarized in Table 4-12. Emissions modeling was conducted for annual operational conditions under existing year 2019 and Fresno COG Model Horizon Year (2042) conditions. As noted in Table 4-12, annual emissions under existing conditions would total approximately 85.2 tons/year of ROG, 80.2 tons/year of NO_X, 232.7 tons/year of CO, 4.7 tons/year of PM_{10}, and 2.9 tons/year of $PM_{2.5}$. While emissions under the Fresno COG Model Horizon Year (2042) would total approximately 298.4 tons/year of ROG, 163.1 tons/year of NO_X, 506.3 tons/year of CO, 18.9 tons/year of PM_{10}, and 9.8 tons/year of $PM_{2.5}$.

As noted in Table 4-12, overall increases in emissions associated with future development would be largely associated with area and mobile sources. Under the newly adopted Advanced Clean Car II rule, mobile emissions will likely be reduced as adoption of EVs increases. Emissions associated with area sources would be predominantly associated with the use of consumer products (e.g., cleaning supplies). To a lesser extent, other area source emissions would be associated with the use of natural gas-fired appliances, landscape maintenance equipment, and architectural coatings. The recently adopted Small Off-Road Engine regulation will likely decrease emissions from landscape maintenance equipment under the Fowler 2040 GP, however its effects could not be quantified for modeling. As discussed previously, the SJVAPCD has not established quantitative plan-level significance thresholds for operational emissions. At this time, there is insufficient detail to allow project-level analysis and thus it would be speculative to analyze project-level impacts. For this reason, this impact would be considered **potentially significant**.

Implementation of Policies LU-21, CDES-31, CH-1, CH-6, MOB-4, MOB-9, MOB-10, MOB-11, MOB-12, MOB-13, MOB-14, MOB-15, MOB-16, MOB-17, MOB-18, and MOB-19 of the 2040 Fowler GP would help to reduce increases in criteria pollutants. Greenhouse Gas Mitigation Measures GHG-1 and GHG-2, and Air Quality Mitigation Measure AQ-1 shall be implemented to reduce project-generated emissions of air pollutants.

As noted above, the General Plan Update includes various measures to reduce energy demand and vehicle miles traveled, including the promotion of alternative means of transportation. The promotion

of alternatives to automotive transportation can help to reduce local and regional mobile-source emissions and energy consumption. Mitigation Measure AQ-1 would require individual projects to evaluate regional air quality impacts resulting from construction and operational emissions. Potentially significant impacts would require implementation of additional project-specific mitigation measures to further reduce project-generated emissions and associated air quality impacts. However, given the regions current nonattainment status and uncertainty regarding the effectiveness of future mitigation for individual development projects, short-term and long-term air quality impacts would be considered significant and unavoidable.

Threshold 3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. 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 Fowler GP would include the development of land uses considered to be sensitive receptors, as well as new development near existing sensitive receptors. Activities associated with implementation of the 2040 Fowler GP could potentially include short-term, construction sources of TACs and long-term, operational sources of TACs, including stationary and mobile sources. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health and $PM_{2.5}$ can cause a wide range of health effects.

Short-Term Construction Emissions

Construction projects can result in short-term increases of TACs, as well as emissions of airborne fugitive dust. Emissions of DPM emitted from construction vehicles is of particular concern. Exposure to DPM results in a greater incidence of chronic non-cancer health effects, such as cough, labored breathing, chest tightness, wheezing, and bronchitis. However, various other TACs from diesel exhaust also contribute to both cancer and non-cancer health risks. Construction-generated emissions of $PM_{2.5}$ can also contribute to significant health impacts, particularly among the more sensitive population groups (i.e., children, elderly, etc.).

The amount of TACs generated during construction of individual projects would vary depending on numerous factors, including the size of the development, the type, age, and number of pieces of equipment required, and hours of use. Furthermore, it is anticipated that multiple construction projects could occur simultaneously within a given year and within a given area. Without detailed construction information (i.e., construction schedules, demolition, grading, excavation, and construction requirements), construction-generated emissions of TACs for individual projects cannot be quantified at this time. As a result, this impact would be considered potentially significant.

Long-Term Exposure

Toxic Air Contaminants

Development of future land uses may include potential stationary sources of TACs, such as diesel-powered emergency-use power generators. The type and level of TAC emissions emitted would depend upon the nature of the land use and the specific methods and operations that involve toxic air emissions. Pursuant to SJVAPCD rules and regulations, including SJVAPCD Rule 2201 (New Source Review Rule), new and modified stationary sources of emissions are required to mitigate emissions using best available control technology and to offset emissions when above thresholds.

In addition to the long-term exposure to stationary emission sources, new land uses may also be exposed to emissions from mobile sources. Major roadways of potential concern with regard to mobile-source TACs typically include roadways with average-daily traffic (ADT) volumes of 100,000 or more. Within the

Planning Area, State Route 99 (SR-99) is considered the primary source of mobile-source TAC emissions. Average-daily traffic volumes along SR-99 located within the Planning Area range from approximately 94,000 to approximately 99,000 (Peters Engineering Group 2022).

The 2040 Fowler GP would include opportunities for new development and redevelopment near SR-99. In addition, depending on the type of future development, some projects contribute substantially to existing vehicle traffic on area roadways, particularly diesel-fueled heavy-duty trucks associated with industrial development. Such development could result in the exposure of sensitive receptors to mobile-sources of TACs. Given that future development could potentially result in increased exposure of sensitive land uses to TACs, this impact would be considered potentially significant. Policy CH-6 would require that future land uses be evaluated for consistency with siting recommendations as outlined in CARB's Land Use Compatibility Handbook (refer to Table 4-3). In addition, solid or vegetative barriers would be considered for reducing near-road air pollutant concentrations for development located along SR-99 and major local expressways.

Mobile-Source Carbon Monoxide

Buildout of the 2040 Fowler GP 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.

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. 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. However, CO hotspots can occur if large numbers of vehicles are concentrated on a roadway. This becomes a concern when the LOS of a given roadway is negatively affected by a project enough to be classified as LOS E or F. According to the traffic analysis (Appendix I), two roadway segments are expected to operate at LOS E or F under 2040 Fowler GP buildout conditions: Merced Street between 8th and 10th Streets, and Golden State Boulevard between Valley Drive and Manning Avenue. Therefore, this impact would be considered potentially significant.

Implementation of the following policies and action items of the 2040 Fowler GP would require future development to assess impacts to the local circulation network and to encourage achievement of LOS C, where possible. It would also require use of ITS to improve the safety and performance of the circulation network, consistent with the Fresno County ITS Strategic Plan.

Implementation of Mitigation Measure AQ-2b would require the review of proposed development projects to ensure that future development projects would not result in an increase in localized CO concentrations that would adversely impact nearby sensitive receptors. With implementation of proposed General Plan Update policies, and MM AQ-2b, this impact would be considered less than significant.

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

Potentially Significant Impact. The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source, wind speed and direction, and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

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 Fowler GP.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. As shown in

Table 4-7, the SJVAPCD established screening levels for potential odor sources based on distance to sensitive receptors. 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.[31]

The residential uses in the 2040 Fowler GP are not considered odor-generating land uses. At this time, the projects facilitated by the 2040 Fowler GP do not have sufficient detail to allow project-level analysis and thus it would be speculative to determine adverse odor affects from the Project. Therefore, odor impacts as a result of the proposed general plan would be considered **potentially significant**.

Implementation of proposed Mitigation Measure AQ-2a and compliance with applicable SJVAPCD rules and regulations would reduce the potential exposure of sensitive receptors to odors. However, even with mitigation, it may not be possible to reduce potential emissions of odors and related impacts to a less-than-significant level in all instances. As a result, this impact would be considered **significant and unavoidable**.

4.4.5 Mitigation Measures

MM AQ-1: Consider impacts on regional air quality when reviewing proposals for new development. Short-term construction and long-term operational quality impacts shall be evaluated in accordance with SJVAPCD-recommended guidance.

MM AQ-2a: Consider the localized air quality impacts on surrounding land uses, including emissions of toxic air contaminants and odors, when reviewing proposals for new development.

MM AQ-2b: The City will 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. If the CO analysis shows levels above current applicable ambient air quality standards, the project proponent will be required to make intersection improvements to reduce CO emissions at the intersection, alter the project to reduce the impact, or implement other measures sufficient to demonstrate a reduction in predicted localized CO concentrations to below applicable ambient air quality standards.

4.4.6 Cumulative Impacts

The full buildout and development under the 2040 Fowler GP would result in the construction and operation of new development, which would result in increased area, mobile, and energy-related air emissions. As individual development projects are proposed, each project would be required to be analyzed against the SJVAPCD thresholds of significance. However, as it is unlikely that all subsequent projects would exceed these thresholds, it is anticipated that cumulative impacts would be considered **significant and unavoidable**.

[31] (California Air Resources Board 2005); (San Joaquin Valley Air Pollution Control District 2015))

4.5 Biological Resources

This section evaluates direct and indirect impacts to biological resources, including regulated waterways and wetlands, sensitive habitats and mature native trees, sensitive plants and animals, and wildlife movement corridors, that could result from implementation of the Fowler 2040 GP.

4.5.1 Environmental Baseline

Habitat Types

The Fowler planning area is located in the San Joaquin Valley and consists of ruderal and agricultural habitats. The San Joaquin Valley is bordered by the Sierra Nevada Mountain range to the east and the California Coastal Mountain ranges to the west. According to the California Wildlife Habitat Relationship (CWHR) system's vegetation cover data, the only habitat types found within the planning area are agricultural (vineyard) and ruderal (urban).[32] Figure 4-4 contains a map of the CWHR data layer within the planning area. The CWHR data was originally published in 1998, so expansion of urban areas within Fowler is not visualized, though this data does provide evidence that no high-quality wildlife habitat has been present within the planning area for at least the last 25 years. According to the CWHR, the planning area at the time was composed of 90.4% "Vineyard" habitat and 9.6% "Urban" habitat. Recent changes to habitat composition, as seen on aerial imagery in Figure 4-4, consists of conversion of farmland to ruderal and urban areas. These habitats are assumed to also be as highly disturbed by human activities, deterring wildlife and reducing habitat quality for special status species. Additionally, due to urbanization and agricultural practices, water features in the vicinity are limited to channelized irrigation canals and human made basins. Habitats within the planning area are disturbed or frequently maintained and therefore are of relatively low quality for most native wildlife species.

Ruderal Habitats

Ruderal habitats are characterized by a high level of human disturbance and dominated by non-native plant species or devoid of vegetation. Within Fowler, there are vacant, ruderal parcels of land interspersed throughout developed areas and agricultural lands. Ruderal areas within the planning area have minimal value to wildlife due to frequent human disturbance, presence of domestic dogs and cats, and an absence of vegetative cover. However, some disturbance-tolerant species may make incidental use of these ruderal lands. Ruderal habitats within Fowler also include developed areas, such as residential communities and commercial and industrial business development. These areas contain concrete sidewalks, paved streets and lots, and landscaping. Ornamental landscaping can provide habitat to some disturbance-tolerant species, though most wildlife would be deterred and find little in the way of resources.

Agricultural Habitats

Vineyards and orchards — single species of grapes or trees planted in a row — dominate the agricultural landscape in Fowler and the surrounding land. Rows under the vines or trees are usually sprayed with herbicides to prevent the growth of weedy herbaceous plants. Intensive agricultural practices in vineyards and orchards likely limit their value to wildlife and deter special status species; however, some avian and mammalian species have adapted to vineyard habitats.

Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for classifying and mapping all natural communities in California. Just like the special status plant and animal species (see

[32] (California Department of Fish and Wildlife 2022)

below), these natural communities of special concern can be found within the California Natural Diversity Database (CNDDB). The CNDDB report can be found in Appendix C.

According to CNDDB, there are no recorded observations of natural communities of special concern within the planning area.

Designated Critical Habitat

The United States Fish and Wildlife Service (USFWS) often designates areas of "critical habitat" when listing species as threatened or endangered. Critical habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. These areas designated as critical habitat can be found within the CNDDB.

According to CNDDB, there are no areas of designated critical habitat within the planning area.

Wildlife Movement Corridors

Wildlife movement corridors are routes that wild animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

The planning area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, Fowler is located in a region often disturbed by intensive agricultural cultivation practices and human disturbance which would discourage dispersal and migration.

Special Status Plants and Animals

A search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Malaga* and *Conejo* 7.5-minute quadrangles that together contain Fowler in its entirety, and for the 10 surrounding quadrangles: *Caruthers, Riverdale, Laton, Burris Park, Selma, Sanger, Round Mountain, Clovis, Fresno North,* and *Fresno South*[33]. The CNDDB report can be found in Appendix C.

According to CNDDB, there have been no recorded observations of special status species within the planning area; however, the special status animal and plant species list, found in Table 4-13 and Table 4-14**,** have recorded observations in the surrounding vicinity. Due to past and ongoing disturbance and an absence of suitable habitat, many of the species listed in Table 4-13 and Table 4-14 are unlikely to occur within the planning area. Furthermore, a number of the observations/occurrences were recorded more than 50 years ago[34], and the associated populations may have been subsequently extirpated.

[33] (California Department of Fish and Wildlife 2022)

[34] The CNDDB comprises two data components: Text information and spatial information. An occurrence is an individual recorded siting of a rare, California-native species or natural community and a timeframe for that observation along with other vital information.

The following explanation of designations will assist with understanding Table 4-13 and Table 4-14.

EXPLANATION OF OCCURRENCE DESIGNATIONS

Present:	Species observed on the site at time of field surveys or during recent past
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
Possible:	Species not observed on the site, but it could occur there from time to time
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent:	Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate
CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Concern
CWL	California Watch List
CCE	California Endangered (Candidate)
CR	California Rare

CALIFORNIA NATIVE PLANT SOCIETY (CNPS) LISTING

1A	Plants Presumed Extinct in California.
1B	Plants Rare, Threatened, or Endangered in California and elsewhere.
2A	Plants Presumed Extirpated in California, but more common elsewhere.
2B	Plants Rare, Threatened, or Endangered in California, but more common elsewhere.

Table 4-13: List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat
American badger (*Taxidea taxus*)	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.
Burrowing owl (*Athene cunicularia*)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.
California glossy snake (*Arizona elegans occidentalis*)	CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing.
California tiger salamander (*Ambystoma californiense*)	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.
Coast horned lizard (*Phrynosoma blainvillii*)	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south in to Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.
Double-crested Cormorant (*Phalacrocorax auratus*)	CWL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, CE	An inhabitant of alkali sinks open grassland environments in western Fresno County. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, CE	This migratory species breeds in southern California. Breeding habitat consists of dense, low, shrubby, riparian vegetation in the vicinity of water or dry river bottoms. By the early 1980s, this

Species	Status	Habitat
		species was extirpated from most of its historic range in California, including the Central Valley. This species now occurs exclusively along the coast of southern California (USFWS, 1998).
Northern California legless lizard (*Anniella pulchra*)	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.
Pallid bat (*Antrozous pallidus*)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.
Tricolored blackbird (*Agelaius tricolor*)	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.
Western mastiff bat (*Eumops perotis californicus*)	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.
Western pond turtle (*Emys marmorata*)	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.
Western spadefoot (*Spea hammondii*)	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.

Table 4-14: List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.
Bristly sedge (*Carex comosa*)	CNPS 2B.1	Found throughout Central and Northern California as well as the San Bernadino Mountains. Grows in wet meadows at elevations below 1,315 feet. Blooms July – September.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.
California satintail (*Imperata brevifolia*)	CNPS 2B	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1600 feet. Blooms September – May.
Forked hare-leaf (*Lagophylla dichotoma*)	CNPS 1B	Found in cismontane woodland, and valley and foothill grassland communities at elevations between 600 feet and 1100 feet.
Greene's tuctoria (*Tuctoria greenei*)	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Blooms May – September.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.
Madera leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet and 4300 feet. Blooms April – May.
Panoche pepper-grass (*Lepidium jaredii* ssp. *album*)	CNPS 1B	Found on steep slopes, washes, alluvial-fans, and clay, sometimes alkaline, within Valley and Foothill Grassland communities in western Fresno County at elevations between 600–2400 feet. Blooms February–June.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Blooms March–May.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May–October.

Species	Status	Habitat
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.
Succulent owl's-clover (*Castilleja campestris* var. *succulenta*)	FT, CE, CNPS 1B	Found in vernal pools, often in acidic soils at elevations below 2500 feet. Blooms April – July.

4.5.2 Regulatory Setting

Federal

Endangered Species Act

The Endangered Species Act (ESA), passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Once a species is listed, it is fully protected from a "take" unless a take permit is issued by the USFWS. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat ((16 USC (United States Code) 1532, 50 CFR (Code of Federal Regulations) 17.3)). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into Waters of the United States. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines (33 CFR Section 323.2[f]).

Waters of the United States include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows (33 CFR Section 328.3[a]). Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Section 328.3[b]). Waters of the United States exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (USACE) as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

Discharge of fill material into Waters of the United States, including wetlands, is regulated by the USACE under Section 404 of the Clean Water Act (33 USC 1251–1376). Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the Clean Water Act (33 USC 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the RWQCB. To issue a water quality certification, the RWQCB must indicate that the proposed fill is consistent with the standards set forth by the State.

Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews federal agency actions that may affect these species

State

California Endangered Species Act

The California Endangered Species Act (CESA), codified at Fish and Game Code (FGC) Section 2050, et seq., protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Predatory Birds – Fish and Game Code Section 3503, 3503.5, 3800

Under FGC Sections, 3503, 3503.5, and 3800, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Lake and Streambed Alteration – Fish and Game Code Section 1601-1603

Under FGC Section 1601-1603, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a “Streambed Alteration Agreement” from CDFW prior to any alteration of a lakebed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

California Environmental Quality Act

CEQA provides that a species that is not listed on the federal or State endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA, public agencies must determine if a project would adversely affect a species that is not protected by the ESA or CESA. Species that are not listed under ESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This

information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

California Native Plant Protection Act

The California Native Plant Protection Act is intended to preserve, protect, and enhance endangered or rare native plants in California. This act directs CDFW to establish criteria for determining what native plants are rare or endangered. Under this Act, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare, although not threatened with immediate extinction, if it is in such small numbers throughout its range that it may become endangered if its present environment worsens. This act prohibits any person from importing into or taking, possessing or selling within California, except as incident to the possession or sale of the real property on which the plant is growing, any endangered or rare native plant or as otherwise excepted under the Act.

The CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to population of rare plants receive consideration under CEQA review. The CNPS ranking system applicable to the project are defined below:

- List 1A: Plants presumed extinct
- List 1B: Plants rare, threatened or endangered in California and elsewhere
- List 2: Plants rare, threatened or endangered in California, but more numerous elsewhere

Local

Street Tree Law of the City of Fowler

Found in FMC Title 7, Chapter 1 , this law regulates the planting, trimming, pruning, and removal of any tree or shrub within any public area and prohibits these activities without the permission of the City Superintendent.

4.5.3 Methodology and Thresholds of Significance

The impact analysis is based on available literature regarding the existing biological resources within the planning area. Impacts to 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 facilitated by the 2040 Fowler GP may result in indirect impacts to species.

PRC 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 were assessed using the following impact significance criteria, based on the State CEQA Guidelines Appendix G checklist. The Fowler 2040 GP would have a significant impact if it would:

- 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;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.5.4 Impacts

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?

Less than Significant Impact. According to CNDDB data, there have been no documented occurrences of special status species within the planning area. While there are several special status species known to occur in the region, based on the highly disturbed (non-natural, urbanized state) nature of the planning area, sensitive species are not expected to regularly occur. San Joaquin kit fox, for example, is a highly mobile species that has both core and satellite populations throughout the Central Valley. However, the range of this species does not cross over the planning area, with the nearest suspected populations mapped approximately 50 miles southeast and 40 miles northwest of Fowler, respectively.[35] It is highly unlikely that this species would pass through the planning area during dispersal between populations. Developed and agriculturally disturbed areas within or surrounding the City include vineyards, almond orchards, cotton and alfalfa fields, irrigated row and field crops, residential development, commercial development, and industrial development. Species that occur in these habitats are typically adapted to anthropogenic disturbance and/or are ornamental species. Plant species in urban habitats typically consist of ornamental and other non-native invasive plant species, with large, developed areas lacking vegetation. Therefore, development facilitated by the Fowler 2040 GP would have a less than significant impact to special status species.

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, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. Riparian habitats are absent from the planning area. The San Joaquin River Ecological reserve, located approximately 18 miles northwest of the planning area in Fresno, includes a largely undisturbed riparian corridor.[36] The only water bodies present within the planning area and surrounding region are irrigation canals, which are highly maintained and used primarily for agricultural water

[35] (United States Fish & Wildlife Service 2022)
[36] (California Department of Fish and Wildlife 2022)

deliveries. Additionally, there are no CNDDB-designated "natural communities of special concern" recorded within the planning area or surrounding lands. There would be no impact.

Threshold 3: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant Impact. According to currently available watershed data, wetlands, rivers, and streams that qualify as waters of the United States are absent from the planning area.[37] Canals are present within and adjacent to the planning area; however, these canals are excavated by humans, not within the footprint of a natural stream or river, and do not form tributaries to known waters of the United States. The National Wetland Inventory identifies multiple human excavated wetlands within the planning area[38]. Depending on the size and function of these wetlands, they could potentially be categorized as waters of the United States or waters of the State. Future development within the planning area may, therefore, have adverse impacts on wetlands and areas under the jurisdiction of the RWQCB, and/or the USACE. If development occurring within the planning area will result in impacts to waters of the United States, the required permits from CDFW, USACE, and RWQCB will need to be secured. Compliance with each permit's required avoidance, minimization, and mitigation measures will ensure that impacts to these potentially jurisdictional waters are less than significant in nature or are fully mitigated.

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?

Less than Significant. Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. Habitats within and surrounding the planning area are composed of ruderal/urban areas and intense agricultural production which would deter wildlife from dispersing through the region. Additionally, no high-value habitats are located nearby with the Sierra Nevada foothills located approximately 15 miles east of the planning area and the inner Coastal Range located approximately 40 miles west of the planning area. It is therefore highly unlikely that species would pass through the planning area during dispersal or migration. The only features in the planning area that could potentially be used for wildlife movement would be agricultural canals. However, canals in the region are highly maintained providing little cover for wildlife to move through the area. Any disturbance to agricultural canals during development facilitated by the Fowler 2040 GP would have little to no impact on wildlife movement in the region; therefore, any 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?

Less than Significant. Development facilitated by the Fowler 2040 GP would occur primarily in already developed areas or areas currently under agricultural production. However, there are trees such as street trees in these areas that could be removed or substantially pruned once development does occur.

[37] (United States Environmental Protection Agency 2022)
[38] (United States Fish and Wildlife Services 2022)

Development would be subject to all applicable local policies and regulations related to the protection of trees. Further, the following policies and action items of the Fowler 2040 GP would minimize impacts to trees within Fowler.

Policy OS-24	Require the retention of trees of significance (such as heritage trees) by promoting stewardship of such trees and ensuring that the design of development projects provides for the retention of these trees wherever possible. Where tree removal cannot be avoided, the City shall require tree replacement or suitable mitigation.
Action Item OS-24a	Develop and implement a Tree Preservation Ordinance for the preservation of the City's urban forest, including heritage trees, on public and private property.

With implementation of Fowler 2040 GP policy OS-24 and action item OS-24a, impacts to these biological resources would be less than significant.

Threshold 6: Would the Project conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. There are no Habitat Conservation Plans or Natural Community Conservation Plans applicable to the planning area. Therefore, there would be no impact.

4.5.5 Mitigation Measures

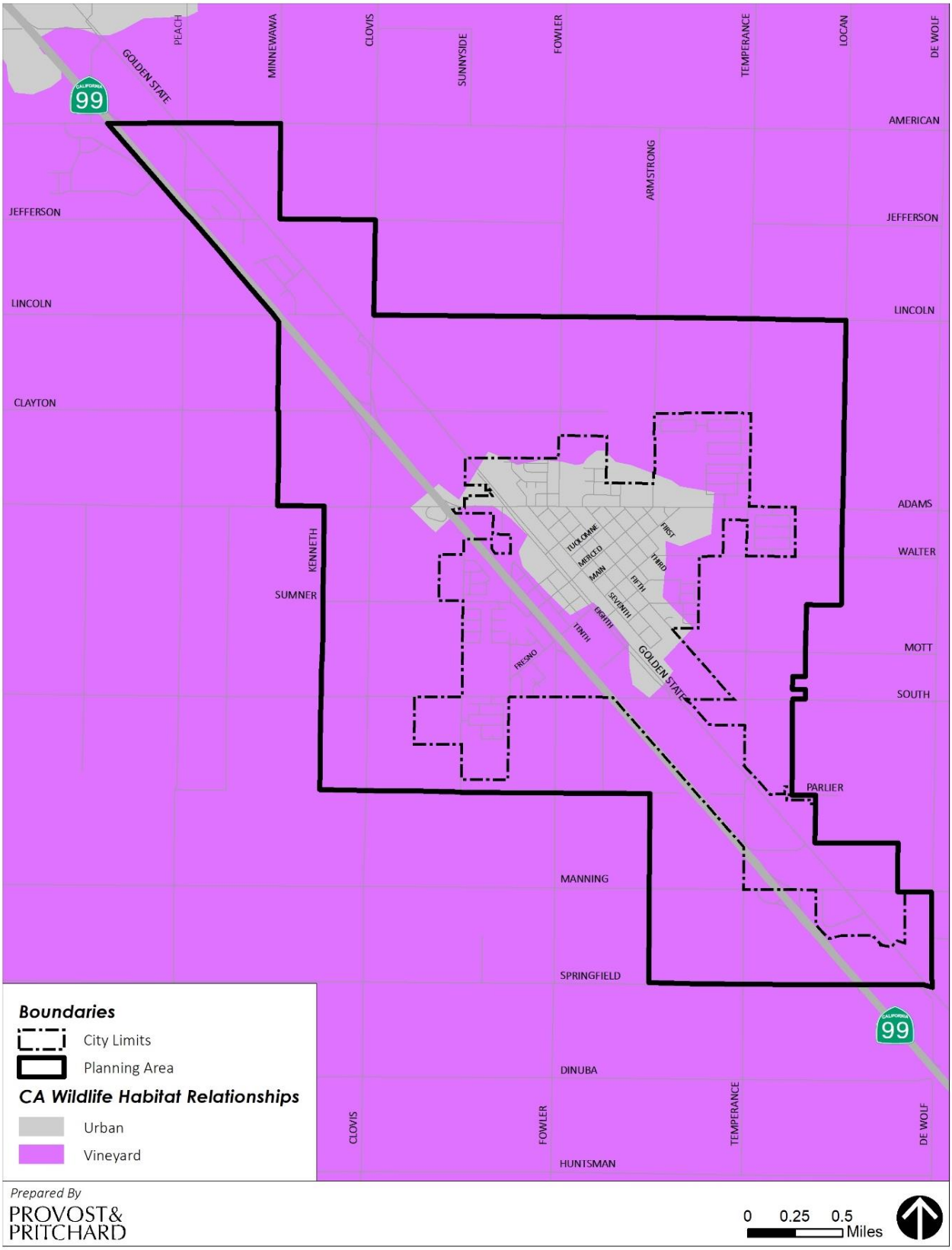
Mitigation measures are not required.

4.5.6 Cumulative Impacts

Potential impacts to biological resources, as described above, are related to direct and indirect impacts to special-status species or their habitat; impacts to wetlands; impacts to tree preservation; or interference with wildlife movement. Implementation of the Fowler 2040 GP could result in regional impacts on special-status species, wetlands, as well as tree preservation. Due to the potential direct and indirect impacts that may occur as a result of the Fowler 2040 GP, the proposed GP could contribute to this impact.

The Fowler 2040 GP goals, policies, and action items set requirements for actions to be taken to preserve trees of significance and avoid tree removable when possible. High-quality habitat for special status species is currently absent from the planning area, but through the implementation of policies and goals laid out in the Fowler 2040 GP, impacts to ruderal and agricultural habitats will be mitigated. Potential impacts to jurisdictional wetlands, while not addressed in the Fowler 2040 GP, would be mitigated through compliance with the permitting processes required by CDFW, USACE, and RWQCB. While potential for impacts to wildlife movement corridors does exist, it was determined that these impacts would be less than significant due to the lack of connectivity to high quality habitat and the ongoing disturbance to possible corridors by agricultural production. Therefore, impacts to special status species and their habitat; tree preservation; wetlands; and wildlife movement would be less than significant. The contribution of the proposed Fowler 2040 GP to cumulative impacts would be less than significant with implementation of Fowler 2040 GP goals and policies.

Figure 4-4: California Wildlife Habitat Relationships Map



4.6 Cultural Resources

This section evaluates the impacts to historical and archaeological resources, including the unanticipated discovery of human remains, that could result from implementation of the 2040 Fowler GP.

4.6.1 Environmental Baseline

Cultural resources include prehistoric or historical archaeological sites, isolated artifacts or features, as well as built-environment resources (i.e., a historical building, structure, or object). The term "historical" applies to archaeological artifacts and features as well as standing buildings, structures, or objects that are 50 years of age or older.

Regional Prehistory

During the 20th century, many archaeologists developed chronological sequences to explain prehistoric cultural changes within all or portions of northern California.[39] California prehistory is generally divided into three broad time periods: Paleoindian (11,550-8550 B.C.), Archaic (8550 B.C.-A.D. 1100), and Emergent Occupation (A.D. 1000-European Contact). Knowledge of past environments helps archaeologist to understand the conditions in which prehistoric people lived and how they adapted to those conditions. The following paragraph lays out a brief historical timeline which is used as a foundation for the analysis found in Section 4.6.4 below. Understanding the history of the San Joaquin Valley is important to understanding what, if any, archaeological significance may be found in this area. This information is used to evaluate the potential for impacts to cultural resources as a result of buildout of the Fowler 2040 GP.

Paleoindian Period (11,550-8550 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. The earliest accepted date of human occupation in the Central Valley ranges from 11,550 to 8550 B.C. and comes from fluted projectile points similar to Clovis points found at sites near Tracy Lake and the Tulare Lake Basin.[40]

Archaic Period (8550 B.C.-A.D. 1100)

The Archaic Period extends a period of approximately 9,650 years and is generally organized into the following three time periods.

Lower Archaic (8550-5550 B.C.)

Climate change at the end of the Pleistocene Era caused significant periods of alluvial deposition beginning around 9050 B.C. The Lower Archaic, like the Paleoindian Period, is represented only by limited isolated finds. Only one Lower Archaic site has been identified in the Central Valley and a few located in the surrounding foothills.[41] Typical Lower Archaic artifacts include flaked stone crescents and stemmed points.

Middle Archaic (5550-550 B.C.)

The Middle Archaic record has revealed a pattern of organized subsistence strategies and increased residential stability. Middle Archaic sites are relatively common in the foothills surrounding the Central Valley and show relatively little change from the Lower Archaic.[42]

[39] (Jones 2007):308-312; (Moratto 1984)
[40] (Jeffrey Rosenthal, Gregory White, and Mark Sutton 2007)
[41] (Jeffrey Rosenthal, Gregory White, and Mark Sutton 2007)
[42] Ibid

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.[43] Trade also seemed to be focused on utilitarian items such as obsidian or finished obsidian tools from at least five separate sources.[44]

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

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 Central Valley.[45]

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.[46]

Emergent Occupation (A.D. 1000-European Contact)

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 Period disappeared and were replaced by cultural traditions witnessed by 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 import in the western trade with groups living in the foothills to the east. The Panoche side-notched point became important on the western side of the San Joaquin Valley.[47] 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. [48]

Early Exploration

Post-European contact history for the 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

[43] (Jeffrey Rosenthal, Gregory White, and Mark Sutton 2007); (Moratto 1984)
[44] (Moratto 1984)
[45] (Jeffrey Rosenthal, Gregory White, and Mark Sutton 2007)
[46] (Jeffrey Rosenthal, Gregory White, and Mark Sutton 2007)
[47] Ibid
[48] (Moratto 1984)

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 modern-day Fresno County.[49]

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.[50] However, no ranchos were established in the San Joaquin Valley.[51]

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.[52] 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.[53] Thousands of settlers and immigrants continued to move into the state, particularly after the completion of the transcontinental railroad in 1869.[54]

Local History

Fresno County

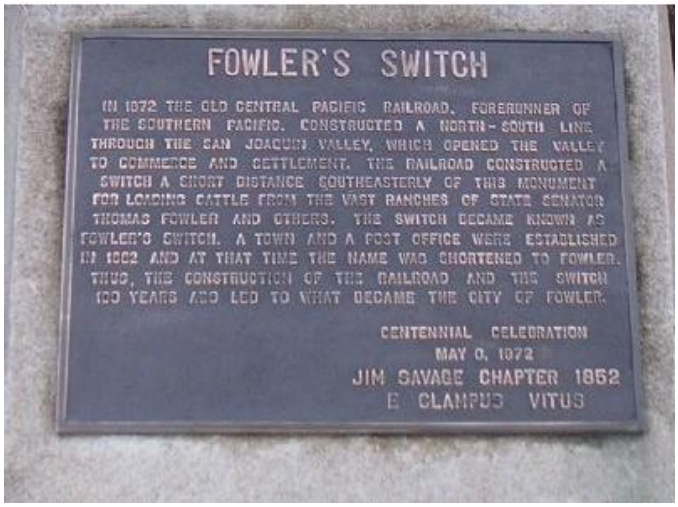
Fresno County was established on April 19, 1856. Fresno County underwent four stages of development: the mining period, which continued into the 1860s; the sheep and cattle-raising period from the 1860s to 1874; the general farming period from the 1870s; and the later transition to irrigated row crops. Moses J. Church developed some of the county's first canals, fostering an era of prosperous irrigated row crop farming.[55] To this day, agriculture remains a major facet of Fresno County's economy.

[49] (Douglas 2002)
[50] Ibid
[51] (Nettles and Baloian 2006)
[52] (Workman 1935)
[53] (Douglas 2002)
[54] (Douglas 2002); (Nettles and Baloian 2006)
[55] (Shallat 1978)

City of Fowler

The City is named for Thomas Fowler, who was a State Senator from 1869–1872, and a railroad switch that was built on the Fowler ranch. Following the completion of the transcontinental railroad in 1869, the Central Pacific Railroad (now known as the Southern Pacific Railroad) began construction of a rail line through the Central Valley, and the segment through Fowler was laid around 1872. The Valley branch of the historic Southern Pacific Railroad is presently owned and operated by the Union Pacific Railroad. The town developed around the railroad switch and became known as Fowler's Switch.[56] The City was incorporated in 1908 and its name was eventually shortened. In May 1973, Fowler's Switch was registered as a California Point of Interest for its local significance to Fowler. The marker for the Fowler Switch is located at the intersection of East Merced Street and South 7th Street.

Figure 4-5: Fowler's Switch Marker



Marker Inscription:

> *In 1872, the old Central Pacific Railroad, forerunner of the Southern Pacific, constructed a north-south line through the San Joaquin Valley, which opened the valley to commerce and settlement. The railroad constructed a switch a short distance south-easterly of this monument for loading cattle from the vast ranches of State Senator Thomas Fowler and others. The switch became known as Fowler's Switch. A town and a post office were established in 1882 and at that time the name was shortened to Fowler. Thus, the construction of the railroad and the switch 100 years ago led to what became the City of Fowler.*[57]

4.6.2 Regulatory Setting

Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) established the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), the NRHP, and Section 106 review. The goal of the NHPA is to encourage federal agencies to act as responsible stewards of the nation's historic resources as far as their actions affect historic resources- meaning those listed on or eligible for listing on the NRHP. The NRHP

[56] (State of California Office of Historic Preservation 2019)
[57] (HMdb.org 2010)

recognizes buildings, structures, sites, district, and objects equal to or greater than 50 years old that are determined to be significant in respect to American history, architecture, archaeology, engineering, or culture, and at the local, State, or national level. To be determined eligible for listing on the NRHP a resource must also retain integrity in terms of location, design, setting, materials, workmanship, feeling, and association.

Resources determined eligible for, or which are listed on the NRHP, are afforded protection under Section 106 of the NHPA (as well as under CEQA). The Section 106 process serves to carry out the mission of the NHPA in that, when there is a federal or federally licensed action that has the potential to affect historic resources (i.e., those resources listed on or determined legible for listing on the NRHP), that agency is required to identify and assess the effects of its actions on historic resources.

State

California Register of Historical Resources

The importance or significance of a cultural resource depends on whether it qualifies for inclusion on the California Register of Historical Resources (CRHR). Cultural resources determined eligible for the CRHR are called "historical resources" (CEQA Guidelines Section 15064.5). In order to be considered a historical resource, a cultural resource must possess both historical significance and integrity according to the criteria defined in CEQA Guidelines Section 15064.5(a)(3).

The CRHR is an inventory of significant architectural, archaeological, and historical resources in the State of California. Important cultural resources can be listed in the CRHR through a number of methods, and listing requires approval from the State Historical Resources Commission. Properties can be nominated to the CRHR by local governments, private organizations, or citizens. State Historical Landmarks and National Register-listed properties gain automatic listing in the CRHR. The evaluative criteria used by the CRHR for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places. In order for a cultural resource to be significant, or in other words eligible, for listing in the CRHR, it must reflect one or more of the following criteria (PRC Section 5024.1c):

- Criterion 1 (Events): Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- Criterion 2 (Persons): Resources that are associated with the lives of persons important to local, California, or national history.
- Criterion 3 (Architecture): Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
- Criterion 4 (Information Potential): Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

California Points of Historical Interest on the CRHR are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR.

No historical resource may be designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

California Environmental Quality Act

CEQA requires that public agencies assess the effects of private and public projects on historical resources prior to approval of or determination to carry out those projects. Historical resources are defined as buildings, sites, structures, objects, areas, places, records, or manuscripts that the lead agency determines to have historical significance, including architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered.

However, only significant historical resources need to be addressed. Therefore, before the assessment of effects or development of mitigation measures, the significance of cultural resources must be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

- Identify potential historical resources;
- Evaluate the eligibility of historical resources;
- Evaluate the effects of the project on all eligible historical resources.

In addition, properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1(d)(1)).

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant impact on the environment (CEQA Guidelines Section 15064.5(b)). CEQA also states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of an historical resource or its immediate surroundings such that the significance of the resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or materially and adversely alter the physical characteristics of a historical resource that convey its historical significance and qualify or justify its eligibility for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Significant Historical Resources under CEQA Guidelines

In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a):

1. A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section PRC Section 5020.1(k) or identified as significant in an historical resource survey meeting the requirements of PRC Section 5024.1 (g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1; Title 14 CCR,

Section 4852). These conditions are related to the eligibility criteria for inclusion in the CRHR (PRC Sections 5020.1[k], 5024.1, 5024.1[g]). A cultural resource may be eligible for inclusion in the CRHR if it:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b. Is associated with the lives of persons important in our past;

c. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or

d. Has yielded, or may be likely to yield, information important in prehistory or history.

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

A lead agency must consider a resource that has been listed in or determined to be eligible for listing in the CRHR (Category 1) as an historical resource for CEQA purposes. In general, a resource that meets any of the other three criteria listed in CEQA Guidelines Section 15064.5(a) is also considered to be a historical resource unless "the preponderance of evidence demonstrates" that the resource is not historically or culturally significant."

Health and Safety Code

The discovery of human remains is regulated according to California Health and Safety Code (HSC) Section 7050.5, which states, "If human remains are encountered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified to the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify Most Likely Descendant (MLD). With the permission of the landowner or his or her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials."

Local

The current General Plan does not contain any policies regarding the preservation of cultural and historical resources. Furthermore, there are no current ordinances regarding these resources in place for Fowler.

4.6.3 Methodology and Thresholds of Significance

The significance of a cultural resource and subsequently the significance of any impact is determined by consideration of whether or not that resource can increase our knowledge of the past and the importance of that resource to cultural groups, among other things. The determining factors are site context and degree of preservation.

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 (Guidelines Section 15064.6(b)). In some circumstances, documentation of an historical resource by way of historic narrative, photographs or architectural drawings as mitigation for the effects of demolition of the resource will not mitigate the effects to a less than significant level (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 ([Guidelines Section 15126.4 (b)(3)(A)). If an archaeological resource does not meet either the historic resource or the more specific "unique archaeological resource" definition, impacts do not need to be mitigated (Guidelines Section 15064.5(e)). Where the significance of a site is unknown, it is presumed to be significant for the purpose of the DEIR investigation.

The presence and significance of a potential tribal cultural resource is determined through consultation between lead agencies and local California Native Americans. Impacts to tribal cultural resources are highly dependent on the nature of the resource but, in general, could occur if there is destruction or alteration of the resource and its surroundings, restricted access to the resource, or other disturbances.

Records Search

On February 22, 2021, Provost & Pritchard received a records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System, located at California State University, Bakersfield. The records search encompassed the planning area. SSJVIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area (Appendix D). Additional sources included SHPO Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources.

According to the research performed by SSJVIC staff, there have been 15 previous cultural resource studies conducted within the planning area. A list of the Cultural Surveys in the Planning area can be found in Appendix D.

There are 11 recorded resources within the planning area as shown in Table 4-15. These resources consist of historic era trash scatters, historic era buildings, historic era railroads, an historic era park, and an historic era canal. The Fowler Switch Landmark is listed as a California Point of Interest.

Table 4-15: Previous Cultural Surveys in the Planning Area

Report Number	Year	Author(s)	Title
FR-00135	1995	Hatoff, Brian, Voss, Barb, Waechter, Sharon, Benté, Vance, and Wee, Stephen	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project.
FR-00288	Not Available-		
FR-00338	1979	Cursi, Kathleen L.	Archaeological Reconnaissance for Manning Avenue Between SR 99 and McCall Avenue, Fresno County, California (near Sanger/Selma)
FR-00778	1994	Varner, Dudley M.	An Archaeological Study of a Property on State Highway 99 at Manning Avenue in Fresno County, California
FR-01636	Not Available-		
FR-01837	Not Available-		
FR-01889	Not Available-		
FR-01904	Not Available-		

Report Number	Year	Author(s)	Title
FR-02108	Not Available-		
FR-02287	2006	Arrington, Cindy, Bass, Bryon, Brown, Joan, Corey, Chris, and Hunt, Kevin	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California
FR-02294	Not Available-		
FR-02452	2011	Windmiller, Ric	Golden State Corridor Project Cultural Resources Assessment Fresno County, California
FR-02642	Not Available-		
FR-02716	Not Available-		
FR-02935	Not Available-		

There are no recorded cultural resources within the planning area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Inventory of Historic Resources, or the California State Historic Landmarks.

4.6.4 Impacts

Threshold 1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in Section 15064.5?

Less than Significant Impact. Based on CEQA Guidelines Section 15064.5, the Fowler 2040 GP 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 CRHR, or the local register of historical resources. In addition, as explained in CEQA Guidelines Section 15064.5, "substantial 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."

Effects on cultural resources are only knowable once a specific project has been proposed because the effects are highly dependent on both the individual project site conditions, project activities that may alter the character of a built environment resource, and/or the characteristics of the proposed ground-disturbing activity. Demolition or other structural alterations associated with development facilitated by the Fowler 2040 GP has the potential to alter historic built-environment resources. Ground-disturbing activities associated with development facilitated by the Fowler 2040 GP, particularly in areas that have not previously been developed with urban uses, have not been studied through a cultural resources investigation, or when excavation depths exceed those previously attained, have the potential to damage or destroy previously-unknown historic or prehistoric archaeological resources that may be present on or below the ground surface. Consequently, damage to or destruction of cultural resources could occur because of future development under the Fowler 2040 GP. In order to ensure that development within Fowler does not have a detrimental effect on cultural resources, each project would need to be assessed as it is proposed.

Although there are no specific development projects associated with the Fowler 2040 GP, implementation of the plan would guide development in Fowler through the year 2040. Development under the proposed Fowler 2040 GP has the potential to affect known or unknown historical and/or archaeological resources. However, policies CDES-10, CDES-12**,** and CDES-13, outlined below, would ensure that potential impacts related to historic resources are less than significant.

Policy CDES-10	Improvements to older buildings in the downtown area and throughout the City should enhance rather than weaken the original character of such buildings.
Policy CDES-12	All construction shall cease, and the Community Development Director and City Engineer shall be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction shall immediately stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained, at the applicant's and/or successors-in-interest's expense, to evaluate the find(s) and recommend appropriate action according to Section 15064.5 of the California Environmental Quality Act (CEQA) Guidelines. If avoidance is infeasible, other appropriate measures would be instituted. Work may proceed on other parts of the project subject to direction of the archaeologist while assessment of historic resources or unique archaeological resources is being carried out.
Policy CDES-13	All construction shall cease if any human remains are uncovered, and the Community Development Director, City Engineer and Fresno County Medical Examiner and Coroner shall be notified in accordance to Section 7050.5 of the California Health and Safety Code. If human remains are determined to be those of a Native American or has reason to believe that they are those of a Native American, the Native American Heritage Commission shall be contacted, and the procedures outlined in CEQA Section 15064.5(e) shall be followed.

In addition to compliance with federal, State, and local laws and regulations as outlined above in Section 4.6.2 to mitigate and/or avoid any impacts to known and unknown cultural and historical resources, compliance with the Fowler 2040 GP policies listed above would ensure that potential impacts related to historic resources are less than significant impact.

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

Less than Significant Impact. Based on the regional history of the area it may be assumed that there would be potential for subsurface cultural artifacts, both historic and prehistoric age, within the planning area. Effects on archaeological resources can only be determined once a specific project has been proposed because the effects are dependent on both the individual project site conditions and the characteristics of the proposed ground-disturbing activity. Ground-disturbing activities associated with development facilitated by the Fowler 2040 GP have the potential to damage or destroy previously unknown historic or prehistoric archaeological resources that may be present on or below the ground surface. Potential impacts to historic or prehistoric archaeological resources are most likely to occur in areas that have not previously been developed with urban uses, have not been studied through a cultural resource investigation, or when excavation extends to new depths. Consequently, damage to or destruction of previously unknown sub-surface cultural resources could occur as a result of development under the Fowler 2040 GP. However, policies CDES-12 and CDES-13 of the Fowler 2040 GP, as outlined above, would ensure that potential impacts to unknown archaeological resources are less than significant.

Threshold 3: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. As discussed above in Section 4.5.1 there is a historic and prehistoric history to the region. Human burials outside of formal cemeteries often occur in prehistoric archaeological contexts. The potential exists for these resources to be present in areas where development has not yet occurred. Excavation during construction activities in the planning area would have the potential to disturb these resources, including Native American burials.

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

All development facilitated by the Fowler 2040 GP would be required to adhere to existing regulations regarding the treatment of human remains. Further, policies CDES-12 and CDES-13 of the Fowler 2040 GP, as outlined above, would ensure that potential impacts to unknown human remains are less than significant.

4.6.5 Mitigation Measures

Mitigation measures are not required.

4.6.6 Cumulative Impacts

Development facilitated by the Fowler 2040 GP may contribute to cumulative impacts on cultural resources as growth occurs in the planning area. The increase in growth from 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, a historical structure that represents the last known example of its kind. Implementation of the Fowler 2040 GP policies outlined in this section would ensure that cumulative cultural resources impacts are less than significant.

4.7 Energy

This section evaluates impacts related to energy that could result from implementation of the Fowler 2040 GP.

4.7.1 Environmental Baseline

Energy Fundamentals

Energy use is typically associated with transportation, construction, and the operation of land uses. Transportation energy use is generally categorized as direct and indirect energy. Direct energy relates to energy consumption by vehicle propulsion. Indirect energy relates to the long-term energy consumption of equipment, such as maintenance activities. Energy is also consumed by construction, routine operation, and maintenance of land uses. Construction energy relates to a direct one-time energy expenditure primarily associated with the consumption of fuel to operate construction equipment. Energy consumption related to land use is normally associated with direct energy consumption for heating, ventilation, and air conditioning of buildings.

Physical Setting

Fowler is located in Fresno County. The climate in the project area is semi-arid, with an annual normal precipitation of approximately 11 inches. Temperatures in the project area range from an average minimum of approximately 38 degrees Fahrenheit (°F), in January, to an average maximum of 98°F, in July (WRCC 2022).

Energy Resources

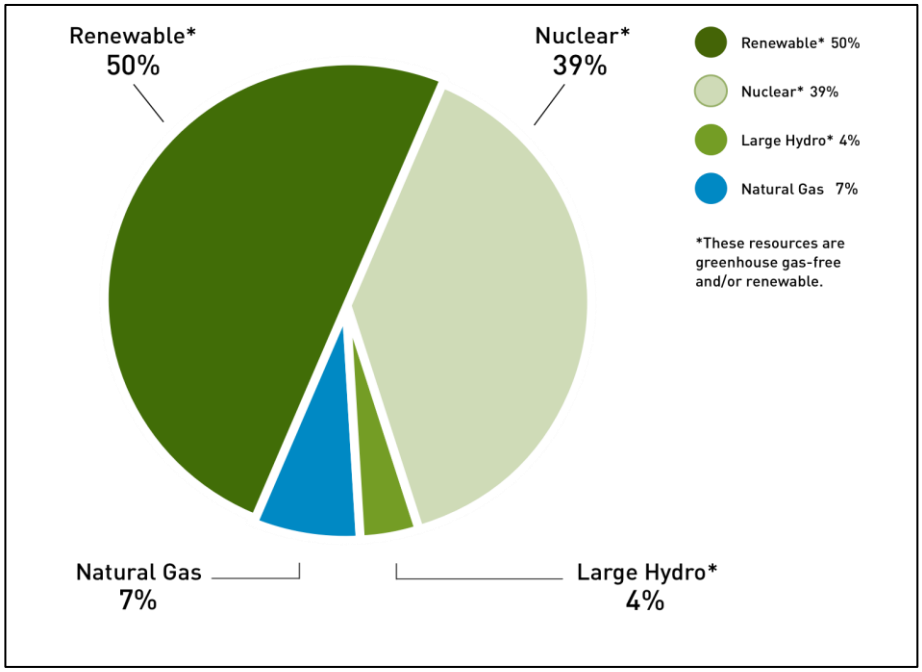
Energy sources for Fowler are served primarily by Pacific Gas and Electric (PG&E). Energy resources consist largely of natural gas, nuclear, fossil fuels, hydropower, solar, and wind. The primary use of energy sources is for electricity to operate campus facilities.

Electricity

Electric services within Fowler are provided by the regulated electric utility, PG&E. The breakdown of PG&E's power mix is shown in Figure 2. As shown, 97 percent of PG&E's 2021 total electric power mix came from greenhouse gas (GHG)-free sources that include nuclear, large hydro, renewable energy sources, and natural gas.[58]

Table 4-16: PG&E 2021 Power Mix

[58] (PG&E 2021)



Source: PG&E 2021

Natural Gas

Natural gas services in Fowler are provided by Southern California Gas Company (SoCalGas). SoCalGas's natural gas system encompasses approximately 20,000 square miles in California (SoCalGas 2020). Natural gas throughput provided by SoCalGas totals approximately 2.8 billion cubic feet per day.[59]

4.7.2 Regulatory Setting

Federal

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks and Corporate Average Fuel Economy Standards

In October 2012, the USEPA and National Highway Traffic Safety Administration (NHSTA), on behalf of the United States Department of Transportation (USDOT), issued final rules to further reduce greenhouse gas (GHG) emissions and improve corporate average fuel economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond. NHTSA's CAFE standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon (mpg) limiting vehicle emissions to 163 grams of carbon dioxide (CO_2) per mile for the fleet of cars and light-duty trucks by the model year 2025.

In January 2017, USEPA Administrator Gina McCarthy signed a Final Determination to maintain the current GHG emissions standards for the model year 2022-2025 vehicles. However, on March 15, 2017, USEPA Administrator Scott Pruitt and USDOT Secretary Elaine Chao announced that USEPA intends to reconsider the Final Determination. On April 2, 2018, USEPA Administrator Scott Pruitt officially withdrew the January 2017 Final Determination, citing information that suggests that these current standards may be too

[59] (Southern California Gas Company 2013)

stringent due to changes in key assumptions since the January 2017 Determination. According to the USEPA, these key assumptions include gasoline prices and overly optimistic consumer acceptance of advanced technology vehicles. The April 2, 2018, notice is not USEPA's final agency action. The USEPA intends to initiate rulemaking to adopt new standards. Until that rulemaking has been completed, the current standards remain in effect.[60]

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the United States would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the NHSTA, which is part of the U.S. DOT, is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 miles per gallon (mpg). Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The CAFE program, administered by USEPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. USEPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the U.S. DOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the Act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

State

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The Act established a State policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

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 a joint agency report in 2003, Reducing California's Petroleum Dependence. Included in this report

[60] (United States Environmental Protection Agency 2017), (United States Environmental Protection Agency 2018)

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.[61] Further, a performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand by 2020.

Energy Action Plan

The first Energy Action Plan (EAP) emerged in 2003 from a crisis atmosphere in California's energy markets. The State's three major energy policy agencies (CEC, CPUC, and the Consumer Power and Conservation Financing Authority [established under deregulation and now defunct]) came together to develop one high-level, coherent approach to meeting California's electricity and natural gas needs. It was the first time that energy policy agencies formally collaborated to define a common vision and set of strategies to address California's future energy needs and emphasize the importance of the impacts of energy policy on the California environment.

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

Executive Order S-06-06

EO S-06-06, signed on 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 within California by 2010, 40 percent by 2020, and 75 percent by 2050. The EO also calls for the State to meet a target for use of biomass electricity. The Bioenergy Action Plans developed by the CEC to identify those barriers and recommend actions to address them so that the State can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan provides a detailed action plan to achieve the following goals:

- increase environmentally- and economically-sustainable energy production from organic waste;
- encourage the 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; and

[61] (California Air Resources Board 2003)

- reduce fire danger, improve air and water quality, and reduce waste.

In 2019, 2.87 percent of the total electrical system power in California was derived from biomass (CEC 2020).

Assembly Bill 32: Climate Change Scoping Plan and Update

In October 2008, CARB published its Climate Change Proposed Scoping Plan, which is the State's plan to achieve GHG reductions in California as required by AB 32. This initial Scoping Plan contained the main strategies to be implemented to achieve the target emission levels identified in AB 32. The Scoping Plan included CARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The largest proposed GHG reduction recommendations were associated with improving emissions standards for light-duty vehicles, implementing the Low Carbon Fuel Standard program, implementation of energy efficiency measures in buildings and appliances, the widespread development of combined heat and power systems, and developing a renewable portfolio standard for electricity production.

CARB approved the initial Scoping Plan on December 11, 2008; the Plan is updated every five years. CARB approved the first update of the Scoping Plan on May 22, 2014; the updated Plan looked past 2020 to set mid-term goals (2030-2035) on the road to reaching the 2050 goals (ARB 2014). The most recent update is the 2017 Climate Change Scoping Plan, which CARB released in November 2017. The measures identified in the 2017 Climate Change Scoping Plan have the co-benefit of increasing energy efficiency and reducing California's dependency on fossil fuels.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The new rules strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's zero-emission vehicle regulation requires a battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions than the statewide fleet in 2016.[62]

Senate Bill 350: Clean Energy and Pollution Prevention 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 a 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 32 and Assembly Bill 197 of 2016

SB 32 was signed by Governor Brown on September 8, 2016. SB 32 effectively extends California's GHG emission-reduction goals from the year 2020 to the year 2030. This new emission-reduction target of 40 percent below 1990 levels by 2030 is intended to promote further GHG reductions in support of the State's

[62] (California Air Resources Board 2016)

ultimate goal of reducing GHG emissions by 80 percent below 1990 levels by 2050. SB 32 also directs CARB to update the Climate Change Scoping Plan to address this interim 2030 emission-reduction target. Achievement of these goals will have the co-benefit of increasing energy efficiency and reducing California's dependency on fossil fuels.

Senate Bill SB 100

SB 100 The 100 Percent Clean Energy Act of 2018, which sets a State policy that eligible renewable energy and zero-carbon resources supply 100 percent (%) of all retail sales of electricity in California by 2045.

Executive Order B-48-18: Zero-Emission Vehicles

In January 2018, Governor Brown signed EO B-48-18 which required all State entities to work with the private sector to put at least 5 million zero-emission vehicles on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 zero-emissions chargers by 2025. In addition, State entities are also required to continue to partner with local and regional governments to streamline the installation of zero-emission vehicle infrastructure. Additionally, all State entities are to support and recommend policies and actions to expand infrastructure in homes, through the Low-Carbon Fuel Standard.

Executive Order B-55-18

Establishes a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.

Senate Bill 375

SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will address land use allocation in that MPOs regional transportation plan (RTP). ARB, in consultation with MPOs, establishes regional reduction targets for GHGs emitted by passenger cars and light trucks for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, funding for transportation projects may be withheld.

Senate Bill 1078: California Renewables Portfolio Standard Program

Senate Bill (SB) 1078 (Public Utilities Code Sections 387, 390.1, 399.25, and Article 16) addresses electricity supply and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide a minimum of 20 percent of their supply from renewable sources by 2017. This SB will affect statewide GHG emissions associated with electricity generation. In 2008, Governor Schwarzenegger signed Executive Order (EO) S-14-08, which set the Renewables Portfolio Standard (RPS) target to 33 percent by 2020. It directed state government agencies and retail sellers of electricity to take all appropriate actions to implement this target. EO S-14-08 was later superseded by EO S-21-09 on September 15, 2009. EO S-21-09 directed CARB to adopt regulations requiring 33 percent of electricity sold in the State to come from renewable energy by 2020. Statute SB X1-2 superseded this EO in 2011, which obligated all California electricity providers, including investor-owned utilities and publicly owned utilities, to obtain at least 33 percent of their energy from renewable electrical generation facilities by 2020.

Executive Order B-48-18: Zero-Emission Vehicles

In January 2018, Governor Brown signed EO B-48-18 which required all State entities to work with the private sector to put at least 5 million zero-emission vehicles on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 zero-emissions chargers by 2025. In addition, State entities are also required to continue to partner with local and regional governments to streamline the installation of zero-emission vehicle infrastructure. Additionally, all State entities are to support and recommend policies and actions to expand infrastructure in homes, through the Low-Carbon Fuel Standard.

Executive Order B-55-18

Establishes a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.

California Building Code

The CBC contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvements to real property. The CBC is adopted every three years by the Building Standards Commission (BSC). In the interim, the BSC also adopts annual updates to make necessary mid-term corrections. The CBC standards apply statewide; however, a local jurisdiction may amend a CBC standard if it makes a finding that the amendment is reasonably necessary due to local climatic, geological, or topographical conditions.

Green Building Standards

In essence, green building standards are indistinguishable from any other building standards, are contained in the CBC, and regulate the construction of new buildings and improvements. Whereas the focus of traditional building standards has been protecting public health and safety, the focus of green building standards is to improve environmental performance.

The 2019 Building Energy Efficiency Standards (2019 Standards), adopted in May 2018, addressed four key areas: smart residential photovoltaic systems, updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa), residential and nonresidential ventilation requirements, and non-residential lighting requirements. The 2019 Standards required new residential and non-residential construction; as well as major alterations to existing structures, to include electric vehicle (EV)-capable parking spaces which have electrical panel capacity and conduit to accommodate the future installation. In addition, the 2019 Standards also required the installation of solar photovoltaic (PV) systems for low-rise residential dwellings, defined as single-family dwellings and multi-family dwellings up to three stories in height. These requirements are based on various factors, including the floor area of the home, sun exposure, and climate zone. Under the 2019 standards, nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.[63]

The recently updated 2022 Building Energy Efficiency Standards (2022 Standards), which were approved in December 2021, encourage efficient electric heat pumps, establish electric-ready requirements when natural gas is installed, support the future installation of battery storage, further expand solar photovoltaic and battery storage standards. The 2022 Standards extend solar PV system requirements, as well as battery storage capabilities for select land uses, including high-rise multi-family and non-residential land uses, such as office buildings, schools, restaurants, warehouses, theaters, grocery stores, and more. Depending on the land use and other factors, solar systems should be sized to meet targets of up to 60 percent of the structure's loads. These new solar requirements will become effective on January 1, 2023 and contribute to California's goal of reaching a net-zero carbon footprint by 2045.[64]

Local

Fresno County Regional Transportation Plan

FCOG's 2022 RTP comprehensively assesses all forms of transportation available in Fresno County, as well as travel and goods movement needs through 2040. FCOG's first RTP was adopted in 1975. Updated editions have been published every four years per federal statutes refinements of the original and subsequent plans, making this the 19th edition. Federal and state legislation mandates that these long-

[63] (California Energy Commission 2018)
[64] (California Energy Commission 2022)

range transportation plans extend at least 20 years into the future. As the federally designated MPO and state-designated Regional Transportation Planning Agency, FCOG has developed the 2022 RTP update through a continuous, comprehensive, and cooperative framework. This process has involved the region's 15 cities, the County of Fresno, staff from related local public agencies, the SJVAPCD, Caltrans, other state and federal agencies, and the public. 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 more efficient use of autos and light trucks, as well as improve the overall quality of life in the region.

Fowler Housing Element

The California Housing Element law requires every jurisdiction to prepare and adopt a housing element as part of its general plan. It is typical for each city or county to prepare and adopt its own separate housing element. However, Fresno County and 12 of the 15 cities in the County, including Fowler, with the help of the Fresno Council of Governments, prepared a Multi-Jurisdictional Housing Element (MJHE) for the 5th Cycle of housing element updates (2015-2023). The MJHE provides an opportunity for countywide housing issues to be effectively addressed at the regional level and also provides the opportunity for local governments to accommodate the Regional Housing Needs Allocation assigned to the Fresno County region. The 6th Cycle Fresno Multi-Jurisdictional Housing Element is currently being prepared. Certification is required by December 31, 2023.

Policies from the 5th Cycle MJHE would remain in effect for the Fowler 2040 GP. The applicable policies are listed below:

Policies

Policy 6.1: Encourage the use of energy conserving techniques in the siting and design of new housing.

Policy 6.2: Actively implement and enforce all State energy conservation requirements for new residential construction.

Policy 6.3: Promote public awareness of the need for energy conservation

4.7.3 Methodology and Thresholds of Significance

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to energy. The Fowler 2040 GP would have a significant impact if it would:

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

CEQA Guidelines Appendix F requires environmental analyses to include a discussion of potential energy impacts associated with a proposed project. Where necessary, CEQA requires that mitigation measures be incorporated to reduce the inefficient, wasteful, or unnecessary consumption of energy. The Guidelines, however, do not define "inefficient, wasteful, or unnecessary consumption." Compliance with the State's building standards for energy efficiency would result in decreased energy consumption for proposed buildings. However, compliance with building codes may not adequately address all potential energy impacts associated with project construction and operation. As a result, this analysis includes an evaluation of electricity and natural gas usage requirements associated with future development, as well as energy requirements associated with the use of on-road and off-road vehicles. The degree to which the proposed

project would comply with existing energy standards, as well as applicable regulatory requirements and policies related to energy conservation was also taken into consideration for the evaluation of project-related energy impacts.

Methodology

Energy consumption is categorized in terms of "operational" and "construction" energy. Operational energy accounts for energy consumed mobile source and land use scenario envisioned under the 2040 Fowler GP, such as fuel consumed by vehicles, natural gas consumed for heating and/or power, and electricity consumed for power. Construction energy is the energy needed for construction and maintenance of the transportation system and land use scenario facilitated by the Fowler 2040 GP. The analysis of operational energy involves the quantification of anticipated transportation fuel, natural gas, and electricity consumption under the Fowler 2040 GP and a qualitative discussion of the efficiency, necessity, and wastefulness of the energy consumption. Analysis of construction energy involves a qualitative discussion of construction and maintenance energy requirements anticipated under buildout of the Fowler 2040 GP.

Construction

Development facilitated by the Fowler 2040 GP 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. Much of this information for specific future development projects is unknown at this time and, accordingly, construction-related impacts are qualitatively discussed.

Operations

The long-term operation of the proposed Fowler 2040 GP would require electricity usage for lighting, space and water heating, appliances, water conveyance, and landscaping maintenance equipment. Indirect energy use would include wastewater treatment and solid waste removal.

Projections for the Fowler 2040 GP transportation fuel were calculated based on the VMT Impact Assessment conducted by Kittelson & Associates and CARB's Emission Factors 2021 (EMFAC2021) database, including the assumption that full buildout of the Fowler 2040 GP would occur by 2042 to align with the Fresno COG transportation model horizon. For natural gas and electricity consumption under buildout of the land use scenario envisioned by the Fowler 2040 GP, consumption factors were drawn from the California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The CalEEMod data is provided in Appendix C.

4.7.4 Impacts

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

Less than Significant Impact. Implementation of the proposed Project would increase electricity, diesel, gasoline, and natural gas consumption associated with construction activities, as well as long-term operational activities. The increases in energy consumption associated with short-term construction and long-term operational activities would be efficiently used after implementation of the General Plan Policies as outlined below.

Construction-Related Energy Consumption

Energy consumption would occur during construction of the uses designated by Fowler 2040 GP, including fuel use associated with the on-site operation of off-road equipment and vehicles traveling to and from construction sites. The CBC includes specific requirements related to recycling, construction materials, and energy efficiency standards that would apply to construction of future development envisioned by the 2040 Fowler GP and would minimize wasteful, inefficient, and unnecessary energy consumption. Construction and operation of projects facilitated by the Fowler 2040 GP would be required to comply with relevant provisions of CBC and Title 24 of the California Energy Code, which would avoid wasteful, inefficient, and unnecessary energy consumption. As a result, the construction of proposed facilities and improvements would not result in an inefficient, wasteful, or unnecessary consumption of energy.

Operational Mobile-Source Energy Consumption

Operational mobile-source energy consumption would be primarily associated with vehicle trips. Energy use associated with commute trips are discussed in greater detail, as follows:

Table 4-17 summarizes the annual fuel use within the Fowler planning area for existing (year 2019) and future year 2042 conditions. As noted in Table 4-17, the vehicle trips associated with existing year 2019 conditions would consume an annual estimated 1,451,044 gallons of diesel and 3,689,421 gallons of gasoline, which combined equates to 643,132 million British thermal units (MMBTU). With a service population (SP) of 6,808, existing year 2019 conditions would consume 94.5 MMBTU/capita. With the proposed buildout of the Fowler 2040 GP, annual fuel consumption would increase to 5,885,630 gallons of diesel and 11,338,136 gallons of gasoline, which are equivalent to 2,172,393 MMBTU. With a projected population of 48,404, buildout conditions would consume 44.9 MMBTU/capita. While the overall fuel consumption would increase with the adoption of the proposed Fowler 2040 GP the efficiency of the fuel usage would improve significantly. The development of increasingly efficient automobile engines would further increase energy efficiency and energy conservation.

Operational Building-Use Energy Consumption

Implementation of the Fowler 2040 GP would result in increased electricity and natural gas consumption associated with the long-term operation of the proposed land uses. It is important to note that buildings included in the Fowler 2040 GP would be required to comply with Title 24 standards for energy efficiency, which would include increased building insulation and energy-efficiency requirements, including the use of energy-efficient lighting, energy-efficient appliances, and use of low-flow water fixtures.

Estimated electricity consumption associated with existing year 2019 conditions and the proposed build-out of the proposed Fowler 2040 GP are summarized in Table 2. As depicted, under 2019 conditions the calculated total consumption was approximately 52,309,627 kilowatt hours per year (kWh/Year) of electricity, 7,296,595 kWh/Year for water use, treatment, and conveyance, and 213,620,578 kilo British thermal units per year (kBtu /Yr) of natural gas. In total, facilities under existing 2019 conditions use a total of approximately 416,997 MMBtu/year. Under the build-out of the proposed Fowler 2040 GP, consumption would total approximately 336,659,330 kWh/Yr of electricity, 26,572,392 kWh/Year.

Table 4-17: Operational Fuel Consumption

Source	Annual Fuel Use (gallons)	Annual MMBTU
Existing Conditions (Year 2019)		
On-Road Vehicles (Diesel)	1,451,044	199,346
On-Road Vehicles (Gasoline)	3,689,421	443,786
	Total:	643,132
	Estimated Population:	6,808
	MMBtu /Capita	94.5

GP Buildout Conditions (Year 2042)		
On-Road Vehicles (Diesel)	5,885,630	808,574
On-Road Vehicles (Gasoline)	11,338,136	1,363,819
	Total:	**2,172,393**
	Estimated Population:	48,404
	MMBtu /Capita	44.9
MMBTU = Million British thermal units		
Fuel use was calculated based, in part, on project trip generation rates derived from the traffic analysis prepared for this project (Kittelson & Associates 2022). *Refer to Appendix A for modeling assumptions and results.*		

Table 4-18: Operational Electricity & Natural Gas Consumption

Source	Energy Use	MMBTU/Year
Existing Conditions (Year 2019)		
Electricity Consumption	52,309,627 kWh/year	178,480
Water Use, Treatment & Conveyance	7,296,595 kWh/Year	24,896
Natural Gas Use	213,620,578 kBtu/Year	213,621
	Total:	416,997
	Estimated Population:	6,808
	MMBtu /Capita:	61.3
GP Buildout Conditions (Year 2042)		
Electricity Consumption	336,659,330 kWh/year	1,148,682
Water Use, Treatment & Conveyance	26,572,392 kWh/Year	90,665
Natural Gas Use	862,651,820 kBtu/Year	862,652
	Total:	**2,101,998**
	Estimated Population:	48,404
	MMBtu /Capita:	43.4
MMBTU = Million British thermal units *Fuel use was calculated based, in part, on default construction schedules, equipment use, and vehicle trips identified for the operation of similar land uses contained in the CalEEMod output files prepared for the air quality analysis conducted for this project. Refer to Appendix A for modeling assumptions and results.*		

for water use, treatment, and conveyance, and 862,651,820 kilo British thermal units per year (kBTU/Yr) of natural gas. In total, facilities under buildout conditions would consume a total of approximately 2,101,998 MMBTU/year.

On a per capita basis, total consumption rates would total approximately 61.3 MMBTU/capita under existing conditions and approximately 43.4 MMBTU/capita under Fowler 2040 GP buildout conditions. Based on the modeling conducted, per capita energy usage under the proposed Fowler 2040 GP would improve in comparison to existing year 2019 conditions. However, at this time, most projects incorporated in the GP do not have sufficient detail to allow project-level analysis and thus it would be speculative to analyze project-level impacts on energy consumption.

The following Fowler 2040 GP policies and action items reduce the energy consumption of new residential developments and promote the use of alternative means of transportation. These policies can promote the reduction of energy and fuel consumption. Accordingly, non-residential projects that are not otherwise exempt from review under CEQA will be subject to analysis and potential project-specific mitigation related to energy use.

Policy LU-21 Encourage large, employment-generating developments to provide services such as cafeterias, childcare, and business support services that reduce the need for vehicle trips.

Policy CH-6	Evaluate land use decisions for consistency with siting recommendations as outlined in California Air Resources Board's (CARB's) Land Use Compatibility Handbook.
Policy MOB-4	Support the creation of a transportation network that provides for efficient movement of people and goods while accounting for environmental effects.
Policy MOB-9	New development may be required to provide off-site pedestrian and/or bicycle facilities to address gaps in the active transportation network.
Policy MOB-10	Develop a multi-purpose recreational bikeway network and support facilities.
Policy MOB-11	Ensure street and road projects are adequately designed to accommodate safe and convenient pedestrian and bicyclist access.
Policy MOB-12	Require traffic calming techniques in the design of new local streets where such techniques will manage traffic flow and improve safety for pedestrian and bicyclist users.
Policy MOB-13	Coordinate with Caltrans, Fresno COG, FCRTA, and other responsible agencies to identify the need for additional mobility infrastructure and/or services along major commuter travel corridors.
Policy MOB-14	Identify opportunities for a multi-modal transit hub within the City.
Policy MOB-15	Support the development of paratransit service programs.
Policy MOB-16	Support transit operator efforts to maximize return for short- and long-range transit needs.
Policy MOB-17	Incorporate the potential for public transit service expansion throughout the City.
Policy MOB-18	Improve route options and access for public transit City-wide, specifically west of SR 99.

Threshold 2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. Subsequent projects developed pursuant to the Fowler 2040 GP would be required to be in full compliance with the CBC, including applicable Green Building Standards and Building Energy Efficiency Standards. Additionally, starting in 2023, all new homes constructed in California—as well as many non-residential land uses, such as office buildings, schools, restaurants, warehouses, theaters, and grocery stores—would be required to include solar photovoltaic systems consistent with the 2022 Building Energy Efficiency Standards. In addition to complying with federal and State regulations, the Fowler 2040 GP itself provides policies that are designed specifically to reduce energy consumption or to reduce other types of pollutants that have the co-benefit of reducing energy consumption. Through mandatory compliance with all federal, State, and local policies and requirements for energy consumption, implementation of the Fowler 2040 GP would not be anticipated to conflict with or obstruct State or local plans for renewable energy or energy efficiency.

4.7.5 Mitigation Measures

Mitigation measures are not required.

4.7.6 Cumulative Impacts

Buildout of the 2040 Fowler GP would result in the construction and operation of new development, which would result in increased area, mobile, and energy-related air emissions. As individual development projects are proposed, each project would be required to be analyzed against thresholds of significance. However, as policies and regulations are established that would require the further reduction of energy

consumption, which future projects would be required to comply with, impacts would be less than significant.

4.8 Geology and Soils

This section evaluates impacts to geology and soils, including those related to seismic hazards and geologic conditions, underlying soil characteristics and erosion, and paleontological resources, that could result from implementation of the Fowler 2040 GP.

4.8.1 Environmental Baseline

Geology and Soils

Fowler is in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Central Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium.[65] The Valley's geology makes for incredible fertility, but it also means the area is threatened by concerns like subsidence, which is discussed in more detail below.

According to the California Expansive Soils Map, Fowler is not located in an area affected by expansive soils. Expansive soils are those with excessive swelling clay minerals such as montmorillonite, which can cause excessive swelling when the soil comes into contact with water and also shrinkage when it undergoes drying. Soils within the planning area contain little to no swelling clay.[66] Soil types within Fowler's planning area can be found in Table 4-19 and Figure 4-6.

Table 4-19. Soils with Fowler's Planning Area

Map Unit Symbol	Map Unit Name	Acres in Planning Area	Percent of Planning Area	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
CfB	Calhi loamy sand, 3 to 9 percent slopes	8.8	0.2%	No	Yes	Somewhat excessively drained	Rapid	Low
CgA	Calhi loamy sand, moderately deep, 0 to 3 percent slopes	0.9	0.02%	No	No	Somewhat excessively drained	Rapid	Very Low
DeA	Delhi sand, 0 to 3 percent slopes, MLRA 17	178.7	3.1%	No	Yes	Somewhat excessively drained	Rapid	Negligible
DhA	Delhi loamy sand, 0 to 3 percent slopes, MLRA 17	731.4	12.9%	No	Yes	Somewhat excessively drained	Rapid	Very Low
DhB	Delhi loamy sand, 3 to 9 percent slopes	81.3	1.4%	No	No	Somewhat excessively drained	Rapid	Low
DlA	Delhi loamy sand, moderately deep, 0 to 3 percent slopes	6.4	0.1%	No	No	Somewhat excessively drained	Rapid	Very Low

[65] (Harden 2004)
[66] (CSE Landscape Architect 2016)

Map Unit Symbol	Map Unit Name	Acres in Planning Area	Percent of Planning Area	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
Dm	Dello loamy sand	47.1	0.8%	Yes	Yes	Somewhat poorly drained	Rapid	Very Low
Es	Exeter sandy loam	15.7	0.3%	No	Yes	Well drained	Moderately slow to very slow	Medium
Ex	Exeter loam	66.6	1.2%	No	Yes	Well drained	Moderately slow to very slow	Medium
Hc	Hanford sandy loam	1,190	20.9%	No	No	Well drained	Moderately rapid	Very Low
Hg	Hanford sandy loam, silty substratum	25.7	0.5%	No	No	Well drained	Moderately rapid	Very Low
Hm	Hanford fine sandy loam	417.1	7.3%	No	Yes	Well drained	Moderately rapid	Very Low
Ho	Hanford fine sandy loam, silty substratum	47.4	0.8%	No	No	Well drained	Moderately rapid	Very Low
Hsd	Hesperia sandy loam, very deep	1,107.60	19.5%	No	No	Well drained	Moderately rapid	Negligible
Hsm	Hesperia sandy loam, deep	13.4	0.2%	No	Yes	Well drained	Moderately rapid	Negligible
Hsr	Hesperia fine sandy loam, very deep	1,417.20	24.9%	No	No	Well drained	Moderately rapid	Negligible
Hss	Hesperia fine sandy loam, very deep, saline-sodic	5.7	0.1%	No	No	Well drained	Moderately rapid	Low
Hst	Hesperia fine sandy loam, deep	246.7	4.3%	No	No	Well drained	Moderately rapid	Negligible
Pk	Pits	8.5	0.1%	No	Yes	N/A	N/A	N/A
PmB	Pollasky sandy loam, 2 to 9 percent slopes	35.3	0.6%	No	No	Well drained	Moderate to slow	Medium
RkB	Rocklin sandy loam, 3 to 9 percent slopes	4.7	0.08%	No	Yes	Well drained	Moderate to very slow	High
TzbA	Tujunga loamy sand, 0 to 3 percent slopes	34.4	0.6%	No	Yes	Somewhat excessively drained	Very rapid	Very low
Totals		**5690.6**	**100%**					

Faults and Seismicity

Fowler is not located within an Alquist-Priolo Earthquake Fault Zone.[67] The nearest major fault is the San Andreas Fault, located approximately 65 miles southwest of the planning area. The Nunez Fault is approximately 51 miles southwest and the Poso Fault is approximately 51 miles south of the planning area. There are two pre-quaternary faults near to Fowler: the Clovis Fault and another pre-quaternary fault which extends to the south of Dinuba. Pre-quaternary faults are those with an estimated age of over 1,600,000 years. Neither of these faults are believed to be active.

[67] (California Department of Conservation 2022)

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. Soil liquefaction causes ground failure that can damage roads, pipelines, underground cables, and buildings with shallow foundations. Liquefaction more commonly occurs in loose, saturated materials. The potential for liquefaction is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in Fresno County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. However, soil types along the San Joaquin Valley floor are not conducive to liquefaction because they are generally too coarse. According to the California State Geoportal, Fowler is not located in or near a zone that has been designated as an area that has experienced soil liquefaction.[68] Furthermore, the average depth to groundwater within the planning area is approximately 85 to 95 feet, which also minimizes liquefaction potential.[69]

Subsidence

Subsidence occurs when subsurface pressure is reduced by the withdrawal of fluids (e.g., groundwater, natural gas, oil) resulting in sinking of the ground. According to the United States Geological Survey, Fowler is not located in or near a zone that is designated as land that has experienced soil subsidence.[70] Fowler lies within the jurisdiction of the South Kings Groundwater Sustainability Agency (SKGSA) which is minimally affected by subsidence. Most significant subsidence in the San Joaquin Valley is located in areas underlain by the Corcoran Clay, but the Corcoran Clay does not extend into the SKGSA. Although some areas in Fresno County have experienced subsidence due to groundwater overdraft, subsidence has not occurred within Fowler.

Landslides

Landslides usually occur in locations with steep slopes and unstable soils. Fowler is located on the Central Valley floor where no major geologic landforms exist, and the topography is essentially flat and level. The nearest foothills are approximately 15 miles northeast of Fowler. Therefore, Fowler has minimal-to-no landslide susceptibility.

4.8.2 Regulatory Setting

Federal

Earthquake Hazards Reduction Act

Congress passed the Earthquake Hazards Reduction Act in 1977 to reduce risks to life and property from future earthquakes in the United States through establishment and maintenance the National Earthquake Hazards Reduction Program. This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act, which refined the description of agency responsibilities, program goals, and objectives.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act of 2002 codifies the generally accepted practice of limited vertebrate fossil collection and limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate State or federal agency and

[68] (California State Geoportal 2022)
[69] (City of Fowler 2021)
[70] (United States Geological Survey Areas of Land Subsidence in California 2022).

agree to donate any materials recovered to recognized public institutions, where they would remain accessible to the public and other researchers.

Robert T. Stafford Disaster Relief and Emergency Assistance Act

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) provides the legal basis for state, tribal, and local governments to undertake risk-based approaches to reducing natural hazard risks through mitigation planning. Specifically, the Stafford Act requires state, tribal, and local governments to develop and adopt FEMA-approved hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance. The Stafford Act also authorizes grants for pre- and post-disaster projects and planning.

State

General Plan Safety Element

Government Code Section 65302(g)(1) requires every city and county to develop and maintain a safety element as part of its general plan. The safety element is required to, among other things, address potential effects resulting from seismic hazards and must include mapping of known seismic and other geologic hazards along with policies addressing:

- Evacuation routes;
- Military installations;
- Peak load water supply requirements; and
- Minimum road widths and clearing around structures for emergency vehicle access.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was signed into law in 1972 (CCR Title 14, Section 3600, et seq.). The purpose of this Act is to prohibit the location of most structures for human occupancy across the traces of active faults and to thereby mitigate the hazard of fault rupture. Under the Act the State Geologist is required to delineate "Earthquake Fault Zones" along known active faults in California (CCR Title 14, Section 3601). Towns, cities, and counties affected by the zones must regulate certain development projects within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting (CCR Title 14, Section 3603).

Seismic Hazards Mapping Act

The California Geological Survey (CGS), formerly the California Department of Conservation, Division of Mines and Geology (CDMG), provides guidance with regard to seismic hazards. Under CDMG's Seismic Hazards Mapping Act (1990), seismic hazard zones are to be identified and mapped to assist local governments in land use planning (PRC Section 2690, et seq.). The intent of these maps is to protect the public from the impacts of strong ground shaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. In addition, CDMG's Special Publications 117, "Guidelines for Evaluating and Mitigating Seismic Hazards in California," provides guidance for the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations.

California Building Code

California law provides a minimum standard for building design through the CBC (CCR Title 24). Chapter 16 of the CBC 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. Chapter 23 of the CBC contains specific requirements for seismic safety. Chapter 29 regulates excavation, foundations, and

retaining walls. Chapter 33 of the CBC contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 70 of the CBC regulates grading activities, including drainage and erosion control. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Division of Occupational Safety and Health (Cal/OSHA) regulations (CCR Title 8).

National Pollutant Discharge Elimination System Permit Program

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) to control water pollution by regulating point sources that discharge pollutants into Waters of the United States. In California, the USEPA has authorized the State Water Resources Control Board (SWRCB) as the permitting authority to implement the NPDES program. The SWRCB issues two-baseline general permits; one for industrial operations, the other for construction activities, NPDES General Permit for Stormwater Discharges associated with Construction and Land Disturbance Activities (Construction General Permit (CGP) Order No. 2012-0006-DWQ)[71]. Additionally, the NPDES program includes the regulation of stormwater discharges from cities, counties, and other municipalities under Order No. R8-2009-0030 (waste discharge requirements for stormwater) and updated under Order No. 5-01-048 for the Central Valley Region.

Under the CGP, stormwater discharges from construction sites with a disturbed area of one acre or more are required to obtain either individual NPDES permits for stormwater discharges or be covered by the CGP. Coverage under the CGP is accomplished by completing and filing a Notice of Intent with the SWRCB. Each Applicant under the CGP is required to both prepare a Stormwater Pollution Prevention Program (SWPPP) prior to the commencement of grading activities and to ensure implementation of the SWPPP during construction activities. The primary objective of the SWPPP is to identify, construct, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction activities. BMPs may include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution. The SWPPP would also address BMPs developed specifically to reduce pollutants in stormwater discharges following the completion of construction activities.

Local

Fresno County Multi-Hazard Mitigation Plan

The Fresno County Multi-Hazard Mitigation Plan was originally developed in 2007-2008 and FEMA approved in 2009. The plan was comprehensively updated in 2017-2018. The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Fresno County and the other participating jurisdictions developed this multi-hazard mitigation plan to make the County and its residents less vulnerable to future hazard events. This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that Fresno County would be eligible for the (FEMA Hazard Mitigation Assistance Grants, including Pre-Disaster Mitigation and Hazard Mitigation Grant programs as well as lower flood insurance premiums (in jurisdictions that participate in the National Flood Insurance Program's Community Rating System).

4.8.3 Thresholds of Significance

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to geology and soils. The Fowler 2040 GP would have a significant impact if it would:

[71] (State Water Resources Control Board n.d.)

- 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;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- 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;
- 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;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.8.4 Impacts

Threshold 1: Would the project 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? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact. According to the California Earthquake Hazards Zone Application prepared by the California Department of Conservation in 2021, Fowler is not located within a Fault-Rupture Hazard Area.[72] Additionally, no active faults have been identified within Fowler. The nearest zoned faults to Fowler are a portion of the Nunez Fault, located approximately 51 miles southwest and the Poso Fault, approximately 51 miles south of Fowler. Therefore, because no active faults occur within Fowler, implementation of the Fowler 2040 GP would not expose people or structures related to fault rupture. The Fowler 2040 GP would encourage infill development, which would in some cases may result in the replacement or retrofit of older buildings 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. Impacts would be less than significant.

Threshold 2: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Less than Significant Impact. Similar to most areas within California, Fowler would be exposed to ground shaking from seismic events on local and regional faults. However, the Fowler area has historically experienced a low to moderate degree of seismicity. The most recent significant earthquake to affect

[72] (California Department of Conservation 2022)

the Fowler area was in 1973. This earthquake occurred approximately 30 miles away at a magnitude 4.1.[73] In addition, in 2019 a magnitude 7.1 event occurred in Ridgecrest, located in northeast Kern County east of the Sierra Nevada, but no significant damage was reported in the Fowler. The fault that ruptured in Ridgecrest was a conjugate fault system that did not include the Nunez, Poso, or San Andreas Fault. Although Fowler is in an area with historically low to moderate level of seismicity, strong ground shaking could occur within Fowler during seismic events and occurrences have the possibility to result in significant impacts. Major seismic activity along the nearby Nunez, Poso, San Andreas faults, or other associated faults, could affect Fowler through strong seismic ground shaking, which could potentially cause structural damage to facilities and interruption of service. Projects in Fowler would be designed to withstand strong ground shaking, because all built projects are required to comply with the CBC and other applicable regulations to minimize the potential effects seismic activity. Further, with implementation of the Fowler 2040 GP policies SAF-26, SAF-27, and SAF-28 and action item SAF-27a, risks associated with strong seismic ground shaking would be minimized.

Policy SAF-26	Regularly review and enforce all seismic and geologic safety standards and require the use of best practices in site design and building construction methods.
Policy SAF-27	Promote the upgrading, retrofitting, and/or relocation of all existing critical facilities and other important public facilities that do not meet current building code standards and are susceptible to seismic or geologic hazards.
Action Item SAF-27a	Evaluate critical facilities for risk from seismic and geologic hazards. Prioritize improvements based on level of expected risk.
Policy SAF-28	Continue to use building codes as the primary tool for reducing seismic risk in structures.

Compliance with regulations such as the CBC and implementation of the Fowler 2040 GP policies and action item listed above would ensure that potential impacts related to seismic ground shaking are less than significant.

Threshold 3: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Less than Significant Impact. Although no specific liquefaction hazard areas have been identified in Fowler, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. However, soil types along the Valley floor, which includes Fowler, are not conducive to liquefaction because they are generally too coarse, and the water table is relatively deep. Even though potential for liquefaction is low, all future development would be subject to be in 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. Further, with implementation of policies SAF-26, SAF-27, and SAF-28, as outlined under Threshold 1 above, risks associated with liquefaction would be minimized.

[73] (Home Facts 2022, United States Environmental Protection Agency 2018)

Threshold 4: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

No Impact. The planning area is located on the Valley floor where no major geologic landforms exist, and the topography is essentially flat and level, which precludes the possibility of earthquake-induced landslides. The nearest foothills are approximately 15 miles northeast of Fowler. Therefore, Fowler has minimal-to-no landslide susceptibility or opportunity for slope failure. There would be no impact.

Threshold 5: Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Development associated with the Fowler 2040 GP may include earthwork activities that could expose soils to the effects of erosion or loss of topsoil. Once disturbed, soils, if not managed appropriately, are left exposed to the effects of wind and water. Though specific developments are not being proposed under the Fowler 2040 GP, future development will be facilitated within the planning area. As a result, excavation, grading, construction activities, and site preparation for future development may result in the removal of topsoil or disturbance and potential exposure of underlying soils to wind and water erosion. Poorly-designed projects may also potentially destabilize buildings or roadway foundations due to long-term soil erosion and loss of underlying supporting soils. Future development may also include paving and other site improvements that could increase amounts of impervious surfaces and result in higher levels of urban runoff. Generally, construction activities, including earthwork or other ground disturbing activities, on site of one acre or more are subject to the NPDES CGP. Compliance with the permit requires each qualifying development project to file a Notice of Intent with the SWRCB. Permit conditions require development of a 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.

All individuals undertaking ground disturbing activities must take steps to prevent discharge of pollutants and regulate erosion. The FMC requires adherence to the CBC, 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 BMPs or Low Impact Development practices. Once construction is complete and exposed areas are revegetated or covered by buildings, asphalt, or concrete, the erosion hazard would be substantially reduced or essentially eliminated.

Compliance with the CBC and implementation of the BMPs under the NPDES would ensure that potential soil erosion impacts, or the potential loss of topsoil, would be less than significant.

Threshold 6: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact. As future development and infrastructure projects are considered by Fowler, each project will be evaluated for conformance with the CBC, the General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Depending on the site, future development and improvement projects may be required to prepare site-specific geotechnical studies to identify geologic and soil conditions specific to the site and provide design recommendations consistent with the requirements of State and City codes. In addition, the Fowler 2040 GP includes policies and action items to address geologic conditions. With the implementation of

applicable State and City codes and Policy SAF-26 and Policy SAF-27, potential impacts associated with unstable geologic conditions with the potential to result in landslide, lateral spreading, subsidence, liquefaction or collapse would be less than significant.

Threshold 7: Would the project 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?

No Impact. As discussed in Section 4.8.1 Environmental Baseline, Fowler is not located in an area affected by expansive soils. Soils within the planning area contain little to no swelling clay. Soil sampling and treatment procedures for expansive soils, as well as other soil-related issues, are addressed by the CBC. Compliance with the CBC would create conditions suitable for construction. Since Fowler is not located in an area affected by expansive soils, there would be no impact.

Threshold 8: 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?

No Impact. Although septic tanks currently exist within the planning area and would be permitted for areas under the jurisdiction of the County of Fresno, no new septic tanks would be allowed in association with development approved by the City of Fowler pursuant to the Fowler 2040 GP. New development would be required to connect to the wastewater system, as maintained by City and the Selma-Kingsburg-Fowler County Sanitation District (SKFCSD). Therefore, there would be no impact related to the addition septic systems in areas with soils incapable of adequately supporting the use of such tanks.

Threshold 9: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than Significant Impact. Excavation and/or construction activities within the planning area have the potential to impact paleontological/geological resources during excavation and construction activities within previously undisturbed soils. Although many areas have been previously disturbed by farming activities or structural development, future development may require excavations or construction within previously undisturbed soils. Compliance with policy CDES-12, which can be found in Section 4.6, would ensure that impacts are less than significant.

4.8.5 Mitigation Measures

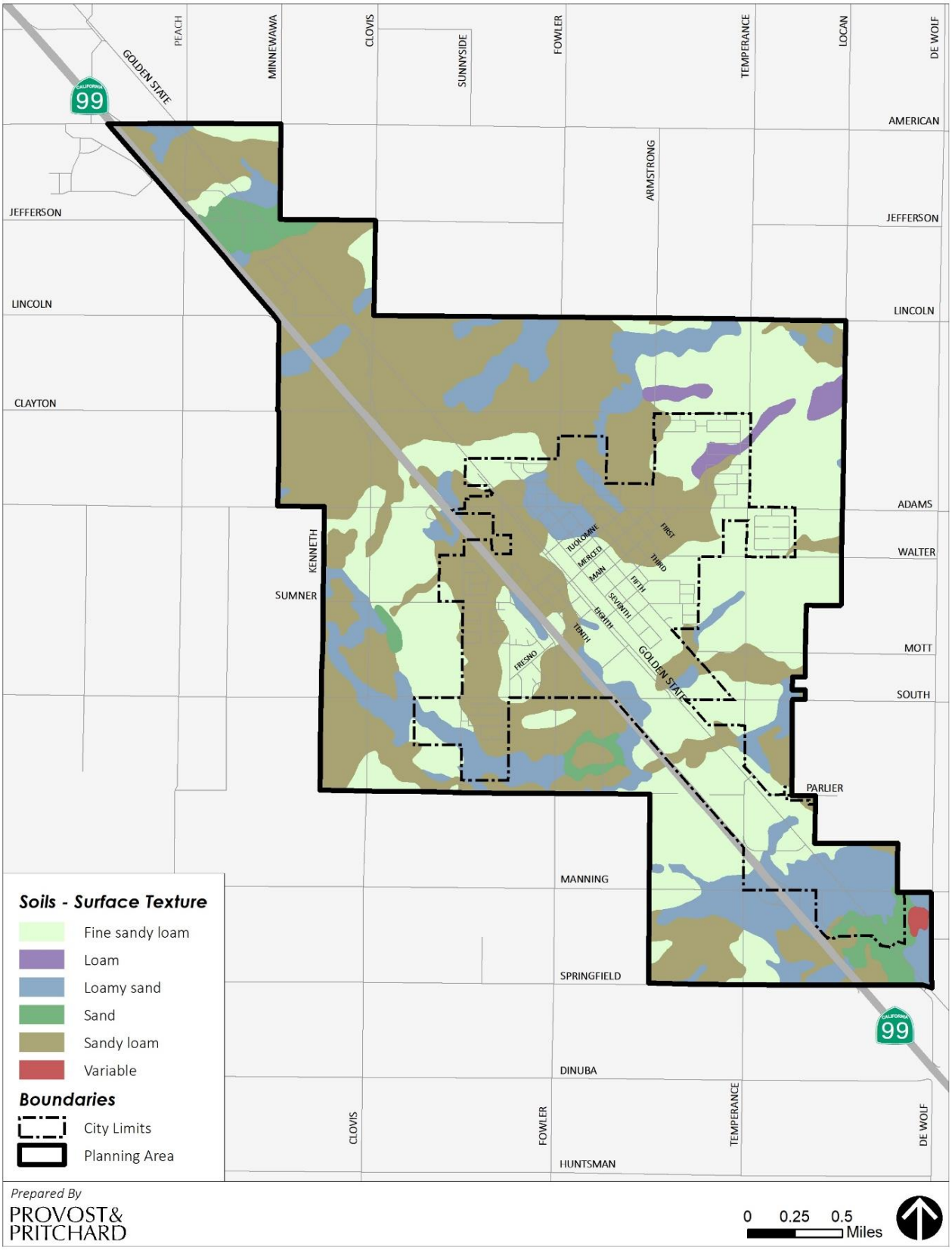
Mitigation measures are not required.

4.8.6 Cumulative Impacts

Cumulative development in the planning area and areas of Fresno County surrounding Fowler would gradually increase population which would result in the gradual increase in 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 an individual basis in accordance with the requirements of CEQA. Compliance with the FMC and Fowler 2040 GP goals, policies and action items, 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.

Figure 4-6: Soils Map



4.9 Greenhouse Gas Emissions

This section evaluates impacts from greenhouse gas emissions resulting from implementation of the Fowler 2040 GP.

4.9.1 Environmental Baseline

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the greenhouse gases (GHGs) that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Primary GHGs attributed to global climate change, are discussed, as follows:

- **Carbon Dioxide**. Carbon dioxide (CO_2) is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. Several specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[74]

- **Methane**. Methane (CH_4) is a colorless, odorless gas that is not flammable under most circumstances. CH_4 is the major component of natural gas, about 87 percent by volume. It is also formed and released into the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane into the atmosphere. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. Methane's atmospheric lifetime is about 12 years.[75]

- **Nitrous Oxide**. Nitrous oxide (N_2O) is a clear, colorless gas with a slightly sweet odor. N_2O is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 114 years. [76]

- **Hydrofluorocarbons.** Hydrofluorocarbons (HFCs) are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer

[74] (United States Environmental Protection Agency 2018)
[75] Ibid.
[76] Ibid.

products. The only significant emissions of HFCs before 1990 were of the chemical HFC-23, which is generated as a byproduct of the production of HCFC-22 (or Freon 22, used in air conditioning applications). The atmospheric lifetime for HFCs varies from just over a year for HFC-152a to 270 years for HFC-23. Most of the commercially used HFCs have atmospheric lifetimes of less than 15 years (e.g., HFC-134a, which is used in automobile air conditioning and refrigeration, has an atmospheric life of 14 years).[77]

- Perfluorocarbons. Perfluorocarbons (PFCs) are colorless, highly dense, chemically inert, and non-toxic. There are seven PFC gases: perfluoromethane (CF_4), perfluoroethane (C_2F_6), perfluoropropane (C_3F_8), perfluorobutane (C_4F_{10}), perfluorocyclobutane (C_4F_8), perfluoropentane (C_5F_{12}), and perfluorohexane (C_6F_{14}). Natural geological emissions have been responsible for the PFCs that have accumulated in the atmosphere in the past; however, the largest current source is aluminum production, which releases CF_4 and C_2F_6 as byproducts. The estimated atmospheric lifetimes for PFCs range from 2,600 to 50,000 years. [78]

- Nitrogen Trifluoride. Nitrogen trifluoride (NF_3) is an inorganic, colorless, odorless, toxic, nonflammable gas used as an etchant in microelectronics. Nitrogen trifluoride is predominantly employed in the cleaning of the plasma-enhanced chemical vapor deposition chambers in the production of liquid crystal displays and silicon-based thin film solar cells. It has a global warming potential of 16,100 carbon dioxide equivalent (CO_2e). While NF_3 may have a lower global warming potential than other chemical etchants, it is still a potent GHG. In 2009, NF_3 was listed by California as a high global warming potential GHG to be listed and regulated under Assembly Bill (AB) 32 (HSC Section 38505).

- Sulfur Hexafluoride. Sulfur hexafluoride (SF_6) is an inorganic compound that is colorless, odorless, non-toxic, and generally non-flammable. SF_6 is primarily used as an electrical insulator in high- voltage equipment. The electric power industry uses roughly 80 percent of all SF_6 produced worldwide. Leaks of SF_6 occur from aging equipment and during equipment maintenance and servicing. SF_6 has an atmospheric life of 3,200 years. [79]

- Black Carbon. Black carbon is the strongest light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Black carbon contributes to climate change both directly by absorbing sunlight and indirectly by depositing on snow and by interacting with clouds and affecting cloud formation. Black carbon is considered a short-lived species, which can vary spatially and, consequently, it is very difficult to quantify associated global-warming potentials. The main sources of black carbon in California are wildfires, off-road vehicles (locomotives, marine vessels, tractors, excavators, dozers, etc.), on-road vehicles (cars, trucks, and buses), fireplaces, agricultural waste burning, and prescribed burning (planned burns of forest or wildlands).[80]

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule. Often, estimates of GHG emissions are presented in CO_2e, which relates each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. Table 4-20 provides a summary of the GWP for GHG emissions of typical concern with regard to community development projects, based on a 100-year time horizon. As

[77] Ibid.
[78] Ibid.
[79] Ibid.
[80] Ibid.

indicated, CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs roughly 298 times more heat per molecule than CO_2. Additional GHGs with high GWP include nitrogen trifluoride, sulfur hexafluoride, perfluorocarbons, and black carbon.

Table 4-20: Global Warming Potential for Greenhouse Gases

Greenhouse Gas	Global Warming Potential (100-year)
Carbon Dioxide (CO_2)	1
Methane (CH_4)	25
Nitrous Oxide (N_2O)	298
**Based on IPCC GWP values for 100-year time horizon* *Source: IPCC 2007*	

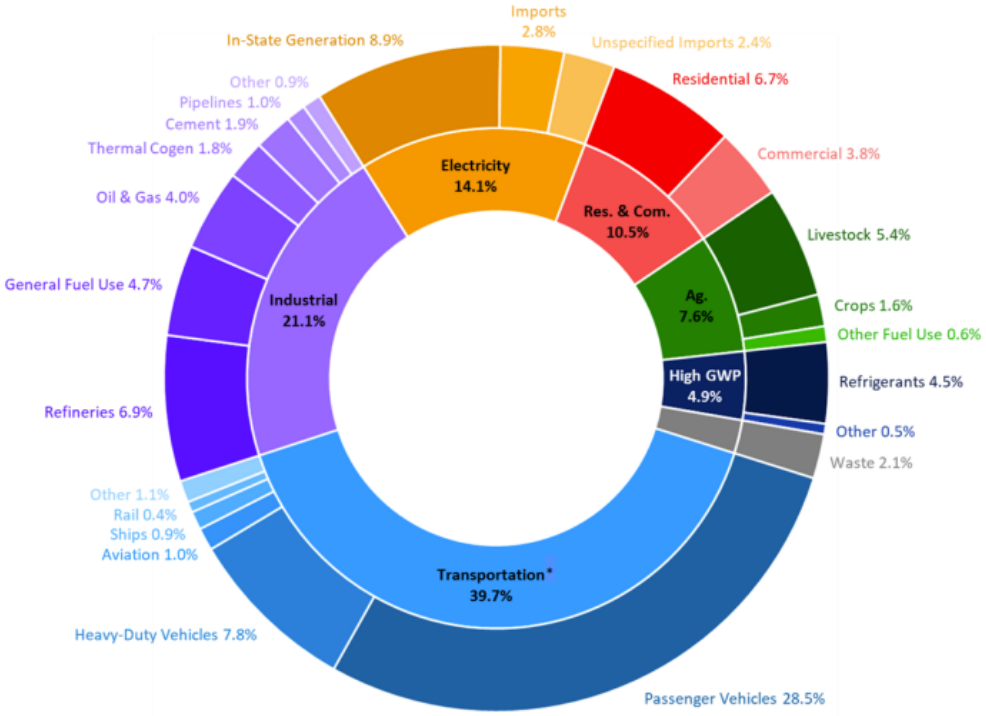
Sources of GHG Emissions

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. Worldwide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions.[81]

In 2019, GHG emissions within California totaled 418.2 million metric tons (MMT) of CO_2e. GHG emissions, by sector, are summarized in Table 4-21. Within California, the transportation sector is the largest contributor, accounting for approximately 40 percent of the total state-wide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 21 percent. Electricity generation totaled roughly 14 percent.[82]

[81] (United States Environmental Protection Agency 2018)
[82] (California Air Resources Board 2022)

Table 4-21: California GHG Emissions Inventory by Sector



Source: CARB 2022a

Short-Lived Climate Pollutants

Short-lived climate pollutants (SLCPs), such as black carbon, fluorinated gases, and CH_4 also have a dramatic effect on climate change. Though short-lived, these pollutants create a warming influence on the climate that is many times more potent than that of carbon dioxide.

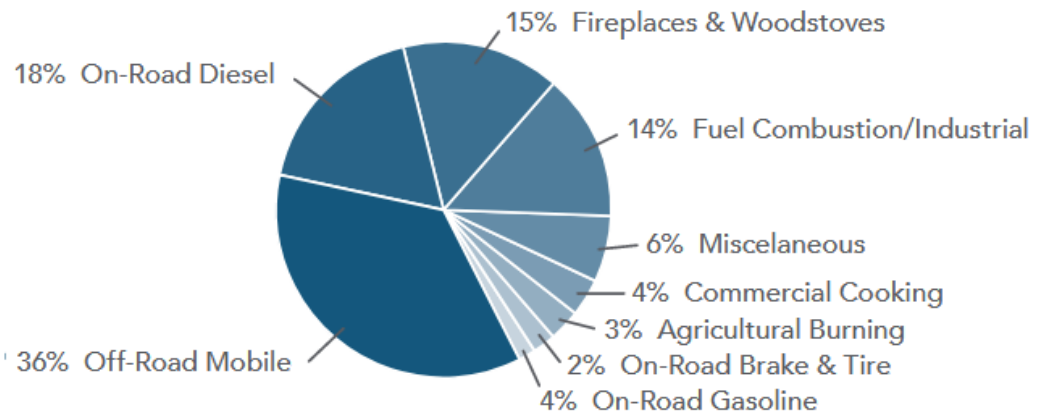
As part of CARB's efforts to address SLCPs, it has developed a statewide emission inventory for black carbon. The black carbon inventory will help support the implementation of the SLCP Strategy, but it is not part of the State's GHG Inventory that tracks progress toward the State's climate targets. The most recent inventory for year 2013 conditions is depicted in Table 4-22. As depicted, off-road mobile sources account for a majority of black carbon emissions totaling roughly 36 percent of the inventory. Other major anthropogenic sources of black carbon include on-road transportation, residential wood burning, fuel combustion, and industrial processes.[83]

Effects of Global Climate Change

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea-level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Table 4-22: California Black Carbon Emissions Inventory (Year 2013)

[83] (California Air Resources Board 2022)



Source: CARB 2022b

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the state. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of the precipitation. For instance, historical records are depicting an increasing trend toward earlier snowmelt in the Sierra Nevada. This snowpack is a principal supply of water for the state, providing roughly 50 percent of the state's annual runoff. If this trend continues, some areas of the state may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during spring and summer months. Earlier snowmelt would also impact the State's energy resources. Currently, approximately 20 percent of California's electricity comes from hydropower. Early exhaustion of the Sierra snowpack may force electricity producers to switch to more costly or non-renewable forms of electricity generation during the spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and biodiversity. As a result, changes in climate will likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry.

4.9.2 Regulatory Setting

Federal

Executive Order 13514

Executive Order 13514 is focused on reducing GHGs internally in federal agency missions, programs, and operations. In addition, the executive order directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. USEPA*, 549 U.S. 497, the Supreme Court found that GHGs are air pollutants covered by the CAA and that the USEPA has the authority to regulate GHG. The Court held that the USEPA Administrator must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator found that the current and projected concentrations of the six key well-mixed GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to GHG pollution which threatens public health and welfare.

Although these findings did not impose any requirements on industry or other entities, this action was a prerequisite to finalizing the USEPA's Proposed Greenhouse Gas (GHG) Emission Standards for Light-Duty Vehicles, which was published on September 15, 2009. On May 7, 2010, the final Light-Duty Vehicle GHG Emissions Standards and Corporate Average Fuel Economy Standards were published in the Federal Register.

The USEPA and the NHTSA are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a Presidential Memorandum on May 21, 2010.

The final combined USEPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile (the equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements). Together, these standards will cut GHG emissions by an estimated 960 MMT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). On August 28, 2012, USEPA and NHTSA issued their joint rule to extend this national program of coordinated GHG and fuel economy standards to model years 2017 through 2025 passenger vehicles.

United States Environmental Protection Agency Strategic Plan

The USEPA's *Fiscal Year (FY) 2022-2026 Strategic Plan (Strategic Plan)* provides a roadmap to achieve USEPA's and the Biden-Harris Administration's environmental priorities over the next four years. The *Strategic Plan* furthers the agency's commitment to protecting human health and the environment for all people, with an emphasis on historically overburdened and underserved communities. For the first time, USEPA's *Strategic Plan* includes a strategic goal focused exclusively on addressing climate change, with three primary objectives: 1) Reduce Emissions that Cause Climate Change; 2) Accelerate Resilience and Adaptation to Climate Change Impacts; and 3) Advance International and Subnational Climate Efforts.

State

Assembly Bill 1493

AB 1493 (Pavley) of 2002 (HSC Sections 42823 and 43018.5) requires CARB to develop and adopt the nation's first GHG emission standards for automobiles. These standards are also known as Pavley I. The California Legislature declared in AB 1493 that global warming is a matter of increasing concern for public health and the environment. It cites several risks that California faces from climate change, including a reduction in the state's water supply; an increase in air pollution caused by higher temperatures; harm to agriculture; an increase in wildfires; damage to the coastline; and economic losses caused by higher food, water, energy, and insurance prices. The bill also states that technological solutions to reduce GHG emissions would stimulate California's economy and provide jobs. In 2004, the State of California submitted a request for a waiver from federal clean air regulations, as the State is authorized to do under the CAA, to allow the State to require reduced tailpipe emissions of CO_2. In late 2007, the USEPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the State brought suit against the USEPA related to this denial.

In January 2009, President Obama instructed the USEPA to reconsider the Bush Administration's denial of California's and 13 other states' requests to implement global warming pollution standards for cars and trucks. In June 2009, the USEPA granted California's waiver request, enabling the State to enforce its GHG emissions standards for new motor vehicles beginning with the current model year.

In 2009, President Obama announced a national policy aimed at both increasing fuel economy and reducing GHG pollution for all new cars and trucks sold in the US. The new standards would cover model years 2012 to 2016 and would raise passenger vehicle fuel economy to a fleet average of 35.5 miles per gallon by 2016. When the national program takes effect, California has committed to allowing automakers who show compliance with the national program to also be deemed in compliance with state requirements. California is committed to further strengthening these standards beginning in 2017 to obtain a 45 percent GHG reduction from the 2020 model year vehicles.

Executive Order No. S-3-05

Executive Order S-3-05 proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total GHG emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, to the 1990 level by 2020, and 80 percent below the 1990 level by 2050.

The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and state legislature describing (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the secretary of CalEPA created a Climate Action Team made up of members from various state agencies and commissions. The Climate Action Team released its first report in March 2006 and continues to release periodic progress reports. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government, and community actions, as well as through state incentive and regulatory programs.

Executive Order B-30-15

In 2015, Governor Brown signed Executive Order B-30-15, which establishes a California GHG-reduction target of 40 percent below 1990 levels by 2030.

Executive Order B-55-18

In 2018, Governor Brown signed Executive Order B-55-18, which set a target of statewide carbon neutrality by 2045.

Executive Order No. N-19-19

Executive Order N-19-19 calls for actions from multiple State agencies to reduce GHG emissions and mitigate the impacts of climate change. This includes a direct acknowledgment of the role the transportation sector must play in tackling climate change.

This executive order empowers the California State Transportation Agency (CalSTA) to leverage more than $5 billion in discretionary State transportation funds to reduce GHG emissions in the transportation sector and adapt to climate change. Accordingly, CalSTA will work to align transportation spending with the State's Climate Change Scoping Plan where feasible; direct investments to strategically support smart growth to increase infill housing production; reduce congestion through strategies that encourage a reduction in driving, and invest further in walking, biking, and transit; and ensure that overall transportation costs for low-income Californians do not increase as a result of these policies.

Executive Order N-79-20

Executive Order N-79-20 calls to accelerate the transition away from fossil fuels by requiring all new cars sold in California to be zero-emission by 2035, all new commercial trucks sold in the state to be zero-emission by 2045 for all operations where feasible, and all new off-road vehicles and equipment sold to be zero-emission by 2035 where feasible. EO N-79-20 reaffirms the state's commitment to implementing EO N-19-19.

Executive Order N-79-20 reiterates the message of EO N-19-19 by highlighting three strategies to expand clean transportation options from the Climate Action Plan for Transportation Infrastructure, while also emphasizing the importance of CAPTI and the urgency of climate change. Executive Order N-79-20 furthers the State's climate goals by explicitly pointing to the critical role of transit, passenger rail, active transportation, Complete Streets, and micro-mobility as tools to expand mobility options, encourage mode shift, and reduce overall VMT.

Assembly Bill 32 - California Global Warming Solutions Act of 2006

AB 32 (HSC Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599) requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, NF_3, and SF_6. The reduction to 1990 levels will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Climate Change Scoping Plan

CARB's Climate Change Scoping Plan is the State's plan to achieve GHG reductions in California as initially required by AB 32. This Scoping Plan contains the main strategies to be implemented in order to achieve the State's target GHG-reduction goals. The initial Scoping Plan was first approved by CARB on December 11, 2008 and is updated every five years. The first update of the Scoping Plan was approved by the ARB on May 22, 2014, which looked past 2020 to set mid-term goals (2030-2035) on the road to reaching the 2050 goals. The most recent update released by ARB is the *2017 Climate Change Scoping Plan*, which was released in November 2017. The *2017 Climate Change Scoping Plan* incorporates strategies for achieving the 2030 GHG-reduction target established in SB 32 and Executive Order B-30-15, while substantially advancing toward the State's goal of achieving an 80 percent reduction below 1990 levels by year 2050. Most notably, the *2017 Climate Change Scoping Plan* encourages zero net increases in GHG emissions. However, the *2017 Climate Change Scoping Plan* recognizes that achieving carbon neutrality increases in GHG emissions may not be feasible or appropriate for all projects and that the inability of a project to mitigate its GHG emissions to zero would not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA. Under the *2017 Climate Change Scoping Plan*, the ARB recommends local plan-level emissions efficiency targets of 6.0 $MTCO_2e$ per capita by 2030 and no more than 2.0 $MTCO_2e$ per capita by 2050. The Scoping Plan states that land use planning and urban growth decisions will play important roles in the state's GHG reductions because local

governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors.

It is important to note that the Scoping Plan is currently being updated. In addition to the State's year 2030 and 2050 GHG-reduction goals, the updated *Draft 2022 Climate Change Scoping Plan* will also address the State's GHG-reduction target of achieving carbon neutrality by 2045, per Executive Order B-55-18. This *Draft 2022 Climate Change Scoping Plan* is the most comprehensive and far-reaching Scoping Plan developed to date. It identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045 while also assessing the progress California is making toward meeting the State's year 2030 GHG-reduction goals. The 2030 target is an important but interim step toward achieving the State's future year 2050 GHG-reduction goals. The *Draft 2022 Climate Change Scoping Plan* is anticipated to be adopted by the end of 2022.

Senate Bill 1078 and Governor's Order S-14-08 (California Renewables Portfolio Standards)

Senate Bill 1078 (Public Utilities Code Sections 387, 390.1, 399.25, and Article 16) addresses electricity supply and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide a minimum of 20 percent of their supply from renewable sources by 2017. This Senate Bill will affect statewide GHG emissions associated with electricity generation. In 2008, Governor Schwarzenegger signed Executive Order S-14-08, which set the Renewables Portfolio Standard target to 33 percent by 2020. It directed state government agencies and retail sellers of electricity to take all appropriate actions to implement this target. Executive Order S-14-08 was later superseded by Executive Order S-21-09 on September 15, 2009. Executive Order S-21-09 directed CARB to adopt regulations requiring 33 percent of electricity sold in the State to come from renewable energy by 2020. Statute SB X1-2 superseded this Executive Order in 2011, which obligated all California electricity providers, including investor-owned utilities and publicly owned utilities, to obtain at least 33 percent of their energy from renewable electrical generation facilities by 2020. The State's Clean Energy Standards, adopted in 2018, require the state's utilities to generate 100 percent clean electricity by 2045 and to increase the State's RPS requirements to 60 percent by 2030.

CARB is required by current law, AB 32 of 2006, to regulate sources of GHGs to meet a State goal of reducing GHG emissions to 1990 levels by 2020 and an 80 percent reduction of 1990 levels by 2050. The CEC and CPUC serve in advisory roles to help CARB develop the regulations to administer the 33 percent by 2020 requirement. CARB is also authorized to increase the target and accelerate and expand the time frame.

Mandatory Reporting of GHG Emissions

The California Global Warming Solutions Act (AB 32, 2006) requires the reporting of GHGs by major sources to the CARB. Major sources required to report GHG emissions include industrial facilities, suppliers of transportation fuels, natural gas, natural gas liquids, liquefied petroleum gas, and carbon dioxide, operators of petroleum and natural gas systems, and electricity retail providers and marketers.

Cap-and-Trade Regulation

The cap-and-trade regulation is a key element in California's climate plan. It sets a statewide limit on sources responsible for 85 percent of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013 and apply to large electric power plants and large industrial plants. In 2015, fuel distributors, including distributors of heating and transportation fuels, also became subject to the cap-and-trade rules. At that stage, the program will encompass around 360 businesses throughout California and nearly 85 percent of the state's total GHG emissions.

Under the cap-and-trade regulation, companies must hold enough emission allowances to cover their emissions and are free to buy and sell allowances on the open market. California held its first auction of GHG allowances on November 14, 2012. California's GHG cap-and-trade system is projected to reduce GHG emissions to 1990 levels by the year 2020 and would achieve an approximate 80 percent reduction from 1990 levels by 2050.

Senate Bill 32

SB 32 was signed by Governor Brown on September 8, 2016. SB 32 effectively extends California's GHG emission-reduction goals from year 2020 to year 2030. This new emission-reduction target of 40 percent below 1990 levels by 2030 is intended to promote further GHG reductions in support of the State's ultimate goal of reducing GHG emissions by 80 percent below 1990 levels by 2050. SB 32 also directed the ARB to update the Climate Change Scoping Plan to address this interim 2030 emission-reduction target, which has since been incorporated into the *2017 Climate Change Scoping Plan*.

Senate Bill 97

SB 97 was enacted in 2007 and required the Office of Planning and Research to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of GHG emissions. Those CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects and must conclude the significance of those emissions.
- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions.
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change.
- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria.
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives.

As part of the administrative rulemaking process, the California Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010.

Senate Bill 100

SB 100 was signed by Governor Brown on September 10, 2018. SB 100 sets a goal of phasing out all fossil fuels from the State's electricity sector by 2045. SB 100 increases to 60 percent, from 50 percent, how much of California's electricity portfolio must come from renewables by 2030. It establishes a further goal to have an electric grid that is entirely powered by clean energy by 2045, which could include other carbon-free sources, like nuclear power, that are not renewable.

Senate Bill 375

SB 375 requires MPOs to adopt an SCS or APS that will address land-use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, establishes regional reduction targets for GHGs emitted by passenger cars and light trucks for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, funding for transportation projects may be withheld. In 2018, CARB adopted updated SB 375 targets.

California Building Code

The CBC contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvements to real property. The CBC is adopted every three years by the Building Standards Commission (BSC). In the interim, the BSC also adopts annual updates to make necessary mid-term corrections. The CBC standards apply statewide; however, a local jurisdiction may amend a CBC standard if it makes a finding that the amendment is reasonably necessary due to local climatic, geological, or topographical conditions.

Green Building Standards

In essence, green building standards are indistinguishable from any other building standards. Both standards are contained in the CBC and regulate the construction of new buildings and improvements. The only practical distinction between the two is that whereas the focus of traditional building standards has been protecting public health and safety, the focus of green building standards is to improve environmental performance.

AB 32, which mandated the reduction of GHG emissions in California to 1990 levels by 2020, increased the urgency around the adoption of green building standards. In its scoping plan for the implementation of AB 32, CARB identified energy use as the second largest contributor to California's GHG emissions, constituting roughly 25 percent of all such emissions. In recommending a green building strategy as one element of the scoping plan, CARB estimated that green building standards would reduce GHG emissions by approximately 26 MMT of CO_2e by 2020.

The 2019 Building Energy Efficiency Standards focused on four key areas: smart residential photovoltaic systems, updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa), residential and nonresidential ventilation requirements, and nonresidential lighting requirements. The ventilation measures improve indoor air quality, protecting homeowners from air pollution originating from outdoor and indoor sources. Under the newly adopted standards, nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades. The recently updated 2019 Building Energy Efficiency Standards also require new homes three stories or less that are built after January 1, 2020, to be equipped with solar photovoltaic (PV) systems. The solar PV systems are to be sized based on the building's annual electricity demand, the building square footage, and the climate zone within which the home is located. However, under the 2019 Building Energy Efficiency Standards, homes may still rely on other energy sources, such as natural gas. Compliance with the 2019 Building Energy Efficiency Standards, including the solar PV system mandate, residential dwellings will use approximately 50 to 53 percent less energy than those under the 2016 standards. Actual reduction will vary depending on various factors (e.g., building orientation, and sun exposure). Non-residential buildings will use about 30 percent less energy due mainly to lighting upgrades.[84]

The recently updated 2022 Building Energy Efficiency Standards (2022 Standards), which were approved in December 2021, encourage efficient electric heat pumps, establish electric-ready requirements when natural gas is installed, support the future installation of battery storage, and further expand solar photovoltaic and battery storage standards. The 2022 Standards extend solar PV system requirements, as well as battery storage capabilities for select land uses, including high-rise multi-family and non-residential land uses, such as office buildings, schools, restaurants, warehouses, theaters, grocery stores, and more. Depending on the land use and other factors, solar systems should be sized to meet targets of up to 60

[84] (California Energy Commission 2018)

percent of the structure's loads. These new solar requirements will become effective on January 1, 2023 and contribute to California's goal of reaching a carbon neutrality footprint by 2045.[85]

Short-Lived Climate Pollutant Reduction Strategy

In March 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy (SLCP Strategy) establishing a path to decrease GHG emissions and displace fossil-based natural gas use. Strategies include avoiding landfill methane emissions by reducing the disposal of organics through edible food recovery, composting, in-vessel digestion, and other processes; recovering methane from wastewater treatment facilities, and manure methane at dairies, and using the methane as a renewable source of natural gas to fuel vehicles or generate electricity. The SLCP Strategy also identifies steps to reduce natural gas leaks from oil and gas wells, pipelines, valves, and pumps to improve safety, avoid energy losses, and reduce methane emissions associated with natural gas use. Lastly, the SLCP Strategy also identifies measures that can reduce HFC emissions at national and international levels, in addition to State-level action that includes an incentive program to encourage the use of low-GWP refrigerants, and limitations on the use of high-GWP refrigerants in new refrigeration and air-conditioning equipment.[86]

Advanced Clean Cars II

In August 2022, CARB approved the Advanced Clean Cars II program. The rule establishes a year-by-year roadmap so that by 2035 100% of new cars and light trucks sold in California will be zero-emission vehicles, including plug-in hybrid electric vehicles. Beginning in model year 2026 automakers sales of new vehicles will be required to be made up of 35% zero emission and plug-in hybrid electric vehicles. The regulation applies to automakers and covers only new vehicle sales. It does not impact existing vehicles on the road today, which will still be legal to own and drive.

Small Off-Road Engines

In December 2021, CARB approved the Small Off-Road Engines regulation. This will require most newly manufactured small off-road engines such as those found in leaf blowers, lawn mowers and other equipment be zero emission starting in 2024. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028. Despite their small size, these engines are highly polluting. The volume of smog-forming emissions from this type of equipment has surpassed emissions from light-duty passenger cars and is projected to be nearly twice those of passenger cars by 2031. Older equipment can continue to be used and resold as this rule only impacts new equipment.

Local

SJVAPCD Climate Change Action Plan (2008)

On August 21, 2008, the SJVAPCD Governing Board approved the SJVAPCD's *Climate Change Action Plan* with the following goals and actions:

Goals:

- Assist local land-use agencies with CEQA issues relative to projects with GHG emissions increases.
- Assist Valley businesses in complying with mandates of AB 32.
- Ensure that climate protection measures do not cause an increase in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

[85] (California Energy Commission 2022)
[86] (CARB 2020)

Actions:

- Authorize the Air Pollution Control Officer to develop GHG significance threshold(s) or other mechanisms to address CEQA projects with GHG emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.

- Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for the establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary GHG reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.

- Authorize the Air Pollution Control Officer to enhance the SJVAPCD's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB32 emission reporting requirements to submit simultaneous streamlined reports to the SJVAPCD and the state of California with minimal duplication.

- Authorize the Air Pollution Control Officer to develop and administer voluntary GHG emission reduction agreements to mitigate proposed GHG increases from new projects.

- Direct the Air Pollution Control Officer to support climate protection measures that reduce GHG emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

SJVAPCD CEQA Greenhouse Gas Guidance (2009).

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.

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 on 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 initial Climate Change 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 Best Performance Standards.

For stationary source permitting projects, best performance standards are "the most stringent of the identified alternatives for control of GHG emissions, including the 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 greenhouse gas emission reduction measures, including project design elements and land use decisions that reduce project specific greenhouse gas emission reductions by at least 29 percent compared with business as usual." The SJVAPCD proposes to create a list of all approved BPS to help in the determination of whether a proposed project has reduced its GHG emissions by 29 percent.

It is important to note that the SJVAPCD's Climate Change Action Plan and CEQA GHG Guidance were based on the State's year 2020 GHG-reduction targets, per AB 32. The SJVAPCD has not released an updated plan or updated CEQA guidance addressing the State's currently identified future year GHG-reduction targets, such as the State's year 2030 GHG-reduction target, as outlined in SB 32.

4.9.3 Methodology and Thresholds of Significance

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to greenhouse gas emissions. The Fowler 2040 GP would have a significant impact if it would:

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

The State CEQA Guidelines do not provide numeric or qualitative thresholds of significance for evaluating GHG emissions associated with proposed development projects. Instead, CEQA leaves the determination of the significance of GHG emissions up to the lead agency and authorizes the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts.

As of August 2022, the SJVAPCD has not adopted a recommended GHG significance threshold based on achieving future year (e.g., SB 32) GHG-reduction targets. However, as previously discussed, the State's 2017 Climate Change Scoping Plan recommends application of local plan-level GHG emissions efficiency targets of 6.0 $MTCO_2e$ per capita by 2030 and no more than 2.0 $MTCO_2e$ per capita by 2050. Based on a linear interpolation of these two GHG reduction goals, the efficiency significance threshold for the proposed Fowler 2040 GP would be 3.6 $MTCO_2e$ per capita.[87]

Accordingly, the proposed GP would be considered to have a potentially significant impact if annual net increases of GHG emissions would exceed the threshold of 3.6 $MTCO_2e$ /Capita. The City of Fowler has not adopted an applicable plan, policy, or regulation for the purpose of reducing the emissions of GHGs. Therefore, the significance of the project's consistency with an applicable plan was evaluated in comparison to the GHG-reduction strategies contained in the 2022 FCOG RTP/SCS; as well as the State's 2017 Climate Change Scoping Plan.

Methodology

Short-term GHG emissions associated with construction activities are largely dependent on the type of development proposed, off-road equipment and on-road vehicles required, and construction schedules. Because much of this information for specific future development projects is unknown at this time, construction-related impacts were qualitatively discussed.

[87] (California Air Resources Board 2017)

Long-term operational increases in GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod) for land uses while vehicle emissions were calculated using CARB's Emission Factor 2021 (EMFAC2021) v1.0.2. Modeling was conducted for the proposed GP based on projected increases in land use types and trip-generation rates identified in the traffic analysis prepared for this project, including the assumption that full buildout of the Fowler 2040 GP would occur by 2042 to align with the Fresno COG transportation model horizon. Emissions modeling files are provided in Appendix C.

4.9.4 Impacts

Threshold 1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact. Annual operational emissions associated with existing (year 2019) conditions and future year (2042) GP buildout conditions are summarized in Table 4-23. As noted, estimated GHG emissions total approximately 56,862 $MTCO_2e$/year for existing conditions and would increase to approximately 166,275 $MTCO_2e$/year under buildout conditions. Estimated increases in GHG emissions would be largely associated with increases in motor vehicle use and energy consumption. To a somewhat lesser extent, waste generation, water use, and area sources would also contribute to overall increases in projected future community wide GHG emissions.

Table 4-23: Annual Operational GHG Emissions at Buildout

Source	2019 Emissions ($MTCO_2e$)	2042 Emissions ($MTCO_2e$)
Area[1,2]	1,445	7,045
Energy Use[1]	19,522	50,203
Mobile[3]	50,847	73,818
Waste[1]	5,933	23,14
Water[1]	3,415	9,478
Total:	**81,162**	**263,687**
Population:	6,808	48,404
$MTCO_2e$/Capita:	11.9	5.4
Significance Threshold ($MTCO_2e$/Capita):	NA	3.6

1. *Emissions were quantified using the CalEEMod computer program based on projected future development associated with implementation of the 2040 General Plan.*
2. *Emissions exclude wood burning hearths but allow for natural gas hearths as per rule 4901.*
3. *Trip-generation rates derived from the traffic analysis prepared for this project and emissions were calculated using EMFAC data.*
4. *Totals may not sum due to rounding. Refer to Appendix A for emissions modeling assumptions and results.*

As noted in Table 4-23, GHG emissions per capita are projected to decrease substantially in future year, from approximately 11.9 $MTCO_2e$/capita in 2019 to 5.4 $MTCO_2e$/capita in 2042. However, per capita GHG emissions in year 2042 with GP buildout, would still be projected to exceed the significance threshold of 3.6 $MTCO_2e$/capita. It is important to note that estimated year 2042 GHG emissions are conservative and do not fully account for future GHG reductions associated with existing and future building standards and regulations, such as the Advanced Clean Car II rule and the recently adopted Small Off-Road Engine regulation. Nonetheless, predicted future year GHG emissions would still be anticipated to exceed the GHG significance threshold. It is important to reiterate that the GHG threshold of 3.6 $MTCO_2e$/capita is based on the thresholds identified in the currently adopted *2017 Climate Change Scoping Plan*, which does not address the States GHG-reduction target of achieving carbon neutrality by 2045. To achieve carbon neutrality by 2045, it is recommended that future development not include natural gas service and that alternatives, such as use of electrically-powered equipment be used. As previously discussed, it is recommended that future development prohibit the installation of natural gas infrastructure/use of natural-gas fired appliances, to the maximum extent possible, and incorporate electric-vehicle charging stations beyond what is required by current building standards in order to contribute its "fair share" of what would be required to achieve the State's future year 2045 carbon neutrality goal. Implementation

of the Fowler 2040 GP does not identify policies that would prohibit the installation of natural gas appliances for future development nor promote the installation of electric vehicle charging stations beyond that required under current regulatory requirements. For these reasons and given that future GHG emissions associated with implementation of the Fowler 2040 GP would exceed the GHG threshold of 3.6 $MTCO_2e$/capita, this impact would be considered **potentially significant**.

These goals and policies outlined below would promote the implementation of the Transportation Control Measures and would help to reduce project-generated emissions. In addition to Air Quality Mitigation Measures AQ-1 and AQ-2, Mitigation Measures GHG-1 and GHG-2 shall be implemented to reduce project-generated emissions of GHGs.

Policy LU-1	Development shall occur in accordance with the planned land uses as shown on *Figure 4-1: Land Use Diagram*.
Policy LU-2	Density and intensity standards for each land use designation are shown in *Table 4-1: Land Use Designations and Consistency Matrix*. Consistent zoning districts determined to be compatible with the identified land use designation are also included in *Table 4-1* . Other zoning districts may be determined to be consistent with a land use designation based on compatibility with the intent of the designation and its specified density or intensity range. Such density or intensity range shall be calculated based on gross acres.
Policy LU-3	For a plan amendment and/or rezoning request, the City may require submittal of supplemental information to determine the need for the plan amendment or rezoning.
Policy LU-13	Planned unit developments may include any combination of single family and multifamily dwellings. Planned unit developments larger than 10 acres in size may also include related office and commercial uses.
Policy LU-18	Residential uses shall be permitted in the Community Commercial designation in support of mixed-use development.
Policy LU-19	Support neighborhood-serving commercial uses located near residential development with strong connectivity through walkable infrastructure.
Policy LU-21	Encourage large, employment-generating developments to provide services such as cafeterias, childcare, and business support services that reduce the need for vehicle trips.
Policy CDES-16	Locate parking areas within commercial projects in a manner that promotes pedestrian activity.
Policy CDES-18	New commercial projects are designed in such a way that they enhance Fowler's character.
Policy CDES-31	Electric vehicle charging facilities shall be permitted in accordance with the most recent state regulations.
Policy CH-1	Implement an active transportation network that links residential uses with schools, shopping, entertainment, recreation, and employment centers.
Policy CH-2	Promote walking and bicycling and reduce vehicle miles traveled by allowing complementary land uses in close proximity to one another.
Policy CH-3	Consider pedestrian and bicyclist safety and comfort in the design and development of streets, parks, and public spaces.
Policy CH-4	Require street trees or other shade coverage along key pedestrian and bicycle routes and near transit stops.
Policy CH-6	Evaluate land use decisions for consistency with siting recommendations as outlined in California Air Resources Board's (CARB's) Land Use Compatibility Handbook.

Policy MOB-1	Design and construct a multimodal circulation system. as shown on *Table 4-44: Existing* **Vehicle Miles Traveled per Capita** **Table 4-45: Existing Vehicle Miles Traveled per Employee** .
Policy MOB-2	Streets are designated and planned according to the functional classifications. listed in Table 9-2.
Policy MOB-3	The right of way for arterials and collectors may be reduced to avoid disrupting existing development if the travel way generally meets the street classification design requirements listed in Table 9-2.
Policy MOB-4	Support the creation of a transportation network that provides for efficient movement of people and goods while accounting for environmental effects.
Policy MOB-5	Encourage a Level of Service (LOS) "C" throughout the local circulation network. LOS “D” may be allowed during peak hours at intersections of major streets, at SR 99 interchanges, and along street segments where additional improvements are not feasible. LOS “D” may also be allowed along streets with the potential for a high level of pedestrian and bicyclist activity. LOS “E” may be permitted during peak hour use of certain road intersections and segments where pedestrian and bicycle activity is prioritized.
Policy MOB-9	New development may be required to provide off-site pedestrian and/or bicycle facilities to address gaps in the active transportation network.
Policy MOB-10	Develop a multi-purpose recreational bikeway network and support facilities.
Policy MOB-11	Ensure street and road projects are adequately designed to accommodate safe and convenient pedestrian and bicyclist access.
Policy MOB-12	Require traffic calming techniques in the design of new local streets where such techniques will manage traffic flow and improve safety for pedestrian and bicyclist users.
Policy MOB-13	Coordinate with Caltrans, Fresno COG, FCRTA, and other responsible agencies to identify the need for additional mobility infrastructure and/or services along major commuter travel corridors.
Policy MOB-14	Identify opportunities for a multi-modal transit hub within the City.
Policy MOB-15	Support the development of paratransit service programs.
Policy MOB-16	Support transit operator efforts to maximize return for short- and long-range transit needs.
Policy MOB-17	Incorporate the potential for public transit service expansion throughout the City.
Policy MOB-18	Improve route options and access for public transit City-wide, specifically west of SR 99.
Policy OS-10	The City shall implement the community trail network as shown in *Figure 8-2: Trail Facilities*.
Policy OS-11	Neighborhood trails should be planned as part of a connected, City-wide open space network which connects neighborhoods, parks, community trails, and other destinations including the downtown and shopping districts.
Policy OS-12	Placement of neighborhood trails should be constructed along the most direct alignment possible to close network gaps in the trail system. Neighborhood trails may be required to be constructed as part a new development in order to accommodate that connection.

For land use plans, the analysis of GHG emissions is typically conducted based on per capita emission rates. For Fowler, the estimated existing year 2019 population was 6,808. Under Fowler 2040 GP buildout conditions, the population would increase approximately 41,596, to a total of approximately 48,404 individuals [88] Based on these population estimates and the estimated community-wide GHG emissions noted in Table 4-23, estimated emissions would total approximately 11.9 $MTCO_2e$/Capita under existing conditions and approximately 5.4 $MTCO_2e$/Capita under future proposed GP buildout conditions. Estimated GHG emissions would exceed the GHG significance threshold of 3.6 $MTCO_2e$/Capita for year 2042. While implementation of the Fowler 2040 GP policies and proposed mitigation measures would reduce GHG emissions, it may not be possible to reduce the GHG emissions from build out to below the recommended threshold given uncertainties in the timing and effectiveness of these measures. Therefore, this impact would be considered **significant and unavoidable**.

Threshold 2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact. The City of Fowler has not adopted an applicable plan, policy, or regulation for the purpose of reducing the emissions of GHGs. Therefore, the significance of the project's consistency with an applicable plan was evaluated in comparison to the GHG-reduction strategies contained in the 2022 FCOG Regional Transportation Plan (RTP)/SCS; as well as State's 2017 Climate Change Scoping Plan.

The *2017 Climate Change Scoping Plan* was released in November 2017. The *2017 Climate Change Scoping Plan* includes measures to reduce GHG emissions associated with transportation, electricity consumption, natural gas usage, water conservation, green buildings, and recycling and waste management. The *2017 Climate Change Scoping Plan* incorporates strategies for achieving the 2030 GHG-reduction target established in SB 32 and Executive Order B-30-15, while substantially advancing toward the State's goal of achieving an 80 percent reduction below 1990 levels by year 2050. As mentioned earlier, the *2017 Climate Change Scoping Plan*, recommends local plan-level targets of no more than 6.0 MTCO2e per capita by 2030 and no more than 2.0 MT $MTCO_2e$ per capita by 2050. Based on a linear interpolation of these two GHG reduction goals, the proposed target for the Fowler 2040 GP would be no more than 3.6 $MTCO_2e$ per capita by 2042. As shown in Table 4-23, the City is projected to emit 5.4 $MTCO_2e$/Capita in future year 2042 GP buildout conditions, which is above the threshold of 3.6 $MTCO_2e$/Capita. As a result, projected GHG emissions associated with implementation of the Fowler 2040 GP would not be consistent with the recommended plan-level GHG-reduction targets specified in the State's *2017 Climate Change Scoping Plan*. Therefore, development facilitated by the proposed Fowler 2040 GP would conflict with the currently adopted *2017 Climate Change Scoping Plan*.

It is important to note that the State's Climate Change Scoping Plan is currently being updated. In addition to the State's year 2030 and 2050 GHG-reduction goals addressed in the currently adopted *2017 Climate Change Scoping Plan*, the updated *Draft 2022 Climate Change Scoping Plan* will also address the State's GHG-reduction target of achieving carbon neutrality by 2045, per Executive Order B-55-18. This *Draft 2022 Climate Change Scoping Plan* is the most comprehensive and far-reaching Scoping Plan developed to date. It identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045 while also assessing the progress California is making toward meeting the State's year 2030 GHG-reduction goals. The 2030 target is an important but interim step toward achieving the State's future year 2050 GHG-reduction goals. The *Draft 2022 Climate Change Scoping Plan* is anticipated to be adopted by the end of this year. As noted in Impact GHG-1, it is recommended that future development prohibit the installation of natural gas infrastructure/use of natural-gas fired appliances, to the maximum

[88] (Kittelson & Associates 2022)

extent possible, and incorporate electric-vehicle charging stations beyond what is required by current building standards in order to contribute its "fair share" of what would be required to achieve the State's future year 2045 carbon neutrality goal. This impact would be considered **potentially significant**.

In 2022, FCOG adopted the *2022 RTP/SCS*. The SCS component provides goals and policies needed for the FCOG region to meet the GHG-reduction targets set by the ARB.

The Fowler 2040 GP's consistency with the goals and policies contained in the FCOG RTP/SCS needed to meet the GHG-reduction strategies set forth by the ARB is summarized in Table 4-23. Proposed GP policies that correspond to the sustainability strategies identified in the SCS are also identified. As shown, the proposed GP would be consistent with the FCOG's 2022 RTP/SCS. In addition, based on the traffic analysis prepared for the project, the Fowler 2040 GP would decrease the VMT per capita by 39% and the VMT per employee 53% in comparison to existing conditions. Both metrics, VMT per capita and VMT per employee were found to result in an impact that was less than significant. For these reasons, the Fowler 2040 GP would not conflict FCOG's 2022 RTP/SCS.

The Mitigation Measures AQ-1, AQ-2, GHG-1, and GHG-2 would help to reduce the GHG emissions of the Fowler 2040 GP. The future development facilitated by the Fowler 2040 GP would not conflict with the FCOG's 2022 RTP/SCS. Implementation of Mitigation Measure GHG-1 would require the City to develop a Climate Action Plan to incorporate measures to reduce GHG emissions associated with future development. Mitigation Measure GHG-2 would require implementation of additional measures for land use development projects in order to contribute its "fair share" of what would be required to achieve the State's future year 2045 carbon neutrality goal. However, while policies contained in the Fowler 2040 GP, proposed Mitigation Measures, and implementation of future regulatory requirements would reduce the GHG emissions at buildout, the extent of GHG reductions attributable to these measures cannot be accurately quantified at this time and projected future year GHG emissions could potentially exceed applicable thresholds given uncertainties in the timing and effectiveness of these measures. Therefore, this impact would be considered **significant and unavoidable**.

4.9.5 Mitigation Measures

MM GHG-1: The City shall develop a Climate Action Plan to identify ways to reduce GHG emissions and limit climate change impacts on the residents of the city of Fowler. The Climate Action Plan shall integrate the state's future GHG-reduction goals, including the State's goal of attaining carbon neutrality by 2045.

MM GHG-2: Until the City adopts a qualified Climate Action Plan consistent with Mitigation Measure GHG-1 the following measures shall be applied to new land use development projects:

- Land use development projects shall be constructed with electrically-powered appliances and building mechanical equipment in place of natural-gas fueled equipment.
- Land use development projects shall, to the maximum extent possible, exceed the California Green Building Standard Code Tier 2 requirements for electric vehicle charging infrastructure.

4.9.6 Cumulative Impacts

The full buildout and development under the Fowler 2040 GP would result in the construction and operation of new development, which would result in increased greenhouse gas emissions. As individual development projects are proposed, each project would be required to be analyzed against thresholds of significance. However, as individual projects would be required to comply with federal, State, and regional regulations, impacts would be less than significant.

4.10 Hazards and Hazardous Materials

This section evaluates impacts from hazards and hazardous materials in the context of implementation of the Fowler 2040 GP, including potential impacts from hazardous material spills and releases, the location of hazardous materials in relation to schools, locations of previous hazardous material spill sites, location of airports in relation to the Project, potential impact to emergency response plans, and the potential of wildland fire within the planning area.

4.10.1 Environmental Baseline

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 CCR Title 22 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 (CCR Title 22, Section 66261.10).

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosiveness, and reactivity. CCR Title 22, Sections 66261.20 through 66261.24 define the aforementioned properties. The release of hazardous materials into the environment can contaminate soils, surface water, and groundwater supplies.

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 and certain commercial land uses, such as dry cleaners and auto service stations, are more likely to use and store large quantities of hazardous materials than residential land uses. Small quantities of hazardous materials are also routinely used and stored in other commercial and retail businesses, educational facilities, medical facilities, and households. Commercial, industrial and warehouse land uses in the city are concentrated along SR 99 and Golden State Boulevard.

Land use patterns are also useful for identifying the location of sensitive receptors, such as schools, day-care facilities, hospitals, and nursing homes. Figure 3-1 in Section 3.3.1 shows the pattern of existing land uses in Fowler.

Existing Hazardous Material Contamination

Department of Toxic Substances Control

EnviroStor is the Department of Toxic Substances Control (DTSC) database of hazardous waste materials sites. According to an EnviroStor search performed on August 11, 2022, there was one active hazardous material spill site located in the planning area at the time.[89] The Fowler Unified School District proposed to expand its Marshall Elementary School site onto a location that was previously used for agricultural operations and had experienced the use of pesticides and fertilizer. The site was reviewed prior to construction for arsenic and organochlorine pesticides. On April 5, 2019, it was determined that no further action was required, and construction of the school ensued. In addition, a Pacific Gas and Electric Company (PG&E) Manufactured Gas Plant is identified as needing evaluation; however, the cleanup status of the case has been inactive since 1995.

[89] (California Department of Toxic Substances Control 2022)

State Water Resources Control Board

GeoTracker is the SWRCB data management system for sites that impact, or have potential to impact, water quality in California, with emphasis on groundwater. GeoTracker contains records for sites that require cleanup, such as Leaking Underground Storage Tanks Sites, Cleanup Program Sites, and Department of Defense Sites. GeoTracker also contains records for various unregulated projects, as well as permitted facilities including operating Permitted Underground Storage Tanks (UST), Irrigated Lands, Oil and Gas production, and Land Disposal Sites (landfills). According to a GeoTracker search performed on August 11, 2022, there was one active hazardous material spill site located within the planning area. The spill site is located at the Fowler Butane Services location near the intersection of Sumner Avenue and Fowler Avenue. Diesel is the potential contaminant of concern and, as of January 18, 2018, the site is awaiting a soil investigation.[90] The Central Valley RWQCB is the lead agency on the site cleanup. The GeoTracker database did not identify any other active hazardous waste spill sites within the City or its proposed expansion area. In addition, the Fowler City Landfill site, located southeast of the intersection of SR 99 and Adams Avenue, is identified as a permitted hazardous material site. The site's status has been "Open" since 1965 and does not include any specified contaminants of concern.

Table 4-24: Contaminated Sites in Fowler

ID	Site Name	Address	Case Type	Cleanup Status
Cases Identified by the DTSC				
60002638	Marshall Elementary School	142 North Armstrong	School Investigation	Active
10490099	PG&E Manufactured Gas Plant SQ-FK-FOW	West Fresno Street near South Eighth Street	Evaluation	Inactive: Needs Evaluation
Cases Identified by the SWRCB				
T10000011242	Wright Oil	114 North Sumner Avenue	Cleanup Program Site	Open: Site Assessment
L10004199996	Fowler City Landfill	Highway 99 and West Adams Avenue	Land Disposal Site	Open

Airports and Airport Hazards

Selma Airport

Airport-related hazards can occur if departing or landing aircraft pose a safety risk to nearby development, or vice versa. There are no airports within the planning area. The Selma Airport is the closest airport and is located approximately one mile to the south. The southern portion of Fowler's planning area is located within the Traffic Pattern Zone (TPZ) of the Selma Airport.[91] The aircraft accident risk level is considered to be low within the TPZ (see Table 4-25). Land use limitations in the TPZ include a density limit of 300 persons per acre, an open space requirement of 10 percent, and prohibitions on hazards to flight and high intensity uses such as stadiums. The Fresno County Airport Land Use Committee (ALUC) administers the Airport Land Use Compatibility Plans (ALUCP) for all airports within the County, including for the Selma Airport.

Hazardous Materials Transport

Transportation of hazardous materials and waste is regulated by CCR Title 22. Caltrans is the primary regulatory authority for the interstate transport of hazardous materials and establishes safe handling procedures for packaging, marking, labeling, routing, etc. The California Highway Patrol and Caltrans enforce federal and State regulations and respond to hazardous materials transportation emergencies that occur on SR 99. Emergency responses are coordinated as necessary between federal, State, and local

[90] (California State Water Resources Control Board 2022)
[91] (Fresno Council of Governments 2018)

governmental authorities and private entities through a State-mandated Emergency Management Plan. The emergency response for hazardous materials transportation emergencies on locally serving roads would be handled by local police and firefighters.

Major transportation routes include SR 99, Golden State Boulevard, Temperance Avenue, American Avenue, Fowler Avenue, Clovis Avenue, and Manning Avenue. The Fowler 2040 GP classifies SR 99 as a Freeway, Golden State Boulevard as an Expressway, and all other roadways mentioned as Arterial streets. Trucks and other vehicles transporting hazardous materials would primarily use these routes. Accidents on any route where hazardous materials are spilled could result in explosions, physical contact with spilled chemicals, degradation of the environment, and the exposure of the public to airborne chemicals.

Agricultural Hazards

The Central Valley is home to one of the largest agricultural economies in the world; there are numerous agricultural operations and facilities within and surrounding the planning area. Agricultural production could result in the accidental release of agricultural chemicals including pesticides and fertilizers, potentially exposing sensitive receptors to contact with or ingestion of these chemicals. Sensitive receptors are discussed in more detail below. Pesticide application permits are renewed on an annual basis by the County Agricultural Commissioner. The Commissioner's office compiles reports required of farmers and other users of agricultural pesticides that provide complete, site-specific documentation of the state of agriculture in the County.[92]

Sensitive Receptors

Sensitive receptors are groups that would be more affected by air, noise, and light pollution, pesticides, and other toxic chemicals than others. This includes infants, children under age 16, elderly over age 65, athletes, and people with cardiovascular and respiratory diseases. Locations with high concentrations of these groups would include daycares, residential areas, hospitals, elder care facilities, schools, and parks. The planning area currently includes numerous residential areas, two elementary schools, one middle school, one high school, one continuation school, medical clinics, and daycares, and a number of parks.

4.10.2 Regulatory Setting

Federal

Federal Toxic Substances Control Act

The TSCA provides the USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls, asbestos, radon and lead-based paint.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities. The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards,

[92] (Fresno County 2022)

including spill and overflow protection devices for new tanks. Tanks must also meet performance standards to ensure that stored material will not corrode their tanks.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability.

The Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide Fungicide Rodenticide Act (FIFRA) (7 USC 136 et seq.) provides federal control of pesticide distribution, sale, and use. The USEPA was given authority under FIFRA to study the consequences of pesticide usage, and to require users (farmers, utility companies, and others) to register when purchasing pesticides. Later amendments to the law required users to become certified as applicators of pesticides. All pesticides used in the United States must be registered (licensed) by the USEPA. Registration assures that pesticides will be properly labeled and, if used in accordance with specifications, that they will not cause unreasonable harm to the environment.

Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 was created to help communities plan for chemical emergencies. It also requires industry to report on the storage, use and releases of hazardous substances to federal, state, and local governments. EPCRA requires state and local governments, and Indian tribes to use this information to prepare for and protect their communities from potential risks.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act requires companies to declare potential toxic hazards to ensure that local communities can plan for chemical emergencies. The USEPA maintains a National Priority List (NPL) of uncontrolled or abandoned hazardous waste sites identified for priority remediation under the Superfund program. The USEPA also maintains the Comprehensive Environmental Response, Compensation, and Liability Information System database, which contains information on hazardous waste sites, potentially hazardous waste sites, and remedial activities across the nation.

Occupational Health and Safety Administration

The United States Department of Labor Occupational Health and Safety Administration (OSHA) is responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. Workers at hazardous waste sites must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations (29 CFR 1910.120).

Hazardous Waste Operations and Emergency Response

HAZWOPER requirements include federal regulations that involve procedures for clean-up operations required by a governmental body involving hazardous substances that are conducted at uncontrolled hazardous waste sites. This includes the USEPA NPL sites, State priority site lists, sites recommended for the USEPA NPL sites, and other initial investigations of government-identified sites, which are conducted before the presence or absence of hazardous substances has been ascertained. A person who is engaged in work with any potential for exposure to hazardous substances must comply with HAZWOPER regulations.

Lead-Based Paint Elimination Final Rule 24 Code of Federal Regulations

Regulations for lead-based paint are contained in the Lead-Based Paint Elimination Final Rule 24 CFR 33, governed by the United States Department of Housing and Urban Development, which requires sellers and lessors to disclose known lead-based paint and lead-based paint hazards to perspective purchasers and lessees. Additionally, all lead-based paint abatement activities must comply with state and federal OSHAs and with the State of California Department of Public Health requirements. Only personnel trained and certified in lead-based paint abatement are allowed to perform abatement activities. All lead-based paint removed from structures must be hauled and disposed of by a transportation company licensed to move this type of material to a landfill or receiving facility licensed to accept the waste.

State

Department of Toxic Substances Control

As a department of the CalEPA, the DTSC is the primary agency in California that regulates hazardous waste, assumes authority for clean-up of the most serious existing contamination sites, and looks for ways to reduce the hazardous waste produced in California. The DTSC operates primarily under the authority of the Resource Conservation and Recovery Act and the California Health and Safety Code.

The DTSC also administers the California Hazardous Waste Control Law to regulate hazardous wastes. While the Hazardous Waste Control Law is generally more stringent than the Resource Conservation and Recovery Act, both State and federal laws apply in California. The Hazardous Waste Control Law 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.

GC Section 65962.5 requires the DTSC, 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 soil is excavated from a site containing hazardous materials, it is considered a hazardous waste if it exceeds specific criteria in CCR Title 22. 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.

The Hazardous Waste and Substances Sites List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State as well as local agencies and developers to obtain information about the location of hazardous materials release sites. GC Section 65962.5 requires DTSC to update the list annually; DTSC is responsible for a portion of the information contained in the Cortese List, which is supplemented by other State and local government agencies.

The Hazardous Waste Control Act

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (HSC Section 25100, et seq.), which is implemented by regulations described in CCR Title 22. The State program is like the federal program under RCRA, but more stringent. This regulation lists materials that may be hazardous and establishes criteria for their identification, packaging, and disposal.

Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. As required by GC Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the state called the Cortese List.

Unified Program

The CalEPA as established a unified hazardous waste and hazardous materials management regulatory program (Unified Program), as required by SB 1082 (1993). The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental programs under the CalEPA, the SWRCB, and the RWQCBs in each region of the State, the State Office of Emergency Services, and the State Fire Marshal:

- Underground Storage Tank program;
- Hazardous materials release response plans and inventories;
- California Accidental Release Prevention Program;
- Above ground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans;
- California Uniform Fire Code hazardous material management plans and inventories.

Local agencies implement these five environmental programs at the local level and are known for this purpose as Certified Unified Program Agencies (CUPA). The CUPAs provide a central permitting and regulatory agency for permits, reporting, and compliance enforcement.

California Department of Pesticide Regulations, Department of Food and Agriculture, the Department of Public Health, and the Division of Drinking Water

The California Department of Pesticide Regulations, a division of CalEPA, in coordination with the California Department of Food and Agriculture and the California Department of Public Health, have the primary responsibility to regulate pesticide use, vector control, and food. The Division of Drinking Water provides regulations that ensure drinking water safety.

California Division of Occupation Health and Safety

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations within the State. The Cal/OSHA standards are more stringent than federal OSHA regulations and are presented in CCR Title 8. Standards for workers dealing with hazardous materials include practices for all industries (General Industry Safety Orders); specific practices are described for construction, hazardous waste operations, and emergency response. Cal/OSHA conducts on site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

Local

Fresno County Department of Public Health, Division of Environmental Health

The Fresno County Department of Public Health, Division of Environmental Health serves as the Certified Unified Program Agency for Fresno County. As required under the State's Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, the Fresno County CUPA's authority and responsibilities are the same as those described for the Unified Program listed above under the State Regulatory Setting. The Fresno County General Plan Health and Safety Element contains several goals and policies that address hazardous materials, including the following:

- To minimize the risk of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.

- The County shall require facilities that handle hazardous materials or hazardous wastes be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.
- The County, through its Hazardous Materials Incident Response Plan, shall coordinate and cooperate with emergency response agencies to ensure adequate Countywide response to hazardous materials incidents.

Fresno County Master Emergency Services Plan

The Fresno County Master Emergency Services Plan (2017), which includes Fowler, analyzes potential hazards and risks to the County of Fresno, while setting an operational hierarchy detailing the level of responsibility for departments within the County. The plan assesses resource management, preparedness, emergency operations, and communications in the event of an emergency situation.

Fresno County Multi-Hazard Mitigation Plan

The purpose of a local hazard mitigation plan is to reduce or eliminate long-term risk to human life and property resulting from hazards. A local hazard mitigation plan recognizes risks before they occur, as well as identifies resources, information, and strategies for emergency response. Fresno County, with participation from 17 jurisdictions (including Fowler), is the lead agency on the Multi-Hazard Mitigation Plan. In 2018, the Fresno County Board of Supervisors adopted the Fresno County Multi-Hazard Mitigation Plan, which includes information that pertains to the City in the areas of health, infrastructure, housing, government, environment, and land use.

Fresno County Airport Land Use Commission

The ALUC is tasked with protecting the public health, safety and welfare by ensuring that orderly development and prevention of excessive noise and safety hazards around public use airports is followed in accordance with State and local laws. ALUCs establish the policies on land uses around the airport, ensuring they are compatible with airport operations. This is done on an advisory basis. ALUCs also evaluate the compatibility of proposed local agency land use policy actions with the relevant provisions within the associated ALUCP. They review individual development projects to ensure they are within the noise and safety standards, in accordance with State laws and the ALUCP, within the review area of influence of the airport the project is located in.

4.10.3 Methodology and Thresholds of Significance

The impact analysis is based on an assessment of baseline conditions for the Fowler 2040 GP planning area, including locations of hazardous materials use and storage, existing contaminated sites, air traffic hazards, emergency response and evacuation plan requirements. 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 proposed project. This section describes impacts in terms of location, context, duration, and intensity.

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to greenhouse gas emissions. The Fowler 2040 GP would have a significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to GC Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- 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;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.

4.10.4 Impacts

Threshold 1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. Buildout of the Fowler 2040 GP would result in the development of residential, commercial, and industrial uses as well as an increase in Fowler's population and the number of people working in Fowler. Future development would result in the transportation of hazardous materials during both construction and operational activities. Development would occur along major transportation routes within Fowler, where hazardous materials are most likely to be transported. The existing and planned industrial areas in Fowler are located to the northwest and southeast, where the majority of industrial transport would originate from. Commercial development, which may also result in the transport of hazardous materials, would be located within the industrial areas previously discussed and within areas planned for commercial uses, including downtown Fowler and areas east and west of SR 99.

Although the overall quantity of hazardous materials and waste generated in the planning area could incrementally increase as a result of implementation of the Fowler 2040 GP, all new developments that handle or use hazardous materials would be required to comply with the regulations, standards, and guidelines established by the USEPA, the State of California, Fresno County, and Fowler related to storage, use, and disposal of hazardous materials. The HazMat Compliance Program is designated as the local CUPA for Fresno County and performs inspections to prevent exposure to environmental health hazards for businesses and residents in Fowler.

CBC requirements prescribe safe accommodations for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards. Compliance with all 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.

The CalEPA requires all businesses that handle more than specified amounts of hazardous materials to submit business plans through the California Environmental Reporting System. Specifically, any new business that meets the specified criteria must submit a full hazardous materials disclosure report that includes an inventory of the hazardous materials generated, used, stored, handled, or emitted; and emergency response plans and procedures to be used in the event of a significant or threatened significant release of a hazardous material. The report must identify the procedures to follow for immediate notification to all appropriate agencies and personnel in the event of a release, identification

of local emergency medical assistance appropriate for potential accident scenarios, contact information for all company emergency coordinators of the business, a listing and location of emergency equipment at the business, an evacuation plan, and a training program for business personnel.

For those employees that would work with hazardous materials, the amount of hazardous materials that are handled at any one time are generally relatively small, reducing the potential consequences of an accident during handling. Business-specific practices would be required to comply with federal and State laws to eliminate or minimize the potential consequence of hazardous materials accidents. For example, employees who would work around hazardous materials are required to wear appropriate protective equipment, and safety equipment is routinely available in all areas where hazardous materials are used.

The County of Fresno Department of Environmental Health (DEH) allows businesses that handle and store hazardous materials above threshold quantities and are regulated by the DEH through certification of a Hazardous Materials Business Plan.[93] CalEPA requires that any business that handles hazardous material or substances submit a Hazardous Materials Business Plan. At this time Fowler does not have a plan of its' own. These plans aid to reduce the likelihood of accident conditions resulting from the handling or disposal of hazardous materials. The California OES provides emergency response to hazardous materials incidents in the planning area. 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 Fowler 2040 GP. Further, adherence to applicable regulations as discussed above would be required to reduce any potential consequences of a hazardous materials operational accident.

Demolition activities related to future development and re-development projects in Fowler would potentially result in emission of lead and asbestos. Lead-based materials and asbestos exposure are regulated by Cal/OSHA. CCR Title 8, Section 1532.1 requires testing, monitoring, containment, and disposal of lead-based materials such that exposure levels do not exceed Cal/OSHA standards. Under this rule, construction workers may not be exposed to lead at concentrations greater than 50 micrograms per cubic meter of air averaged over an eight-hour period and exposure must be reduced to lower concentrations if the workday exceeds eight-hours. Similarly, CCR Title 8, Section 1529 sets requirements for asbestos exposure assessments and monitoring, methods of complying with exposure requirements, safety wear, communication of hazards, and medical examination of workers.

Compliance with federal and State laws and regulations would ensure that any potential impacts due to the transport, use, or disposal of hazardous materials to a less than significant level. Additionally, Fowler 2040 GP policies SAF-8 and SAF-9, as well as action items SAF-8a, SAF-8b, SAF-9a, and SAF-9b would minimize impacts related to the use, storage, transport, and release of hazardous materials in the planning area. These policies direct Fowler to identify hazardous waste transportation routes, work cooperatively with other public agencies in emergency response, update the Emergency Response Plan and require businesses to take appropriate measures to protect public health and safety.

Policy SAF-8	Protect soils, surface water, and groundwater from contamination from hazardous materials.
Action Item SAF-8a	Continue to provide household hazardous waste collection programs to encourage proper disposal of products containing hazardous materials or hazardous wastes.
Action Item SAF-8b	Should a site be contaminated by hazardous waste, work with the Fresno County Environmental Health Division, related agencies, and landowners to enable the clean-up of these sites.

[93] (Fresno County 2022)

Policy SAF-9	Cooperate with State agencies and the Fresno County Environmental Health Division efforts to identify hazardous materials users, implement hazardous materials plans, and minimize risks associated with hazardous cargoes, agricultural spraying, and electromagnetic fields.
Action Item SAF-9a	Revise Zoning Ordinance to require industries which store and process hazardous materials to provide a buffer between the facilities and the property boundary.
Action Item SAF-9b	Ensure that industrial facilities are constructed and operated within the standards of the most up-to-date safety and environmental protocols.

Compliance with federal and State laws and regulations and the Fowler 2040 GP policies and action items listed above would ensure that potential impacts related to hazards and hazardous materials transport are less than significant.

Threshold 2: Would the project 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?

Less than Significant Impact. As discussed above, future development resulting from buildout of the Fowler 2040 GP could involve the use of hazardous materials associated with construction equipment, such as diesel fuel, lubricants, and solvents. Hazardous materials could be spilled resulting from transportation accidents; however, by requiring that transport vehicles use designated truck routes and through the use of industry BMPs, any potential impacts due to hazardous materials spills due to transportation accidents would be minimized. In addition, demolition of existing buildings could result in the release of hazardous materials such as asbestos and the ingestion of hazardous materials from lead-based paints. However, the contractor would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. The Fowler 2040 GP policies listed below would aid to lessen any impacts associated with a significant hazard to the public or environment caused through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Furthermore, any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry BMPs and State and County regulations. In addition to the Fowler 2040 GP policies SAF-8 and SAF-9 as well as action items SAF-8a, SAF-8b, SAF-9a, and SAF-9b (outlined under Threshold 1 above), the policies SAF-11 and SAF-12 would direct critical facilities and improvements to be made that would minimize risks associated with hazardous cargo.

Policy SAF-11	Locate new critical facilities at least 100 feet from the railroad mainline and Highway 99 to minimize risks in the event of a hazardous cargo accident.
Policy SAF-12	Promote improvements, such as the construction of grade-separated crossings, to increase overall safety and reduce potential risk from hazardous cargo.

Compliance with federal and State laws and regulations and the Fowler 2040 GP policies and action items listed above would ensure that potential impacts related to hazards and hazardous materials transport are less than significant.

Threshold 3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. Buildout within the planning area may result in the handling of hazardous materials within a quarter mile of existing and proposed schools. The planning area currently contains

two elementary schools, one middle school, one high school, and one continuation school. There is also a school site planned within the southwest portion of the planning area. Since the Fowler 2040 GP does not include any specific development projects, the quantity of hazardous materials proposed for use by future uses 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. However, the siting of school facilities would be subject to California Education Code (Section 17210, et seq.), which outlines the requirements for siting near or on known or suspected hazardous materials sites, or near facilities that emit hazardous air emissions or handle hazardous or acutely hazardous materials, substances, or waste. The addition of uses that would handle hazardous materials and/or generate hazardous waste would not pose a substantial health risk to nearby schools because all businesses that handle or have on-site storage of hazardous materials would be regulated by the DEH and any additional elements as required in the California Health and Safety Code Article 1 Chapter 6.95 for Business Emergency Plan (Health and Safety Code Section 25507, et seq.). 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 the DEH. Any future development that would involve the handling of hazardous materials during construction or operation would be required to submit a Hazardous Materials Business Plan and comply with all applicable federal and State laws and regulations governing the use and handling of hazardous materials. In addition, any future development would utilize industry BMPs that would ensure that potential impacts would be lowered to a less than significant level. Therefore, impacts would be less than significant.

Threshold 4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant Impact. The DTSC maintains the EnviroStor database, while the SWRCB maintain the GeoTracker database. Both of these databases contain information identifying existing hazardous materials sites within Fowler. Table 4-24 lists the existing cases within the planning area. Each of the four cases is being evaluated or monitored by the lead agency responsible that case. Any development on an existing or future hazardous material spill site would be required to meet all of the applicable federal and State regulations, ensuring the safety of those completing construction activities on the site as well as the development's future occupants. Future development could result in additional USTs associated with commercial and industrial land uses. Installation of a UST would be subject to the requirements of Fresno County's UST permitting program.[94] In addition, the following Fowler 2040 GP policies and action items would minimize any potential impacts related to hazardous materials.

Policy SAF-10	Reference State hazardous waste site lists in the City development review process and address risk, as needed, with site development requirements.
Action Item SAF-10a	Prepare and maintain a map of hazardous waste sites identified through regional, State, and federal resources.
Action Item SAF-10b	Ensure that the proponents of new developments address hazardous materials concerns through preparation of Phase I and Phase II studies, as necessary, as part of the design phase.
Action Item SAF-10c	Require buildings used for operations requiring a hazardous materials business plan to be investigated for the presence of hazardous materials and waste as part of the re-use, rehabilitation, or demolition process.

[94] (Fresno County 2022)

Policy CH-13	Increase awareness of warning signs for the presence of toxic substances related to aging housing stock.
Action Item CH-13a	Distribute informational materials on the warning signs of toxic substances through the Building Department.

Threshold 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less than Significant Impact. The Selma Airport is located approximately one mile south of E. Springfield Avenue. As illustrated in the Selma Airport ALUCP, a portion of the planning area is located within the Airport's TPZ (see Table 4-25). Within the TPZ, the aircraft accident risk level is considered to be low. Land use limitations in the TPZ include a density limit of 300 persons per acre, an open space requirement of 10 percent, and prohibitions on hazards to flight and high intensity uses such as stadiums. Future development within this area is not expected to result in a safety hazard or excessive noise for people residing or working in the area. This portion of the planning area is planned for medium and high density residential, commercial, and light industrial land uses. Development within the TPZ would be subject to review by the Fresno County ALUC for consistency with the ALUCP. In addition, the Selma Airport is a small municipal airport that would not be a large producer of noise due to larger commercial jet engines. The planning area would not place residents or workers in an area where substantial noise is experienced resulting from airport operations.

Threshold 6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. Fowler does not have an officially adopted emergency response plan or an emergency evacuation plan; however, Fowler is a participating jurisdiction in the County of Fresno's Master Emergency Services Plan. Future development facilitated by the Fowler 2040 GP could result in roadwork and temporary road closures or impediments. Any work completed within an existing or future roadway would be required to be approved by the City Engineer prior to commencement of construction activities. As a result, evacuation routes would be properly maintained, and no conflict would occur with the Fresno County Master Emergency Services Plan. In addition, the following Fowler 2040 GP policies and action items direct an updated and coordinated response to hazards.

Policy SAF-2	Continue to implement the Fresno County Multi-Hazard Mitigation Plan to address disasters such as earthquakes, drought, flooding, hazardous material spills, water contamination, epidemics, fires, extreme weather, major transportation accidents, and terrorism.
Action Item SAF-2a	Review and revise, as necessary, the Municipal Code to ensure effective organization, responsiveness, and continuity of government during declared emergencies.
Action Item SAF-2b	Procure generators, or another suitable alternative, for back-up power at City Hall, the Police Department, the Fire Department, and all domestic water distribution infrastructure.
Action Item SAF-2c	The City, in conjunction with other local, State, and Federal agencies, shall ensure operational readiness of the Emergency Operations Center (EOC), conduct annual training for staff, and maintain, test, and update equipment to meet current standards.)
Action Item SAF-2d	Monitor potential risk from seismic and geologic hazards and implement actions identified by the Multi-Hazard Mitigation Plan to reduce these risks.

Action Item SAF-2e	Sponsor and support educational programs regarding emergency response, disaster preparedness protocols and procedures, and disaster risk reduction.
Action Item SAF-2f	Sponsor and support cooling centers during extreme heat days.
Policy SAF-3	Continue to coordinate with Fresno County and other jurisdictions to prepare and implement Emergency Preparedness Plans and to conduct emergency and disaster preparedness exercises to test these plans.
Policy SAF-4	Provide a street network with safe and efficient routes for emergency vehicles, meeting necessary street widths, turn around radius, and other factors as determined in coordination with emergency service providers.

Threshold 7: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. The Fowler 2040 GP would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. As is discussed in further detail in Section 4.21, the planning area is located in a relatively flat area that is not within the vicinity of a very high fire hazard severity zone or a State Responsibility Area. The proposed planning area would be served by the Fowler Fire Department and any future development would be reviewed by the Fire Department prior to the commencement of any construction activities. In addition, any future development projects would be required to comply with federal, State, and local regulations, including the CBC. Therefore, impacts would be less than significant.

4.10.5 Mitigation Measures

Mitigation measures are not required.

4.10.6 Cumulative Impacts

The analysis in this section examines impacts of the Fowler 2040 GP on hazards and hazardous materials throughout Fowler (the cumulative impact analysis area) and is cumulative in nature. Some types of hazards and hazardous materials impacts are related to site- and project-specific characteristics and conditions and would not be significantly affected by other development outside of the planning area. Potential impacts in relation to hazardous materials are generally site- and/or project-specific in nature. As a result, each future development project would consider hazardous materials on a case-by-case basis. The buildout of the proposed Fowler 2040 GP could place projects on or within the vicinity of a hazardous materials spill site that does not currently exist. In each case, the project would consider hazardous materials individually based on the site's location, not cumulatively based on the proposed planning area. Thus, cumulative impacts related to the transport, use, storage, or disposal of hazardous materials, upset conditions, hazardous emissions near schools, and project locations on known or unknown hazardous materials sites, and would not be substantial.

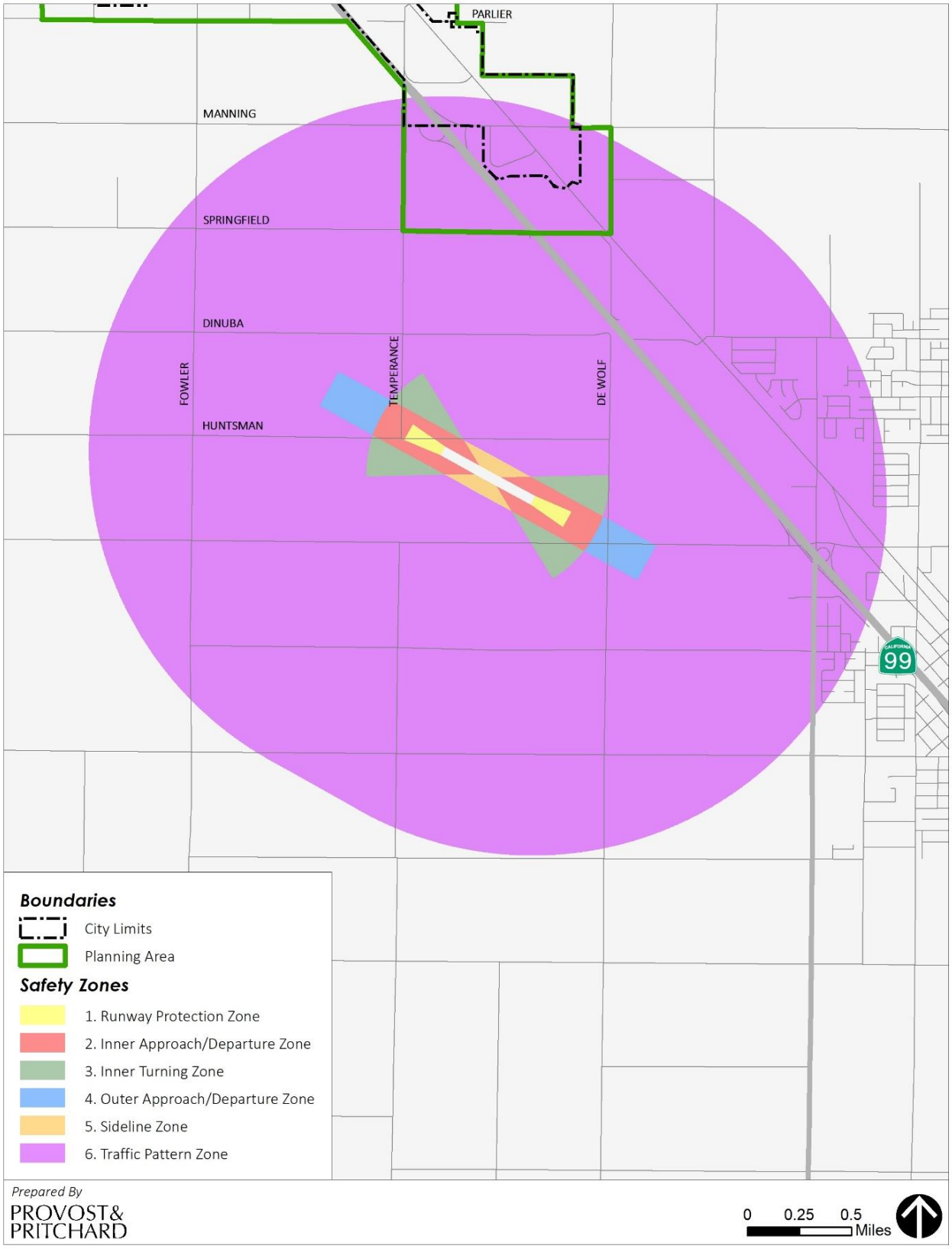
Similarly, impacts related to airport hazards are site-specific depending on the characteristics and design of individual projects and their location relative to distance and location of nearby airports. Existing regulations place limitations on the types of development that can be permitted within various aircraft zones surrounding an airport, such as building height restrictions or prohibiting residential occupancy. Mandatory compliance with these regulations would prevent substantial hazards related to airports.

Emergency response plans are generally specific to a particular city or county or parts thereof. For example, in the event of an emergency in Fowler, emergency response would typically be from police, ambulance, and fire departments local to the City or Fresno County, and not from areas outside of Fresno County. Thus, the cumulative impacts related to conflict with emergency response plans would be less than significant.

The Fowler 2040 GP would not facilitate development near areas mapped as very high fire hazards. The risk of loss from existing development and the anticipated growth within Fresno County or specifically to Fowler would not result in cumulative impacts related to wildland fire hazards. As described above compliance with Fowler and County policies related to fire protection, as well as implementation of State requirements, California Fire Code standards for new structures, and fire hazard policies in the Fowler 2040 GP would minimize potential cumulative wildland fire impacts.

Figure 4-7: Contaminated Sites

Table 4-25: Selma Airport Safety Zones



4.11 Hydrology and Water Quality

This section evaluates impacts to hydrology, including regional and local watershed characteristics such as water quality, drainage and infiltration patterns, and flood hazards that could result from implementation of the Fowler 2040 GP.

Water supply and wastewater conveyance are discussed in Section 4.20, Utilities and Service Systems. Issues regarding wetlands and potentially jurisdictional waters are discussed in Section 4.5, Biological Resources.

4.11.1 Environmental Baseline

Fowler is located within the Kennedy Pond watershed; Hydrologic Unit Code: 180300090206. The San Joaquin River and the Kings River are the two principal drainages within the San Joaquin Valley, and Fowler is generally located approximately 18 miles south of the San Joaquin River and 9 miles northwest of the Kings River.

Groundwater Sustainability

Fowler lies entirely within the Kings Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.[95] The Fowler planning area includes lands within the SKGSA, the CKGSA, and the NKGSA.[96] Due to groundwater overdraft and contamination from agricultural chemicals, provision of reliable sources of groundwater in both quantity and quality have been a challenge throughout most of the Central Valley.

Water supply and distribution are administered by the City of Fowler Public Works Department Water Division. The City's production consists of six groundwater wells located throughout Fowler, which includes one offline well which is not producing water. From the groundwater pumps, the distribution system delivers water to residents and businesses through a network of water mains, pipelines and laterals. Municipal water is tested monthly to ensure quality. According to the Annual Water Quality Report (2021), the average depth to groundwater is 85 to 95 feet, and the existing wells produce drinking water of good quality that does not require treatment for drinking. A violation of the Maximum Contaminant Level (MCL) for 1,2,3-trichloropropane (1,2,3-TCP) occurred at a well in 2017.[97] This well is currently offline while the City plans for a filtration system to address the 1,2,3-TCP contamination.

CID provides water from the Kings River for groundwater recharge and irrigation to over 6,000 growers within its 144,000-acre service area, which includes the area surrounding Fowler. In 2014, Fowler entered into an agreement with Consolidated Irrigation District (CID) to fund groundwater recharge programs in order to sustain the groundwater aquifer Fowler is reliant upon. In 2019 a cooperative agreement for groundwater management between SKGSA and CID was signed, superseding the 2014 agreement between Fowler and CID.

Flooding

The FEMA publishes Flood Insurance Rate Maps (FIRM) that show regulated flood hazard zones, which are then used to assign risk and insurance rates for homeowners and businesses. As illustrated in Figure 4-10, potential flood hazards in the Fowler planning area are set forth on three FIRMs, which divide the area into flood hazard zones. Each flood hazard zone depicts the severity of and/or the type of flooding expected to occur in an area. FIRMs show the areas susceptible to a 100-year flood, which is defined by FEMA as "a

[95] (State of California Department of Water Resources 2018)
[96] (California Department of Water Resources 2021)
[97] (City of Fowler 2021)

flood with a 1 percent chance of being equaled or exceeded in any given year." The maps also show areas susceptible to 500-year flood hazards, which consist of areas that have a 0.2 percent chance of flooding in any given year. If an area is not protected from the 100-year flood, flood insurance is mandatory.

The FEMA flood hazard designations from the FIRMs applicable to the planning area are described as follows:

> Zone A. This flood insurance rate hazard zone corresponds to areas with a 1 percent annual chance of flooding, known as the 100-year floodplain. No depths or base flood elevations are shown within this zone. Flood insurance is required to be purchased within this zone and development is subject to floodplain management standards.
>
> Zone X (shaded). This flood insurance rate hazard zone represents an area of moderate flood hazard, outside of the 100-year floodplain. This area has a 0.2 percent annual chance of flooding, which is also referred to a the 500-year flood zone. Mandatory flood insurance and building standards do not apply to this zone.
>
> Zone X (unshaded). The majority of the planning area lies within this flood insurance rate hazard zone which represents an area of minimal flood hazard. These areas are outside of special flood hazard areas and at elevations above those susceptible to the 500-year flood.

Fowler's flood zones for a 100-year flooding event are shown in Figure 4-10. There are no 500-year flood zones within the planning area.

Stormwater System

Fowler currently does not have a storm drainage master plan. Accordingly, Fowler reviews the capacity of its system and need for new storm drainage infrastructure as development projects are submitted, on a project-by-project basis. Each applicant is responsible for providing engineering details as part of project submittal, which are then reviewed by the City Engineer. There are trunk lines that lead to various basins throughout Fowler; however, some projects retain stormwater on-site through construction of new basins. A map of stormwater basin locations, as well as trunk lines, can be seen in Figure 4-8.

Storm water runoff can 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 Fowler is located within a closed water system, any pollutants within storm water could possibly enter the groundwater table. As water percolates into the ground, most, if not all of the contaminates "bind" with various soil particles and organic matter as the water moves toward the underlying aquifer. Possible sources of storm water pollution in Fowler include permitted industrial facilities. The Statewide General Permit for Stormwater Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit) implements the federally required stormwater regulations in California for stormwater associated with industrial activities discharging to Waters of the United States. The Industrial General Permit regulates discharges associated with 9 federally defined categories of industrial activities.[98] According to the SWRCB, there are no permitted industrial facilities within the planning area[99].

[98] (State Water Resources Control Board 2022)
[99] (California State Water Resources Control Board 2022)

Drinking Water Quality

The Fowler 2021 Annual Water Quality Report details the current drinking water source of the planning area as six untreated well sites within Fowler, all of which maintain a relatively static groundwater level between 85 – 95 ft. One of the six wells, Well 7, currently is experiencing consistent exceedances in 1,2,3-TCP. These wells are tested on a monthly basis, and the only current water quality standard violation is the aforementioned exceedance in 1,2,3-TCP. The violation originally occurred in 2017 and Fowler is in the planning stages of installing a filtration system to resolve the issue.

Regional Water Quality

The CWA 303(d) list is a register of impaired and threatened waters that states submit for USEPA approval. The list identifies all waters where pollution control measures have so far been unsuccessful in achieving or maintaining water quality standards. Waters that are listed are known as "impaired." There are no listed waterways within or near the planning area. [100] The nearest impaired waterbody is the Kings River located approximately 9 miles to the southeast.

4.11.2 Regulatory Setting

Federal

Clean Water Act

The CWA, was enacted in 1972 with the intent of restoring and maintaining the chemical, physical and biological integrity of the Waters of the United States. In 1987 the CWA was amended to establish the National Storm Water Program. The program was established in two phases, incorporating a prioritized approach to stormwater. Phase I of the program required discharges from Municipal Storm Sewer Systems (MS4s) serving populations over 100,000 to be covered under a NPDES permit. Phase II of the program reduced the population threshold to 10,000 and reduced the area of construction disturbance that requires permit coverage from five acres to one acre.

National Pollutant Discharge Elimination System Program

Section 402 of the CWA established the NPDES to control water pollution by regulating point sources that discharge pollutants into Waters of the United States. In California, the USEPA has authorized the SWRCB as the permitting authority to implement the NPDES program. The SWRCB issues two-baseline general permits; one for industrial operations, the other for construction activities (General Construction Permit). Additionally, the NPDES program includes the regulation of stormwater discharges from cities, counties, and other municipalities under Order No. R8-2009-0030 (waste discharge requirements for stormwater) and updated under Order No. 5- 01-048 for the Central Valley Region.

Under the General Construction Permit, stormwater discharges from construction sites with a disturbed area of one acre or more are required to obtain either individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB. Each Applicant under the Construction General Permit is required to both prepare a SWPPP prior to the commencement of grading activities and to ensure implementation of the SWPPP during construction activities. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction activities. BMPs may include programs, technologies, processes, practices, and devices that

[100] (California Sate Water Resources Control Board 2022)

control, prevent, remove, or reduce pollution. The SWPPP would also address BMPs developed specifically to reduce pollutants in stormwater discharges following the completion of construction activities.

Federal Emergency Management Agency

FEMA administers the NFIP, in which participating agencies must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 adopted a desired level of protection with an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once every 100 years, although such a flood may occur in any given year. The 1968 Act made federally subsidized flood insurance available to property owners if their communities participate in the NFIP. A community establishes its eligibility to participate by:

- Adopting and enforcing floodplain management measures to regulate new construction; and
- Ensuring that substantial improvements within Special Flood Hazard Areas (SFHA) are designed to eliminate or minimize future flood damage.

An SFHA is an area within a floodplain having a 1-percent or greater chance of flood occurrence within any given year. SFHAs are delineated on flood hazard boundary maps issued by FEMA. The Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994 make flood insurance mandatory for most properties in SFHAs. Executive Order 11988 Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project in a floodplain to do the following:

- Avoid incompatible floodplain development;
- Be consistent with the standards and criteria of the NFIP; and
- Restore and preserve natural and beneficial floodplain values.

The National Flood Insurance Program (NFIP) is a program administered by FEMA to provide subsidized flood insurance for property owners in communities. The NFIP established regulations that limit development in flood-prone areas. The boundaries of flood-prone areas are demined by FEMA's Flood Insurance Rates Maps, which provide flood information and identify the flood hazard in the community. In certain high-risk areas, federally regulated or insured lenders require property owners to have flood insurance before issuing a mortgage.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969, which became Division 7 of the California Water Code (WC), authorized the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirement of the CWA Section 303, which states that water quality standards must be established for certain waters through the adoption of water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans within the regions, identifying water quality objectives, and instituting waste discharge requirements. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. Beneficial uses consist of all the various ways that water can be used for the benefit of people and wildlife. The Porter-Cologne Act was later amended to provide the authority delegated from the USEPA to issue NPDES permits regulating discharges to Waters of the United States.

Sustainable Groundwater Management Act of 2014

On September 16, 2014, a three-bill legislative package was signed into law, composed of AB 1739, SB 1168, and SB 1319, collectively known as the Sustainable Groundwater Management Act (SGMA). The Governor's signing message states "a central feature of these bills is the recognition that groundwater management in California is best accomplished locally". SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with the potential for state intervention, if necessary, to protect the resource. The act requires the formation of local GSA that must assess conditions in their local water basins and adopt locally based management plans. The groundwater basin that serves Fresno has been designated by the Department of Water Resources as high- priority and subject to a condition of critical overdraft.

California Streambed Alteration Agreement

FGC Sections 1600–1616 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 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 746

In January 2018, Assembly Bill 746 went into effect requiring water utilities to collect lead samples in all daycare, preschool, and kindergarten through 12th grade schools on public property to ensure students have access to safe drinking water. If a private school wishes to have their water sampled, the head of the school may also request lead testing from their water provider.

Local

Fowler Municipal Code

Title 8 – Chapter 8: Floodplain Management – This chapter aims to reduce the risk of public or private loss or damage due to flooding by regulating the activities within flood prone, mudslide, or flood related areas. Restrictions are placed on the alteration of floodplains or streams, diversion of water through the construction of flood barriers, and certain development involving filling or grading which could increase flood damage.

Title 8 – Chapter 14: Grading Permit and Site Improvement Requirements – This chapter establishes the requirement of a permit for any excavation, construction, or earthwork activity, and promotes erosion control procedures to safeguard and protect water resources and related habitats. The goal of this chapter is to reduce the discharge of sediment into drainage and provide sediment management practices by regulating grading, site improvements, and related activities on private and public property.

Central Valley Regional Water Quality Control Board – Tulare Lake Basin Plan

Water quality control plans, or basin plans, contain California's administrative policies and procedures for protecting state waters. Basin plans are required by the WC Section 13240.[101] In addition, CWA Section 303 requires states to adopt water quality standards that "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses."

[101] (California Regional Water Quality Control Board Central Valley Region 2018)

Basin plans are adopted and amended by regional water boards under a structured process involving full public participation and state environmental review. Basin plans and amendments do not become effective until approved by the SWRCB. Adoption or revision of surface water standards are subject to the approval of the USEPA before they become accepted standards for the federal program.

The first edition of this Water Quality Control Plan for the Tulare Lake Basin (Basin Plan) was adopted by the California RWQCB, Central Valley Region, on 25 July 1975, and became effective following approval by the SWRCB in August 1975 and the USEPA in June 1976. The most recent revision was adopted in May 2018. The Fowler 2040 GP planning area is covered by the Tulare Lake Basin Plan.

Groundwater Sustainability Agencies

In 2014, legislation passed that provides a statewide framework for sustainable groundwater management in California (SB 1168, AB 1739, and SB 1319). This legislation, collectively referred to as the Sustainable Groundwater Management Act (SGMA), is intended to support local groundwater management through the oversight of local agencies. An overarching goal of SGMA is to achieve a sustainable groundwater balance in each basin or sub-basin by 2040.[102] The Fowler 2040 GP planning area includes land in three different Groundwater Sustainability Agencies.

- South Kings Groundwater Sustainability Agency: SKGSA is comprised of five cities and two community services districts. These public entities formed a joint-powers authority (JPA) agreement in May 2017 to take on the responsibility of sustainable groundwater management in the portion of the Kings Subbasin underlying the GSA's boundary. The SKGSA is working cooperatively with stakeholders to develop and implement a GSP and is collaborating with other GSAs in the Kings Subbasin to work towards the ultimate goal of reaching regional and statewide groundwater sustainability by 2040.
- Central Kings Groundwater Sustainability Agency: CKGSA was formed on November 8, 2017. The Central Kings GSA's jurisdiction includes portions of the Kings Subbasin excluding the service areas of South Kings GSA. The many decades of groundwater recharge and ample canal space including the continued development of ponding basins, has made this portion of the Kings Basin in a very good position to become sustainable. Central Kings GSA Board of Directors adopted the Groundwater Sustainability plan in compliance with the Sustainable Groundwater Management Act on December 11, 2019.[103]
- North Kings Groundwater Sustainability Agency: NKGSA was formed in December of 2016 through a JPA between Fresno Irrigation District, the County of Fresno, the City of Fresno, the City of Clovis, the City of Kerman, Biola Community Services District, Garfield Water District, and International Water District. Bakman Water Company and the Fresno Metropolitan Flood Control District were later added under separate agreements. In order to comply with SGMA, the NKGSA developed and has now started to implement the NKGSA GSP, which was adopted on January 28, 2020.[104]

Central Valley Flood Protection Plan

The Central Valley Flood Protection Plan (CVFPP), first adopted in 2012 and updated every five years, was developed to better manage flood risk in the Central Valley using the following strategies:

- Prioritize the state's investment in flood management over the next three decades,
- Promote multi-benefit projects, and

[102] (South Kings Groundwater Sustainability Agency 2022)
[103] (Central Kings Groundwater Sustainability Agency 2022)
[104] (North Kings Groundwater Sustainability Agency 2021)

- Integrate and improve ecosystem functions associated with flood risk reduction projects.

Following adoption of the initial CVFPP in 2012, the California Department of Water Resources (DWR) funded development of six Regional Flood Management Plans (RFMP) to address regional flood management goals and challenges. The planning area is not included in a RFMP because the risk of flood in the region is minimal. Fowler and the surrounding lands are not located within the 100-year, 200-year, or 500-year floodplains.[105]

4.11.3 Methodology and Thresholds of Significance

Potential impacts involving water quality, drainage, discharge, and flow is regulated by the SWRCB. Fowler adheres to the guidelines set by the SWRCB and implements requirements to produce a SWPPP, a NDPES, a CGP, and complete BMPs throughout projects within Fowler. In addition, Fowler can be found within the SKGSA and follows the Agency's goals and policies set forth within the South Kings GSP, the Central Kings GSP, and the North Kings GSP. The plan outlines the steps Fowler must take for reducing overdraft upon the groundwater supply in the Kings Groundwater Subbasin, as well as appropriate steps for groundwater projects, and general groundwater conditions throughout the boundaries of the Agency.

A significant impact could occur if the Project substantially degraded surface or ground water quality, interfered with groundwater recharge such that the Project would impede sustainable groundwater management of the basin, resulted in substantial erosion or siltation, resulted in a substantial increase of surface runoff causing flooding, exceeded capacity of an existing drainage system or substantially increased polluted runoff within one of these systems, impeded or redirected flood flows, resulted in the risk of pollutants to be released due to inundations in a flood hazard, tsunami, or seiche zone, or conflicted with a water quality control plan or sustainable groundwater management plan.

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to hydrology and water quality. The Fowler 2040 GP would have a significant impact if it would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious pavements, in a manner which would:
    i. Result in substantial erosion or siltation on- or off-site;
    ii. Substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site;
    iii. 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
    iv. Impede or redirect flows.

[105] (California Department of Water Resources 2022)

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.11.4 Impacts

Threshold 1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact.

Construction

Construction activities facilitated by the Fowler 2040 GP could include road improvements and realignments, installation and realignment of utilities, demolition of existing structures for replacement, new development, and the potential replacement and/or improvement of drainage facilities. Construction activity could result in the alteration of existing drainage patterns and soil erosion due to earth-moving activities such as stockpiling, excavation and trenching for foundations and utilities, dredging, paving, soil compaction and moving, cut and fill activities, and grading. Disturbed soils would be susceptible to erosion from wind and rain, resulting in sediment transport via stormwater runoff from the construction sites. The types of pollutants contained in runoff from construction sites would be typical of urban and suburban areas, and may include sediments and contaminants such as oils, fuels, paints, and solvents. Additionally, other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported to downstream drainages and ultimately into collecting waterways, contributing to degradation of water quality.

Potential water quality impacts would be specific to individual construction locations. Local topography, the amount of soil disturbance, the duration that disturbed soil would be exposed, the amount of rainfall and wind that would occur during construction, and the proximity of the nearest water body all affect the potential for water quality degradation during construction.

Individual construction activities that disturb one or more acres would be subject to the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Construction General Permit (Order No. 2012-0006-DWQ). Permit conditions require development of a SWPPP, which describes the site, 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 storm water discharge from the construction activity and to identify and implement erosion controls, where necessary. Compliance with the Construction General Permit is reinforced through the Fowler Municipal Code (Title 8 – Chapter 14) and adherence to the Tulare Lake RWQCB Basin Plan[106].The water quality objectives of the Basin Plan are incorporated into individual NPDES permits authorized by the Central Valley RWQCB. Therefore, the project would not conflict with or obstruct implementation of a water quality control plan. Additionally, the following policies and action items of the Fowler 2040 GP, as listed below, require new development to protect water quality through site design, pollution prevention, storm water treatment, runoff reduction measures, BMPs, and LID strategies.

[106] (California Regional Water Quality Control Board Central Valley Region 2018)

Compliance with the regulations and policies discussed above would reduce the risk of water degradation within Fowler from soil erosion and other pollutants related to construction activities. Because violations of water quality standards would be minimized, impacts to water quality from construction activities facilitated by the Fowler 2040 GP would be **less than significant**.

Operation

Stormwater

Development facilitated by the Fowler 2040 GP would result in long-term alterations to drainage patterns in the planning area, such as changes in ground surface permeability due to new paving, and changes in topography due to grading and excavation. If uncontrolled, operation of future development facilitated by the Fowler 2040 GP could result in the addition of sediment and silt, and contaminants such as oil, grease, metals, and landscaping chemicals (pesticides, herbicides, fertilizers, etc.) into the City's stormwater drainage system. Such a discharge could be a potential violation of MS4 General Permit, depending on the pollutant and quantity discharged.

Future projects facilitated by the Fowler 2040 GP 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 the Post Construction Stormwater Management Program. The purpose of the MS4 permit is to implement and enforce BMPs to reduce the discharge of pollutants from municipal separate storm sewer systems, such as Fowler's storm drain system. To ensure compliance with the permit requirements and conditions of the MS4 General Permit, Fowler Municipal Code Chapter 8 outlines regulations regarding illicit discharge in Fowler's building regulations. Compliance with these requirements would also minimize erosion and siltation that could adversely affect water quality in the Planning Area.

Wastewater Discharge

In additional to stormwater runoff, polluted wastewater could be discharged by development facilitated by the Fowler 2040 GP. The buildout of Fowler in association with the Fowler 2040 GP would result in the expansion of wastewater facilities and an increase in the amount of influent required to be treated by the SKFCSD wastewater treatment facility. SKFCSD collects, treats, and disposes of wastewater originating from the residential, commercial, institutional, and industrial dischargers within the SKFCSD service area.[107] Most of the collection system is owned by the individual member cities but is maintained and operated by SKFCSD. The 2016 SKFCSD Collection System Master Plan Update identifies the existing wastewater collection system as well as the projected growth of the system through 2035. The anticipated growth would ultimately result in the expansion of the wastewater facility.

Drinking Water Quality

Any impacts to drinking water quality are expected to be mitigated through compliance with mandatory permitting requirements as well as the South Kings GSP, the Central Kings GSP, and the North Kings GSP.

In addition to compliance with mandatory CWA requirements (NPDES Construction General Permit and MS4 General Permit), Fowler Municipal Code requirements, and the Central Valley RWQCB's requirements for stormwater management, implementation of the following Fowler 2040 GP goals and policies would minimize erosion and siltation, prevent substantial discharges of contaminated stormwater to the municipal storm drain system or surface waters, and reduce the potential for violations of water quality standards or waste discharge requirements.

[107] (Selma-Kingsburg-Fowler County Sanitation District 2016)

Policy PF-17	Continue to establish development fees and user rates that are sufficient to operate, maintain, and upgrade (for current and future regulatory requirements) the City's water, wastewater, and stormwater infrastructure.
Policy PF-18	Continue to cooperate with the Selma-Kingsburg-Fowler (SKF) County Sanitation District to design and construct wastewater system infrastructure as needed to safely convey, treat and recycle, and dispose of current and future wastewater flows and achieve future regulatory and system requirements.
Policy PF-19	Actively participate in the Selma-Kingsburg-Fowler (SKF) County Sanitation District wastewater master plan update proves to ensure it aligns with planned land uses and projected demands for the City of Fowler.
Policy PF-20	Design and construct stormwater system infrastructure as needed to safely convey, detain, and dispose of current and future stormwater flows, protect water quality, and meet regulatory requirements.
Action Item PF-20a	Develop a storm drainage master plan which outlines necessary infrastructure improvements to the storm drainage system.

Compliance with federal and State laws and regulations and the Fowler 2040 GP policies and action items listed above would ensure that potential impacts related to drinking water quality are less than significant.

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?

Less than Significant Impact. Development facilitated by the Fowler 2040 GP could potentially interfere with groundwater recharge through the creation of new impervious surfaces.

Implementation of the Fowler 2040 GP will increase the demand for water resources. The planning area contains lands within the SKGSA, the CKGSA, and the NKGSA and that are subject to the goals and policies set forth within the respective GSPs. The plans outline the steps Fowler must take for reducing overdraft upon the groundwater supply in the Kings Groundwater Subbasin, as well as appropriate steps for groundwater projects and general groundwater conditions throughout the boundaries of the plans.

For new developments and redevelopment projects, the amount of new impervious surfaces would be reduced through LID as directed by the following policies and actions items of the Fowler 2040 GP, which would reduce the impact groundwater recharge and redirects runoff such that it does not result in on- or off-site flooding. In addition, the following policies and action items would encourage groundwater infiltration and promote the use of recycled water and other water conservation efforts, minimizing the impact on groundwater aquifers.

Policy SAF-13	Conserve and, where feasible, create or restore areas providing water quality benefits such as undeveloped open space areas, basins, and drainage canals.
Policy SAF-15	Require new development to protect water quality through site design, pollution prevention, storm water treatment, runoff reduction measures, best management practices (BMPs), and Low Impact Development (LID) strategies.
Action Item SAF-15a	Review and revise, as appropriate, City standards to allow for LID strategies. Periodically review City standards to ensure innovative or new site design strategies which protect water quality are permitted, as appropriate.
Policy SAF-16	Require the use of native, drought tolerant, or low water use landscaping in both public and private development to reduce or eliminate the need for landscape irrigation.

Action Item SAF-16a	Review and revise, as necessary, the adopted water efficient landscape standards for consistency with the State Model Water Efficient Landscape Ordinance, as amended. As required, submit reports on the City's implementation of its landscape standards to the California Department of Water Resources and/or other agencies.
Action Item SAF-16b	Update City design standards to require residential developers to provide a no-turf landscape option that is priced the same as the standard landscape option.
Policy SAF-17	Promote programs to improve water efficiency in new and existing buildings.
Policy SAF-18	Explore the use of recycled water to irrigate landscape areas.
Action Item SAF-18a	Coordinate with Selma-Kingsburg-Fowler (SKF) County Sanitation District on what options are available to reuse recycled water.
Policy SAF-25	Encourage low-impact development by allowing for alternative stormwater management techniques including the provision of vegetated areas, infiltration trenches, and dry wells.
Action Item SAF-25a	Review and revise, as necessary, the Zoning Ordinance and other City standards to allow for low-impact stormwater management site design features.

Compliance with federal and State laws and regulations and the Fowler 2040 GP policies and action item listed above would ensure that potential impacts related to groundwater supplies and groundwater recharge are less than significant.

Further, the following Fowler 2040 GP action items and policy encourage low-impact stormwater management strategies, which includes low-impact development, are development practices that directly use or recreate natural stormwater processes. Low-impact development results in increased infiltration, evaporation, and use of stormwater. Such strategies may include features such as swales, among others.

Action Item PF-20b	Require all new development to contribute no net increase in stormwater runoff peak flows over existing conditions associated with a 100-year storm event.
Action Item PF-20c	Require new development to include grading and erosion control plans prepared by a registered engineer or land surveyor.
Policy PF-21	Protect groundwater resources within the Planning Area. This includes protecting the occurrence of groundwater recharge, as well as the quality and quantity of available groundwater resources.

Compliance with federal and State laws and regulations and the Fowler 2040 GO action items PF-20b, PF-20c, and action item PF-21 listed above would ensure that potential impacts related to stormwater management strategies are less than significant.

Threshold 3: 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;**
- **substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**

- **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**
- **impede or redirect flood flows?**

Less than Significant Impact.

Construction

Construction activities facilitated by the Fowler 2040 GP could include road improvements and realignments, installation and realignment of utilities, demolition of existing structures for replacement, new development, and the potential replacement and/or improvement of drainage facilities. Construction activity could result in the alteration of existing drainage patterns and soil erosion due to earth-moving activities such as stockpiling, excavation and trenching for foundations and utilities, dredging, paving, soil compaction and moving, cut and fill activities, and grading. Disturbed soils would be susceptible to erosion from wind and rain, resulting in sediment transport via stormwater runoff from the construction sites.

Individual construction activities that disturb one acre or more would be subject to the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Construction General Permit (Order No. 2012-0006-DWQ). Permit conditions require development of a SWPPP, which describes the site, 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 storm water discharge from the construction activity and to identify and implement erosion controls, where necessary. Compliance with the Construction General Permit is reinforced through the Fowler Municipal Code (Title 8 – Chapter 14).

Additionally, Fowler 2040 GP policies PF-17, PF-18, PF-19, PF-20, SAF-13, and SAF-15 and action items PF-20a and SAF-15a, as outlined under Threshold 1 and Threshold 2 above, require new development to protect water quality through site design, pollution prevention, storm water treatment, runoff reduction measures, BMPs, and LID strategies.

Compliance with the regulations and policies listed above would reduce the risk of water degradation within Fowler from soil erosion and other pollutants related to construction activities. Because violations of water quality standards would be minimized, impacts to water quality from construction activities facilitated by the Fowler 2040 GP would be less than significant.

Operation

Stormwater

Development facilitated by the Fowler 2040 GP would result in long-term alterations to drainage patterns in the planning area, such as changes in ground surface permeability due to new paving, and changes in topography due to grading and excavation. If uncontrolled, operation of future development facilitated by the Fowler 2040 GP could result in the addition of sediment and silt, and contaminants such as oil, grease, metals, and landscaping chemicals (pesticides, herbicides, fertilizers, etc.) into the City's stormwater drainage system. Such a discharge could be a potential violation of MS4 General Permit, depending on the pollutant and quantity discharged.

Future projects facilitated by the Fowler 2040 GP 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 the Post Construction Stormwater Management Program. The purpose of the MS4 permit is to implement and enforce BMPs to reduce the discharge of pollutants from municipal separate storm sewer systems, such as Fowler's storm drain system. To ensure compliance with the permit requirements and conditions of the MS4 General Permit, Fowler Municipal Code Chapter 8 outlines regulations regarding illicit discharge in Fowler's building regulations. Compliance with these requirements would also minimize erosion and siltation that could adversely affect water quality in the planning area.

In addition to compliance with mandatory CWA requirements (NPDES Construction General Permit and MS4 General Permit), Fowler Municipal Code requirements, and the Central Valley RWQCB's requirements for stormwater management, implementation of the following Fowler 2040 GP goals and policies would minimize erosion and siltation, prevent substantial discharges of stormwater to the municipal storm drain system, and reduce the potential for violations of waste discharge requirements.

Compliance with federal and State laws and regulations and the Fowler 2040 GP policies PF-17, PF-18, PF-19, PF-20, SAF-13, and SAF-15 and action items PF-20a and SAF-15a outlined under Threshold 1 and Threshold 2 above would ensure that potential impacts related to stormwater operations are **less than significant**.

Threshold 4: Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

No Impact. Fowler is located in California's Central Valley, and is therefore not located in a tsunami or seiche zone. Development within the planning area would not risk release of pollutants due to tsunami or seiche inundation. As shown in Figure 4-10, portions of the planning area would be subject to a 100-year flood zone, though no areas fall within a 200-year or 500-year flood zone. The 100-year flood zone includes a residential area on the north end of Fowler and an agricultural area farther north running parallel to Golden State Boulevard, as well as a small area in the southern portion of the planning area. Development in these areas could be subject to flood hazards and/or could impede or redirect flood flows to adjacent areas. Compliance with the applicable proposed policies in the Fowler 2040 GP, including SAF-19 – 25, would minimize exposure to flood hazards. These policies include requirements and provisions for reducing losses from flooding, including construction standards to minimize flood risks associated with new development. Specific requirements and provisions for construction in flood-prone areas include practices such evaluating flood hazards prior to development approval and community outreach.

Required compliance with SAF-19, SAF-20, SAF-21, SAF-22, SAF-23, SAF-24, SAF-25 and Action Item SAF-25a as outlined above, would minimize impacts related to flooding and flood hazards to a less than significant level.

Threshold 5: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

See analysis for a) and b) above.

4.11.5 Mitigation Measures

Mitigation measures are not required.

4.11.6 Cumulative Impacts

The analysis in this section examines impacts from the Fowler 2040 GP on hydrology and water quality throughout the cumulative impact analysis area and is cumulative in nature. Some types of hydrologic

impacts are localized and not cumulative in nature. For example, effects to flood zones and exposure of people to a significant risk of loss, injury, or death involving flooding (including flooding as a result of the failure of a levee or dam), seiche, or tsunami are typically independent and the determination as to whether they are adverse is specific to the project and location where they are created.

Some types of impacts to hydrology and water quality that may be additive in nature, and thus cumulative, include violation of water quality standards, interference with groundwater recharge, increased erosion, increased non-point source pollution, and increased runoff. Cumulative development would increase erosion and sedimentation resulting from grading and construction, as well as changes in drainage patterns which could degrade surface and ground water quality. Cumulative development would also increase the amount of impervious surfaces, potentially reducing groundwater recharge. In addition, new development would increase the generation of urban pollutants that may adversely affect water quality in the long term.

Development of individual projects in the planning area would be required to comply with applicable water quality regulations, as discussed above. Compliance with these existing requirements would reduce impacts associated with pollutants discharged during construction and operation of project and adverse changes to water quality throughout the cumulative impact area. Therefore, cumulative impacts related to water quality would be less than significant.

Development of individual projects throughout the cumulative impact area would increase impervious surfaces and reduce groundwater recharge in the planning area, but compliance with applicable policies related to impervious surfaces as well as following SKGSA's, CKGSA's, and NKGSA's goals and policies set forth within the respective GSPs would reduce impacts throughout the cumulative impact area. Similarly, compliance with applicable laws and regulations would minimize the potential for flooding from alteration to the drainage patterns, flood hazards, tsunamis, and seiches. Therefore, cumulative impacts related to groundwater recharge, changing drainage patterns, and flooding would be less than significant.

Figure 4-8: Groundwater Sustainability Agencies Within Planning Area

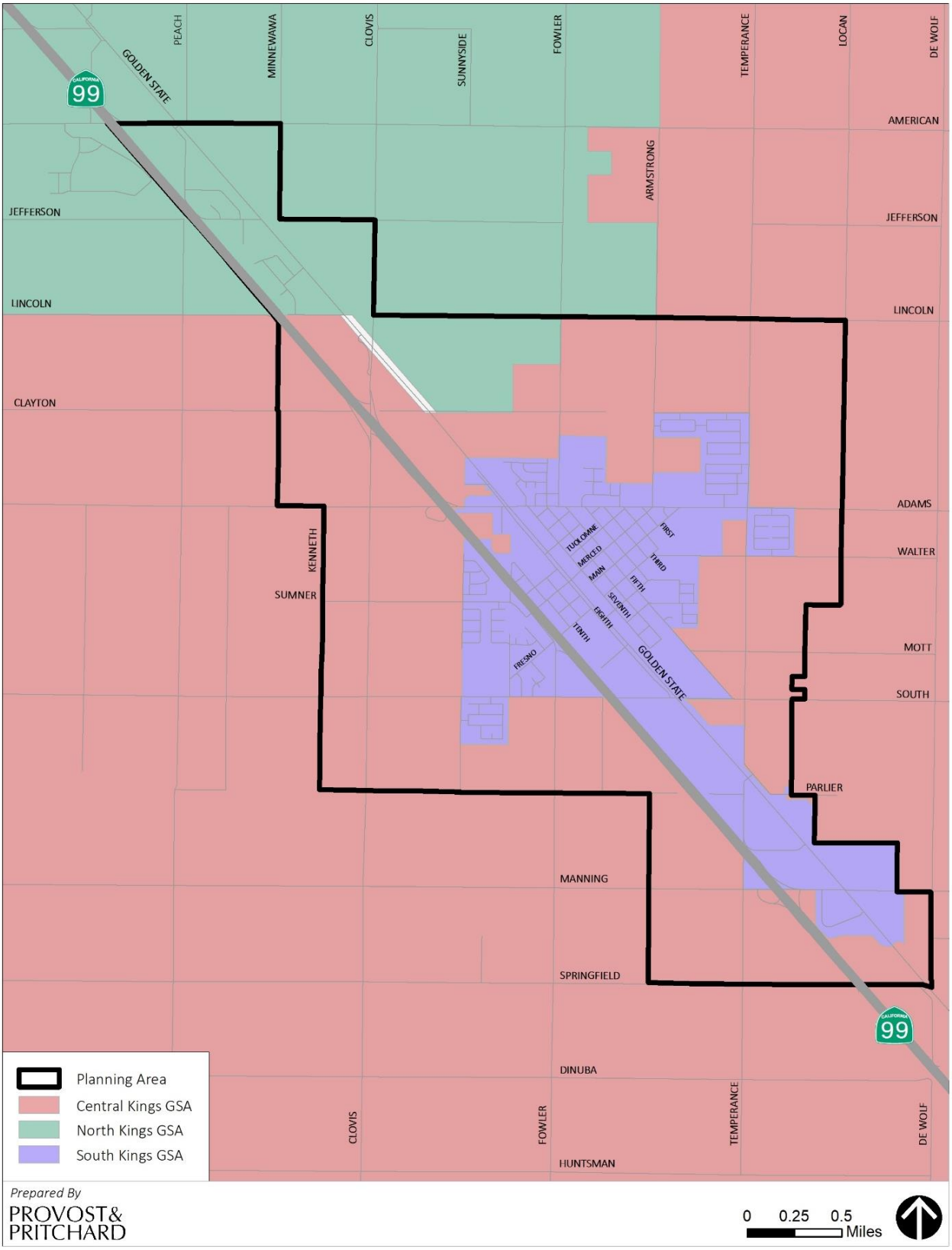


Figure 4-9: Stormwater System Facilities

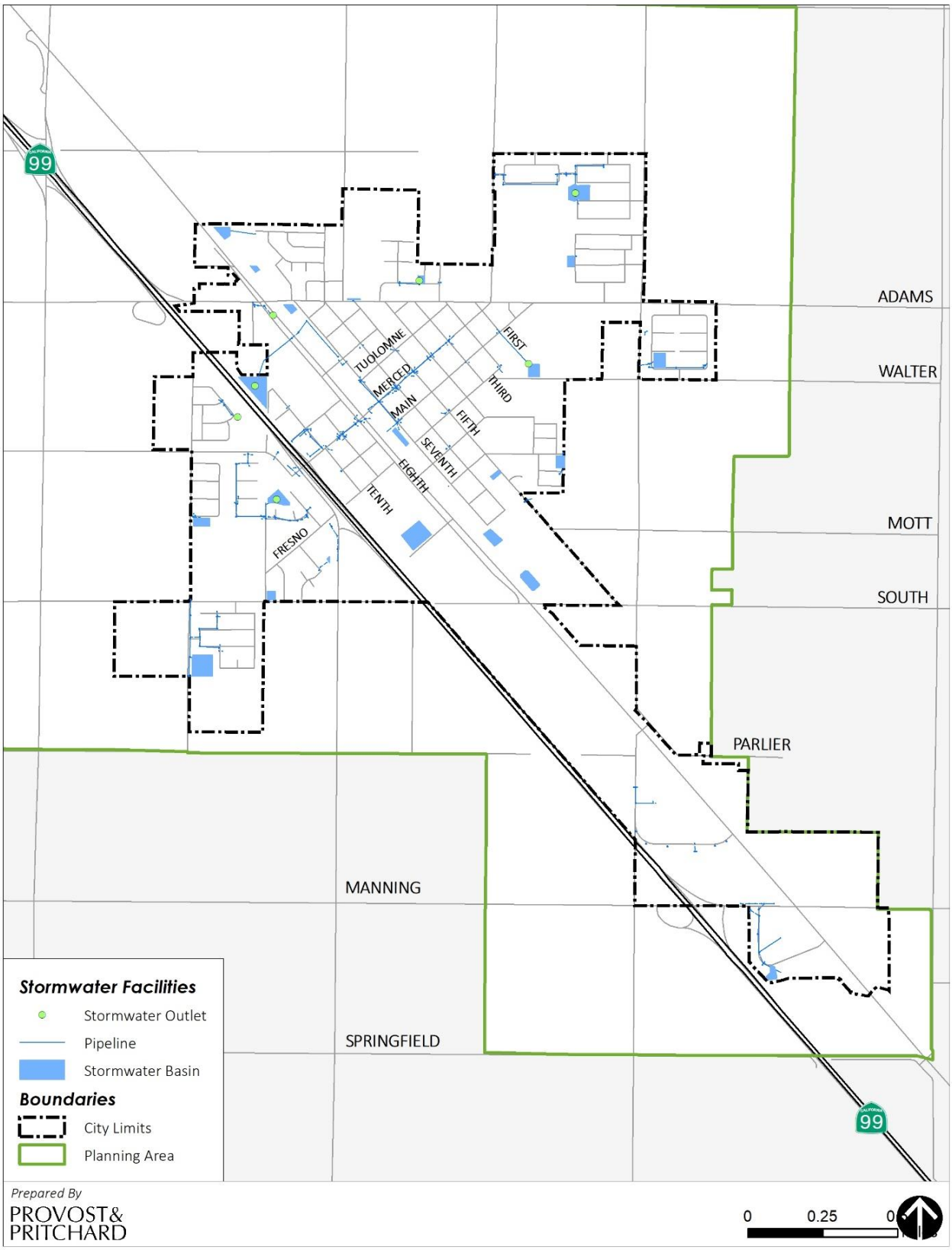
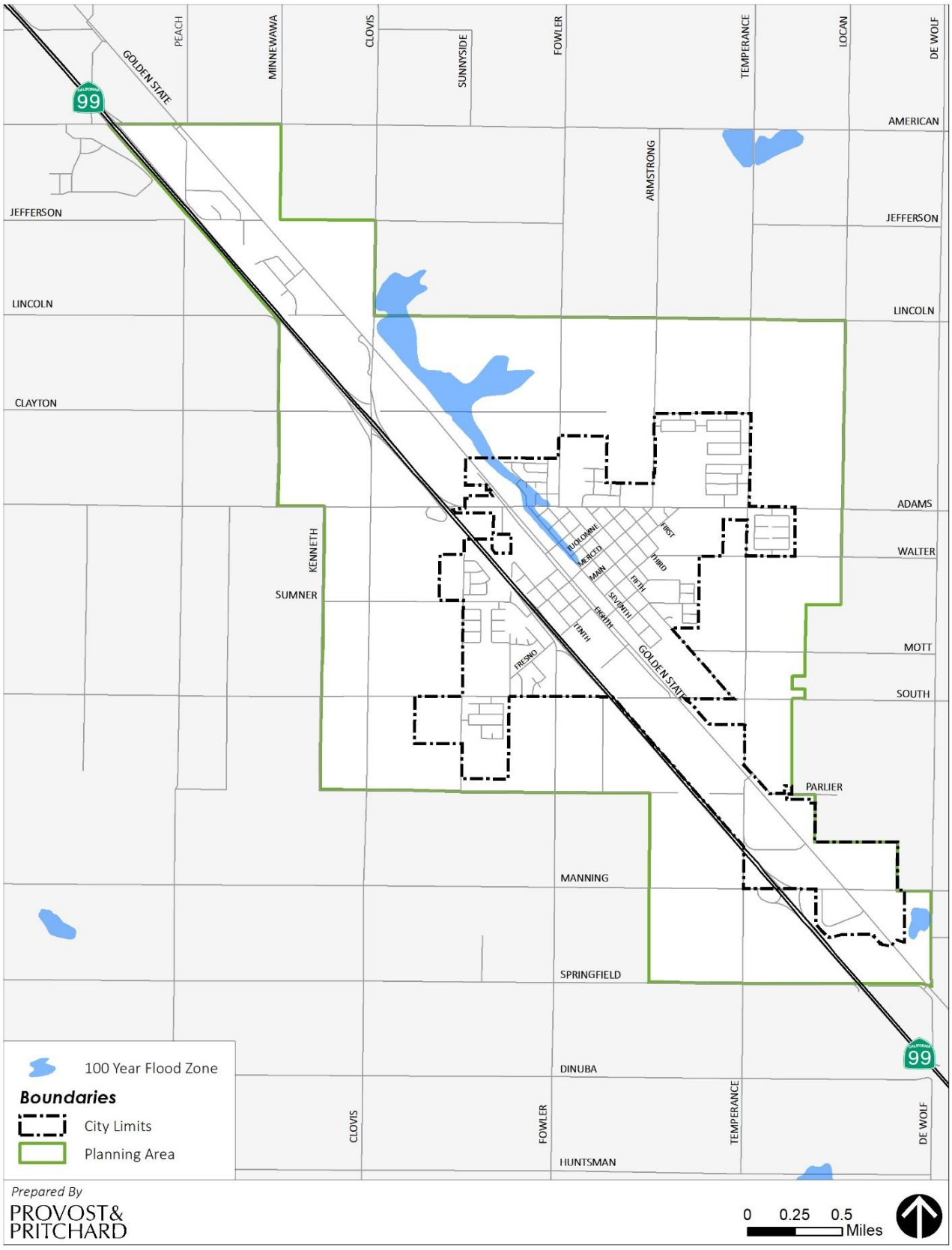


Figure 4-10: Flood Zones (100-Year and 200-Year)



4.12 Land Use and Planning

This section evaluates impacts that could result from implementation of the Fowler 2040 GP to land use characteristics, including the overall land use patterns, contains a more detailed analysis by major land use types, and analyzes existing plans and focus areas with development potential.

4.12.1 Environmental Baseline

Existing Land Use

Fowler is located approximately 11 miles southeast of downtown Fresno. SR 99 bisects Fowler into eastern and western halves, with the downtown area of Fowler located to the east of SR 99 and Golden State Boulevard. The downtown area is generally centrally located where many commercial and governmental activities occur, with residential neighborhoods surrounding. The southeastern portion of Fowler is comprised of industrial and commercial buildings, while the northwestern extension of Fowler is exclusively comprised of industrial use buildings. Residential neighborhoods expand out from the city center with the higher density housing options being found closer to the center, while medium and low-density housing is located nearer to the edges of Fowler. The edges of the planning area are composed of land that is used for agriculture. Most public facilities in Fowler can be found in the northeast part of Fowler.

Agriculture makes up a significant portion of the existing land use within the planning area at 63.9 percent. Residential uses occupy approximately 10 percent of the planning area, while commercial and office uses occupy just 2.7 percent. Industrial uses make up 9.4 percent and public uses, such as churches, government facilities, schools, and other utilities, occupy an additional 5 percent. The remaining 9 percent comprises vacant land and right-of-way. Existing land uses are listed in Table 4-26 on the next page.

Table 4-26: Existing Land Uses

Existing Land Use	City Limits Acres (%)	Planning Area[a] Acres (%)
Residential Uses	378 (30.8%)	442 (9.9%)
Commercial and Office Uses	69 (5.6%)	123 (2.7%)
Industrial Uses	224 (18.2%)	421 (9.4%)
Public/Quasi-Public and Institutional Uses	191 (15.6%)	221 (5%)
Agriculture	97 (7.9%)	2849 (63.9%)
Vacant and Right-of-Way	270 (22%)	402 (9%)
TOTAL	**1229**	**4458**

[a] Includes acreage in City limits, SOI, and Expansion Area

Table 4-27: Fowler 2040 GP Land Use Acreage

Land Use Designation	Total Acreage (%)[a,b]
Low Density Residential	790 (16.5%)
Medium Low Residential	937 (18.9%)
Medium Residential	733 (14.7%)
Medium High Residential	203 (4.1%)
High Residential	83 (1.7%)
Residential Subtotal	**2,746** (55%)
Neighborhood Commercial	28 (0.6%)
Community Commercial	104 (2.1%)
General Commercial	210 (4.2%)
Commercial Subtotal	**342** (6.9%)
Light Industrial	598 (12%)

Land Use Designation	Total Acreage (%)[a,b]
Heavy Industrial	1,105 (22.2%)
Industrial Subtotal	**1,703** (34.3%)
Parks/Open Space	55 (1.1 %)
Public Facilities	123 (2.5%)
Open Space Subtotal	**178** (3.6%)
Total	**4,970**[c]

[a] Acreage is for Fowler 2040 GP planning area.
[b] Excludes Public Right of Way
[c] The total may differ from the sum due to rounding.

4.12.2 Regulatory Setting

Federal

There are no federal regulations, plans, programs, or guidelines associated with land use that are applicable to the Project.

State

General Plan Law

GC Section 65300, et seq., 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.

Cortese Knox Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act; GC Section 56000, et seq.) is the most significant reform to local government reorganization law since the 1963 statute that created a LAFCo in each county. The law established procedures for local government changes of organization, including city or town incorporation, annexation to a city, town, or special district, and consolidation of towns, cities, or special districts. LAFCos have numerous powers under the CKH Act, but those of prime concern are the power to act on local agency boundary changes and to adopt SOIs for local agencies. The law also states that to update an SOI, LAFCos are required to first conduct a review of the municipal services provided in the county.

While LAFCo does not have any direct land use authority, the CKH Act assigns LAFCos a significant role in planning issues by requiring them to consider a wide range of land use and growth factors when they consider proposals. GC Section 56001 specifically states that "the logical formation and determination of local agency boundaries is an important factor in promoting orderly development and in balancing that development with sometimes competing State interests of discouraging urban sprawl, preserving open space and prime agricultural lands, [and] efficiently extending government services."

Local

Fowler Zoning Ordinance

Zoning is the primary tool used to implement a community's general plan. A major difference between a general plan and zoning ordinance is that the general plan provides general guidance on the location, type, and density of new growth and development over the long term, while the zoning ordinance provides detailed development and use standards for each parcel of land. The zoning ordinance divides the

community into zoning districts and specifies the uses that are permitted, conditionally permitted, and in some instances, which uses are specifically prohibited within each district.

Typically, a zoning ordinance consists of text and a map delineating districts for such basic land uses as residential, commercial, and industrial, and establishing special regulations for historic preservation, floodplains, hillside development, and other specific concerns. For each of the basic land uses, the zoning ordinance text typically includes an explanation of the purpose of the zoning district; a list of principal permitted and conditionally permitted uses; and standards for minimum lot size, density, height, lot coverage, setback, and parking. The zoning ordinance also typically describes procedures for processing discretionary approvals.

4.12.3 Methodology and Thresholds of Significance

The analysis in this section focuses on the compatibility of land uses identified in the Fowler 2040 GP with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental impacts. This section also analyzes whether development facilitated by the Fowler 2040 GP or its policies would physically divide the community or conflict with an existing plan or policy aimed at reducing the environmental impact of development.

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to land use and planning. The Fowler 2040 GP would have a significant impact if it would:

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.12.4 Impacts

Threshold 1: Would the project physically divide an established community?

Less than Significant Impact. The Fowler 2040 GP would not create a physical division within an established community. A physical divide in the community could result from the construction of a freeway/highway, a water drainage or conveyance facility, or an undesirable land use such as a waste facility. The land plan associated with the Fowler 2040 GP does not propose the construction of any of the aforementioned facilities, or a similar facility, that would create a physical divide within an existing community which would limit access to the community. SR 99 currently bisects Fowler, creating eastern and western areas of the City. Full buildout of the Fowler 2040 GP would result in the construction of residential and commercial land uses on both sides of SR 99. Implementation of the proposed Project would maintain existing connections across SR 99 and would result in development patterns that enhance residents' access to services and facilities.

Threshold 2: Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. The Fowler 2040 GP would not cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation an environmental effect. Buildout of the Fowler 2040 GP would be required to meet all applicable federal, State, and local standards and regulations. In addition, any future development within Fowler would be required to be consistent with the City's Zoning Ordinance, which would regulate intensity and density of land uses, as well as ensure that individual projects evaluate compatibility with surrounding uses. Also, any future development would be required to meet all applicable SJVAPCD regulations governing air quality within the plan area as discussed in Section 4.4. Lands that are annexed into Fowler and its

planning area could be located within the Selma Airport safety zones identified in the ALUCP (see Table 4-25). Future development projects within the established airport safety zones would be subject to review for compatibility by the Fresno County ALUC. The planned land uses within the planning area are not expected to conflict with the airport safety zones for the Selma Airport.

Implementation of the Fowler 2040 GP would replace the existing goals and policies of the 2025 General Plan, including the Land Use Element and Land Use Diagram. Therefore, the Fowler 2040 GP would not be inconsistent with the existing land use plan and the impact would be less than significant.

4.12.5 Mitigation Measures

Mitigation measures are not required.

4.12.6 Cumulative Impacts

The Fowler 2040 GP creates a land use plan for the logical development and buildout of the entire planning area of Fowler. It does not propose any linear infrastructure such as a freeway or a similar physical barrier that would physically divide a community, and thus would not contribute to any cumulative effects in that regard. In addition, all development projects completed under the Fowler 2040 GP would be required to adhere to all applicable land use plans, policies, and regulations aimed at the avoidance or mitigation of an environmental effect. As a result, there would be no cumulative impacts due to a conflict with these policies. Therefore, cumulative impacts associated with land use and planning would be considered less than significant.

4.13 Mineral Resources

This section evaluates potential impacts to mineral resources that could result from implementation of the Fowler 2040 GP.

4.13.1 Environmental Baseline

Fresno County has been a leading producer of minerals because of the abundance and wide variety of mineral resources that are present in the County. Extracted resources include aggregate products (sand and gravel), fossil fuels (oil and coal), metals (chromite, copper, gold, mercury, and tungsten), and other minerals used in construction or industrial applications (asbestos, high-grade clay, diatomite, granite, gypsum, and limestone). Mineral Resource Locations, in the General Plan Background Report illustrates the general distribution of minerals throughout the County. However, the CGS (formerly the CDMG) has not performed a comprehensive survey of all potential mineral resource locations or classified other locations within the County into MRZ. For the period 1994-95, there were 18 active mines and mineral producers in Fresno County. Aggregate and petroleum are considered the County's most significant extractive mineral resources. No active or inactive mines are mapped in the planning area according to the California Office of Mine Reclamation Mines Online website.[108]

4.13.2 Regulatory Setting

Federal

United States Department of the Interior's Minerals Availability System

Identifies between 15 and 17 rare Earth minerals as critical resources for United States Department of Defense applications or resources which are critical to national security. It recommends the development of a comprehensive approach to help ensure a secure supply of each resource and identifies risks as well as timeframes for actions.

State

Surface Mining and Reclamation Act

The California Surface and Reclamation Act (SMARA) was enacted in 1975 and provides guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four MRZs:

- MRZ-1: An area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: An area containing mineral deposits, the significance of which cannot be evaluated.
- MRZ-4: An area where available information is inadequate for assignment to any other MRZ zone.

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are designated by the CGS as being "regionally significant." Such designations require that a Lead Agency's land use decisions involving designated areas are to be

[108] (California Department of Conservation 2022)

made in accordance with its mineral resource management policies and that it considers the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency's jurisdiction.

The planning area is designated as Mineral Resource Zone 3 (MRZ-3), which means that this is an area containing mineral deposits, the significance of which cannot be evaluated from available data.[109] The planning area is in the Fresno Production-Consumption Region, which spans much of central Fresno County and most of the west half of Madera County. The nearest areas to the planning area that are designated MRZ-2, which means significant mineral resources are known or very likely, are the San Joaquin River Resource Area, 18 miles north of the Plan Area, and the Kings River Resource Area, 9 miles southeast of the Plan Area.[110]

4.13.3 Methodology and Thresholds of Significance

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to mineral resources. The Fowler 2040 GP could have a significant impact if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

4.13.4 Impacts

Threshold 1: Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Threshold 2: 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?

Less than Significant Impact. Based on the County of Fresno GP Background Report and the mineral land classification maps maintained by the CGS, Fowler is considered to be located within an MRZ-3 area. MRZ-3 areas are those that contain mineral resources, but the significance of those resources cannot be determined. The Fowler 2040 GP would not result in the loss of availability of known mineral resources in the planning area. Based on a review of GIS data and the mineral land classification map prepared by the State CGS, there are no existing mineral extraction operations in Fowler. The State Geologist has not designated a mineral resource area of statewide or regional significance in Fowler pursuant to PRC Section 2710, et seq.

4.13.5 Mitigation Measures

Mitigation measures are not required.

4.13.6 Cumulative Impacts

As discussed above, the planning area does not contain any known mineral resources aside from aggregate materials that can be found throughout Fresno County, the loss which would not cause a significant impact to mineral resources. The City is located within an MRZ-3 area. These areas contain mineral resources, however, the significance of these resources in unknown. The loss of mineral resources would be considered on a case-by-case basis as development occurs through the buildout of the 2040 General Plan.

[109] (Fresno County 2000)
[110] (California Division of Mines and Geology 1999)

Buildout of the 2040 General Plan would not result in the conflict or obstruction of a State or local plan or ordinance in place to minimize the impacts to mineral resources. As a result, cumulative impacts would be less than significant.

4.14 Noise

This section evaluates the impacts due to excessive noise and ground borne vibrations resulting from implementation of the Fowler 2040 GP.

4.14.1 Environmental Baseline

Acoustic Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound is mechanical energy transmitted in the form of a wave because of a disturbance or vibration. Sound levels are described in terms of both amplitude and frequency.

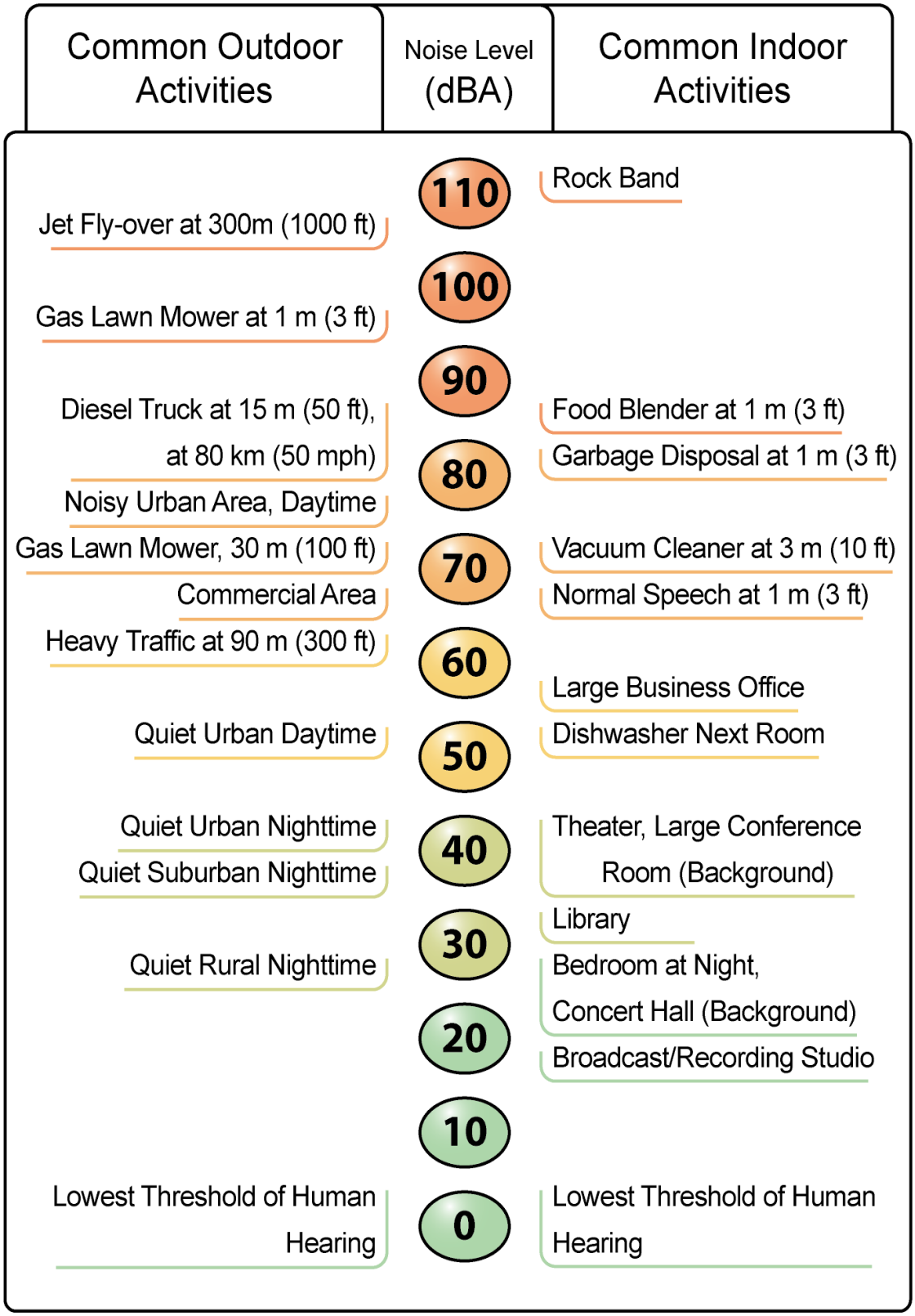
Amplitude

Amplitude is defined as the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Amplitude is interpreted by the ear as corresponding to different degrees of loudness. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

Frequency

The frequency of a sound is defined as the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. For instance, the human ear is more sensitive to sound in the higher portion of this range than in the lower and sound waves below 16 Hz or above 20,000 Hz cannot be heard at all. To approximate the sensitivity of the human ear to changes in frequency, environmental sound is usually measured in what is referred to as “A-weighted decibels” (dBA). On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Common community noise sources and associated noise levels, in dBA, are depicted in .

Figure 4-11: Common Noise Levels



Addition of Decibels

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces a sound level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

Sound Propagation & Attenuation

Geometric Spreading

Noise sources are generally characterized as either a localized source (i.e., point source) or a line source. Examples of point sources include construction equipment, vehicle horns, alarms, and amplified sound systems. Examples of a line sources include trains and on-road vehicular traffic. Sound from a point source propagates uniformly outward in a spherical pattern.

For a point source, sound levels generally decrease (attenuate) at a rate of approximately 6 decibels for each doubling of distance from the source, depending on ground surface characteristics. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver), no excess ground attenuation is assumed. Parking lots and bodies of water are examples of hard surfaces which generally attenuate at this rate. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 decibels per doubling of distance is normally assumed. When soft surfaces are present, the excess ground attenuation for soft surfaces generally results in an overall attenuation rate of approximately 7.5 decibels per doubling of distance from the point source.

On-road vehicle traffic consists of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels for line sources attenuate at a rate of approximately 3 decibels for each doubling of distance for hard sites and approximately 4.5 decibels per doubling of distance for soft sites.

Atmospheric Effects

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) from the highway due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in minimum 5 dB of noise reduction. Taller barriers provide increased noise reduction.

Noise reductions afforded by building construction can vary depending on construction materials and techniques. Standard construction practices typically provide approximately 15 dBA exterior-to-interior

noise reductions for building facades, with windows open, and approximately 20-25 dBA, with windows closed. With compliance with current building construction and insulation requirements, exterior-to-interior noise reductions typically average approximately 25 dBA. The absorptive characteristics of interior rooms, such as carpeted floors, draperies, and furniture, can result in further reductions in interior noise.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies preventing exposure to excessive community noise levels.

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted: the so-called "ambient" environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged. Regarding increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans;
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference;
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial;
- A 10-dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

A limitation of using a single noise-level increase value to evaluate noise impacts, as discussed above, is that it fails to account for pre-development noise conditions. With this in mind, the Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that take into account the ambient noise level. The FICON recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (i.e., CNEL, L_{dn}). FICON-recommended noise evaluation criteria are summarized in Table 4-28.

Table 4-28: Federal Interagency Committee on Noise Recommended Criteria for Evaluation of Increases in Ambient Noise Levels

Ambient Noise Level Without Project	Increase Required for Significant Impact
< 60 dB	5.0 dB, or greater
60-65 dB	3.0 dB, or greater
> 65 dB	1.5 dB, or greater
Source: FICON 2000	

As depicted in Table 4-28, an increase in the traffic noise level of 5.0, or greater, would typically be considered to result in increased levels of annoyance where existing ambient noise levels are less than 60 dB. Within areas where the ambient noise level ranges from 60 to 65 dB, increased levels of annoyance would be anticipated at increases of 3 dB, or greater. Increases of 1.5 dB, or greater, could result in increased levels of annoyance in areas where the ambient noise level exceeds 65 dB. The rationale for the FICON-recommended criteria is that as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant increases in annoyance. These criteria are commonly applied for analysis of environmental noise impacts. (Appendix H)

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses that would result in noise exposure that could cause health-related risks to individuals. Places where quiet is essential are also considered noise-sensitive uses. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other land uses such as libraries, places of worship, and recreation areas are also considered noise-sensitive land uses.

Noise-sensitive land uses within Fowler consist predominantly of residential land uses. Other noise-sensitive land uses located within Fowler include schools, places of worship, and community parks.

Existing Noise Environment

Short-term (10-minute) noise level measurements were conducted on March 24, 2021 for the purpose of documenting and measuring the existing noise environment at various locations throughout the City. Measurement locations were selected near major noise sources located in the vicinity of proposed focus areas and other locations within the community.

Measured daytime noise levels along area roadways ranged from approximately 47.6 to 62.5 dBA equivalent sound level (L_{eq}). In general, nighttime noise levels are typically 5-10 dB lower than daytime noise levels. Ambient noise levels are largely influenced by vehicle traffic on area roadways. To a lesser extent, aircraft overflights and other noise sources within the community (e.g., landscaping, industrial activities, construction activities) also contribute to the ambient noise environment. Ambient noise measurement locations and corresponding measured average-hourly noise levels (in dBA L_{eq}) are summarized in Table 4-29. Noise measurement locations are depicted in Figure 4-12.

Table 4-29: Summary of Measured Ambient Noise Levels

	Location	Monitoring Period	Primary Noise Sources	Noise Level (dBA) L_{eq}
1	355 North Jonna Avenue	9:53 - 10:03	Birds, Background Traffic	**47.6**
2	800 Block East Adams Avenue	10:08 - 10:18	Traffic, Reverse Beeps	**62.5**
3	Panzak Park	10:27 - 10:37	Traffic, Birds	**52.3**
4	229 South 3rd Street	10:43 - 10:53	Traffic, Birds, Bus Idle	**54.0**
5	1540 East Sumner Avenue	11:00 - 11:10	Birds, Dog	**48.4**
6	519 South 7th Street	11:16 - 11:26	Birds, Industrial Fans	**54.3**
7	106 East Main Street	11: 34 - 11:44	Traffic	**54.7**
8	314 North 5th Street	11:50 - 12:00	Birds, Background Traffic	**49.9**

Location		Monitoring Period	Primary Noise Sources	Noise Level (dBA) L_{eq}
9	81 Carter Avenue	12:06 - 12:16	Birds, Background Traffic	47.9
10	Valley Children's Park	12:56 - 13:06	Traffic	55.5
11	1362 East South Avenue	13:14 - 13:24	Industrial Fans, Speaker	60.8
12	East Valley Drive	13:45 - 13:55	Traffic, Forklift	54.8
13	1122 West Jameson Avenue	14:06 - 14:16	Traffic, Birds	58.9
14	Donny Wright Park	14:31 - 14:41	Traffic, Birds, Train Horn, People	59.7
15	Sandy Avenue/Clara Court	14:51 - 15:01	Background Traffic	48.0
Noise measurements were conducted on March 24, 2021. Refer to Figure 4-12 for noise measurement locations.				

Noise Sources

Roadway Vehicular Traffic

Noise from vehicular traffic on area roadways is a primarily source of ambient noise in the City. Major sources of noise include the SR99 and Golden State Boulevard.

Traffic noise levels were calculated using the Federal Highway Administration (FHWA) Roadway Noise Prediction Model (FHWA RD-77-108) based on average-daily traffic (ADT) volumes obtained from the traffic analysis prepared for this project.[111] Predicted traffic noise levels and distances to projected traffic noise contours for major roadways are summarized in Table 4-31. Based on the modeling conducted, existing traffic noise levels along area roadways range from approximately 56 to 79 dBA CNEL at 50 feet from the near-travel-lane centerline. The primary generator of traffic noise within Fowler is SR99. Existing traffic noise levels at 50 feet from the near-travel-lane centerline of SR99 are approximately 79 dBA CNEL.

Railroad Traffic

The Union Pacific Railroad (UPRR) runs northwest-southeast through the City, adjacent to Golden State Boulevard. Depending on freight demand, approximately 22 to 35 freight trains pass through Fowler on a daily basis.

Existing train noise levels and distance to noise contours are summarized in Table 4-30. Based on a conservative estimate of 35 trains per day, average-daily noise levels along the railroad corridor could reach levels of approximately 79 dBA CNEL at 100 feet from the rail corridor centerline. Train noise events can also be a source of intermittent noise, including noise generated by locomotive engines, wheel squeal, and warning horns. These instantaneous noise events can contribute to increased levels of annoyance to occupants of nearby noise-sensitive land uses.

Table 4-30: Existing Railroad Traffic Noise Levels

Train Type	Number of Trains/Day	CNEL at 100 feet from Rail Corridor Centerline	Distance to CNEL Contours (feet) from Rail Corridor Centerline		
			70	65	60
UPRR Freight	35	79	263	468	830
UPRR freight trains distributed equally over a 24-hour period. Does not include shielding provided by intervening terrain or structures. Predicted noise contours do not include shielding by intervening structures.					

Major Surface Transportation Noise Contours

Major surface transportation noise sources in Fowler include SR 99 and the UPRR, which parallels SR 99 to the east in a general northwest to southeast direction. Vehicle traffic along Golden State Boulevard also contribute to projected noise contours along this same general corridor. Combined existing noise contours for these surface transportation noise sources are depicted in Figure 4-13, Figure 4-14, and Figure 4-15.

[111] (Kittlelson & Associates 2022)

Table 4-31: Existing Roadway Traffic Noise Levels & Contour Distances

Roadway Segment	ADT Volumes	CNEL at 50 ft. from Near-travel-lane Centerline	Distance to CNEL Contour (Feet from Road Centerline)		
			70	65	60
American Ave, SR-99 to Golden State Blvd	4,238	64.3	WR	50.4	108
Adams Ave, SR-99 to Golden State Blvd	4,539	63.2	WR	WR	95
Adams Ave, Golden State Blvd to 7th St	4,247	58.6	WR	WR	WR
Adams Ave, East of 5th St	3,412	57.6	WR	WR	WR
Adams Ave, Armstrong Ave to Temperance Ave	3,667	57.4	WR	WR	WR
Adams Ave, Temperance Ave to Locan Ave	2,685	56.5	WR	WR	WR
Sumner Ave, Sunnyside Ave to Merced St	3,108	58.9	WR	WR	WR
Manning Ave, W of 99 SB Ramps	5,802	64.5	WR	52.1	111.5
Manning Ave, E of 99 NB Ramps	21,738	68.4	64.9	127.9	269.6
Manning Ave, E of Golden State	16,414	67.2	WR	107.3	224.2
Clovis Ave, S of Lincoln Ave	15,876	68.6	60.5	122.6	260.5
Clovis Ave, N of SR 99 NB Ramps, S of Golden State Blvd Frontage Connector Road	16,736	68.5	64.5	127.9	270.1
Clovis Ave, SR 99 SB off to Adams Ave	4,513	64.6	WR	52.5	112.6
Clovis Ave, Adams Ave to Summer Ave	3,904	64.0	WR	WR	102.2
Clovis Ave, Summer Ave to South	3,428	63.4	WR	WR	93.8
Clovis Ave, South Ave to Parlier Ave	3,163	63.0	WR	WR	88.9
S Fowler Ave, Merced St. to Fresno St.	7,448	64.3	WR	50.6	108.4
S Fowler Ave, Fresno St. to South Ave.	4,607	63.5	WR	WR	95.7
S Fowler Ave, South Ave to Parlier Ave	3,596	63.6	WR	WR	96.8
Golden State Blvd, American Ave to Lincoln Ave	6,584	65.7	WR	103.1	205.3
Golden State Blvd, Lincoln Ave to Clayton Ave	5,525	65.7	WR	103.1	205.3
Golden State Blvd, Clayton Ave to Adams Ave	5,509	65.7	WR	102.9	205.9
Golden State Blvd, Adams Ave to Merced St.	6,084	65.7	WR	102.9	204.9
Golden State Blvd, Merced St. to South Ave	8,524	65.9	WR	101.7	205.1
Golden State Blvd, South Ave to Temperance Ave	8,846	66.1	WR	103.7	210
Golden State Blvd, Temperance Ave to Valley Dr	10,058	66.7	WR	111.6	228.1
Golden State Blvd, Valley Dr of Manning Ave	9,065	66.2	WR	105.1	213.3
Golden State Blvd, Manning Ave to Springfield Ave	10,722	65.9	WR	100.8	203.4
Merced St, 10th St to 9th St	11,840	64.6	WR	55.8	118.9
Merced St, 9th St to 8th St	10,944	64.2	WR	53.1	112.9
Merced St, 7th St to 6th St	4,172	60.4	WR	WR	59.5
Merced St, 6th St to 5th St	3,665	59.8	WR	WR	54.6
SR-99, South of Merced St	94,000	82.4	509	1,094	2,355
SR-99, Merced St to Adams Ave	97,000	82.6	519	1,117	2,405
SR-99, Adams Ave to Clovis Ave	99,000	82.6	526	1,132	2,438

Traffic noise levels for area roadways were calculated based on data obtained from the traffic analysis prepared for this project. Does not include shielding provided by intervening terrain or structures.
*Projected roadway traffic noise contours for SR-99 are depicted in **Figure 4-13**, **Figure 4-14**, and **Figure 4-15**.*
WR = Contour is located within road right-of-way
Source: Kittelson & Associates 2022

Non-Transportation Sources

Within the Fowler, major non-transportation noise sources consist predominantly of industrial and commercial land uses. Many industrial processes produce noise, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and State employee health and safety regulations (i.e., regulations OSHA and Cal/OSHA). Exterior noise levels that affect neighboring parcels are typically subject to local standards. Commercial, recreational, and public

facility activities can also produce noise that may affect adjacent noise-sensitive land uses. These noise sources can be continuous or intermittent and may contain tonal components that are annoying to individuals who live nearby. For instance, emergency-use sirens and backup alarms are often considered nuisance noise sources but may not occur frequently enough to be considered incompatible with noise-sensitive land uses. In addition, noise generation from fixed noise sources may vary based upon climate conditions, time of day, and existing ambient noise levels.

From a land-use planning perspective, stationary-source noise control issues focus on two goals: (1) preventing the introduction of new noise-producing uses in noise-sensitive areas; and (2) preventing encroachment of noise-sensitive uses upon existing noise-producing facilities. The first goal can be achieved by applying noise performance standards to proposed new noise producing uses. The second goal can be met by requiring that new noise-sensitive uses near noise-producing facilities include mitigation measures to ensure compliance with noise performance standards. Each of these goals stresses the importance of avoiding the location of new uses that may be incompatible with adjoining uses.

The following discussions of existing non-transportation noise sources in the community are intended to be representative of the sources and relative noise levels associated with such uses. The average-hourly noise levels (in dBA L_{eq}) discussed for these sources provide an indication of the noise levels that can generally be expected to occur over an extended period of time. The L_{eq} noise levels do not necessarily reflect possible intermittent high noise levels associated with the various uses but are useful for general planning purposes. Actual noise levels at nearby noise-sensitive receptors will likely vary from one day to the next depending on the operational characteristics of the facility, meteorological conditions, and the physical landscape.

Non-transportation noise sources within Fowler consist predominantly of commercial and industrial uses. To a somewhat lesser extent, other non-transportation noise sources would also include automotive/equipment repair and maintenance facilities, and construction activities. Noise levels associated with some of the more common non-transportation noise sources located throughout the community are discussed in more detail, as follows:

Commercial and Industrial Uses

Within the Fowler planning area, commercial and industrial land uses are located primarily along major roadway and railway corridors. Noise sources commonly associated with these land uses include truck traffic, loading dock activities, heavy-equipment operation, and building mechanical systems. Major industrial and commercial operations within the community include metal and glass recycling centers, trucking distribution centers, and food and agricultural products processing. Various other activities, such as and loading dock activities, can result in temporary or intermittent increases in ambient noise levels. In general, noise levels associated with these uses can range from approximately 55 to 85 dBA L_{eq} at 50 feet.

Noise levels associated with commercial and industrial land uses can vary depending on various factors, including site conditions, equipment operated, and the specific activities being conducted. As a result, actual noise levels at nearby noise-sensitive receptors will likely vary depending on the above mentioned conditions and other influences, such as location, distance from source, shielding provided by intervening terrain and structures, and ground attenuation rates. For this reason, noise generated by commercial and industrial uses and impacts to nearby noise-sensitive land uses should be evaluated on a project-by-project and site-specific basis.

Landscape Maintenance

Landscape maintenance activities often result in sporadic and intermittent increases in ambient noise levels. Equipment used for landscape maintenance often include the use of power mowers and leaf blowers. Leaf blowers and gasoline-powered lawn mowers can result in intermittent noise levels of up to

approximately 100 dBA at 3 feet.[112] Resultant exterior noise levels could reach intermittent levels of approximately 75 dBA L_{max} at 50 feet. The use of leaf blowers, particularly when used during the more noise-sensitive evening and nighttime hours, may result in increased levels of annoyance.

Automotive Maintenance & Repair

Typical automotive maintenance and repair activities often include the use of pneumatic tools, air compressors, and power generators. Other equipment operations such as the use of power hand tools (e.g., sanders, drills, grinders, pneumatic wrenches, etc.), typically generate a lesser degree of noise. The use of air compressors, power generators, and pneumatic tools can generate noise levels of up to approximately 85 dBA at 50 feet. Noise levels generated by the use of hand-held tools, such as sanders, drills, and grinders, typically average between 63 and 87 dBA at 3 feet. The use of multiple hand tools, such as grinders being used on metal, can generate levels of 87 to 97 dBA at 3 feet (USEPA 1971). Noise levels associated with these facilities would be dependent on the specific activities performed and source/facility characteristics.

Building Mechanical Systems

The majority of electrical and mechanical equipment in buildings is used for air circulation systems. Mechanical systems may also include pumping systems, elevators and escalators, and various other material conveyance systems. Much of this equipment is located in mechanical equipment rooms or in areas that provide shielding from direct public/personnel exposure (i.e., above ceilings, in walls, or behind enclosures.) Equipment located within exterior areas can result in increases in ambient noise levels, particularly when located in unshielded areas and within line-of-sight of nearby receptors. Such equipment would include air-conditioning units, cooling towers, compressors, fans/turbines, electrical transformers, chillers, and pumps. Noise levels associated with these sources can vary depending on the specific equipment being operated, facility/equipment design, and operational characteristics. Typical noise levels associated with building mechanical equipment can range from less than 50 to 110 dBA at 3 feet, with the highest noise levels reaching approximately 85 dBA at 50 feet from the source.

Construction Activities

Construction noise typically occurs intermittently and varies depending upon the nature or phase (e.g., demolition/land clearing, grading and excavation, erection) of construction. Noise generated by construction equipment, including pile drivers, material handling equipment, pavers, jackhammers, and portable generators, can result in intermittent and prolonged increases in ambient noise levels. Although construction noise impacts are generally short-term, they can result in increased levels of annoyance to occupants of nearby residential dwellings. In general, noise levels generated by construction activities can range from approximately 71 to 83 dBA L_{eq} at 50 feet from the source.

Noise-generating construction activities are currently regulated through implementation of the City's Noise Control ordinance, which generally limits these activities to the less noise-sensitive daytime hours of the day.[113]

4.14.2 Regulatory Setting

Federal, State, and local governments have established noise standards and guidelines to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise. Those regulations most applicable to the community are summarized, as follows:

[112] (United States Environmental Protection Agency 1971)
[113] (City of Fowler 2021)

Federal

United States Environmental Protection Agency

In 1974, USEPA Office of Noise Abatement and Control published a report entitled *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. Although this document does not constitute USEPA regulations or standards, it is useful in identifying noise levels at which increased levels of annoyance would be anticipated. Based on an annual-average day-night noise level (expressed as L_{dn} or DNL), the document states that "undue interference with activity and annoyance" will not occur if outdoor noise levels in residential areas are below 55 dBA L_{dn} and indoor levels are below 45 dBA L_{dn} (USEPA 1974).

Department of Housing and Urban Development

The Department of Housing and Urban Development (HUD) guidelines for the acceptability of residential land uses are set forth in the Code of Federal Regulations, Title 24, Part 51, "Environmental Criteria and Standards." These guidelines identify a noise exposure of 65 dBA L_{dn}, or less, as acceptable. Exterior noise levels of 65 to 75 dBA L_{dn} are considered normally acceptable, provided appropriate sound attenuation is provided to reduce interior noise levels to within acceptable levels. Exterior noise levels above 75 dBA L_{dn} are considered unacceptable. The goal of the interior noise levels for residential, hotel, and hospital/nursing home uses is 45 dBA L_{dn}. These guidelines apply only to new construction supported by HUD grants and are not binding upon local communities.

State

California Building Code

CCR Title 24 contains standards for allowable interior noise levels associated with exterior noise sources (CBC, 2019 edition, Part 2, Volumes 1 & 2, Chapter 12 Interior Environment, Section 1206.4 Allowable interior noise levels). The standards apply to new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family residences. The standards state that the interior noise level attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room. Proposed multi-family residential structures to be located where the CNEL exceeds 60 dBA shall require an acoustical analysis showing that the proposed building design would achieve the prescribed allowable interior noise standard.

State of California General Plan Guidelines

The *State of California General Plan Guidelines,*[114] published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific noise environments. Based on these guidelines, residential uses, churches, libraries, and hospitals are "normally unacceptable" in areas where the exterior noise level exceeds 70 dBA CNEL and "conditionally acceptable" within exterior noise environments between 60 and 70 dBA CNEL. Noise levels of up to 60 dBA CNEL are considered "normally acceptable." The goal of these noise standards is, in part, to allow for a "normally acceptable" interior noise level of 45 dBA CNEL. For instance, assuming an average exterior-to-interior noise reduction of 15 dBA (with windows partially open), an exterior noise level of 60 dBA CNEL, or less, would be sufficient to achieve an interior noise level of 45 dBA CNEL. Higher exterior noise levels may be allowed provided that noise-reduction measures are incorporated to achieve acceptable interior noise levels. Within "conditionally acceptable" exterior noise environments, conventional construction with incorporation of fresh air circulation systems sufficient to allow windows to remain closed would normally suffice. Compliance with current building code requirements and with windows closed, exterior-to-interior noise reductions typically average approximately 25 dBA or more. However, the state stresses that these guidelines can be modified to reflect communities' sensitivities to noise. Adjustment factors may also be used in order to arrive at noise acceptability standards that reflect the noise control goals of the

[114] (State of California 2017)

community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. The State recommended noise criteria for land use compatibility are summarized in Table 4-32.

Local

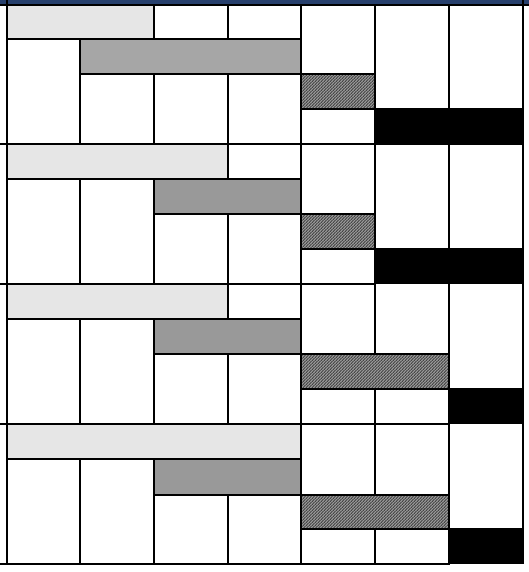
Fowler General Plan Noise Element

The *Fowler General Plan Element Preparation*, Chapter 7, Section 7.8, identifies exterior average-daily noise standards for the primary purpose of ensuring the compatibility of proposed land uses within exterior noise environments and to ensure that noise levels at adjacent land uses do not exceed acceptable levels. These standards are also designed to protect existing land uses, including transportation and industry, from encroaching urban uses. These noise standards are largely consistent with those identified in the State of California's *General Plan Guidelines*, as discussed above, and summarized in Table 4-32.[115]

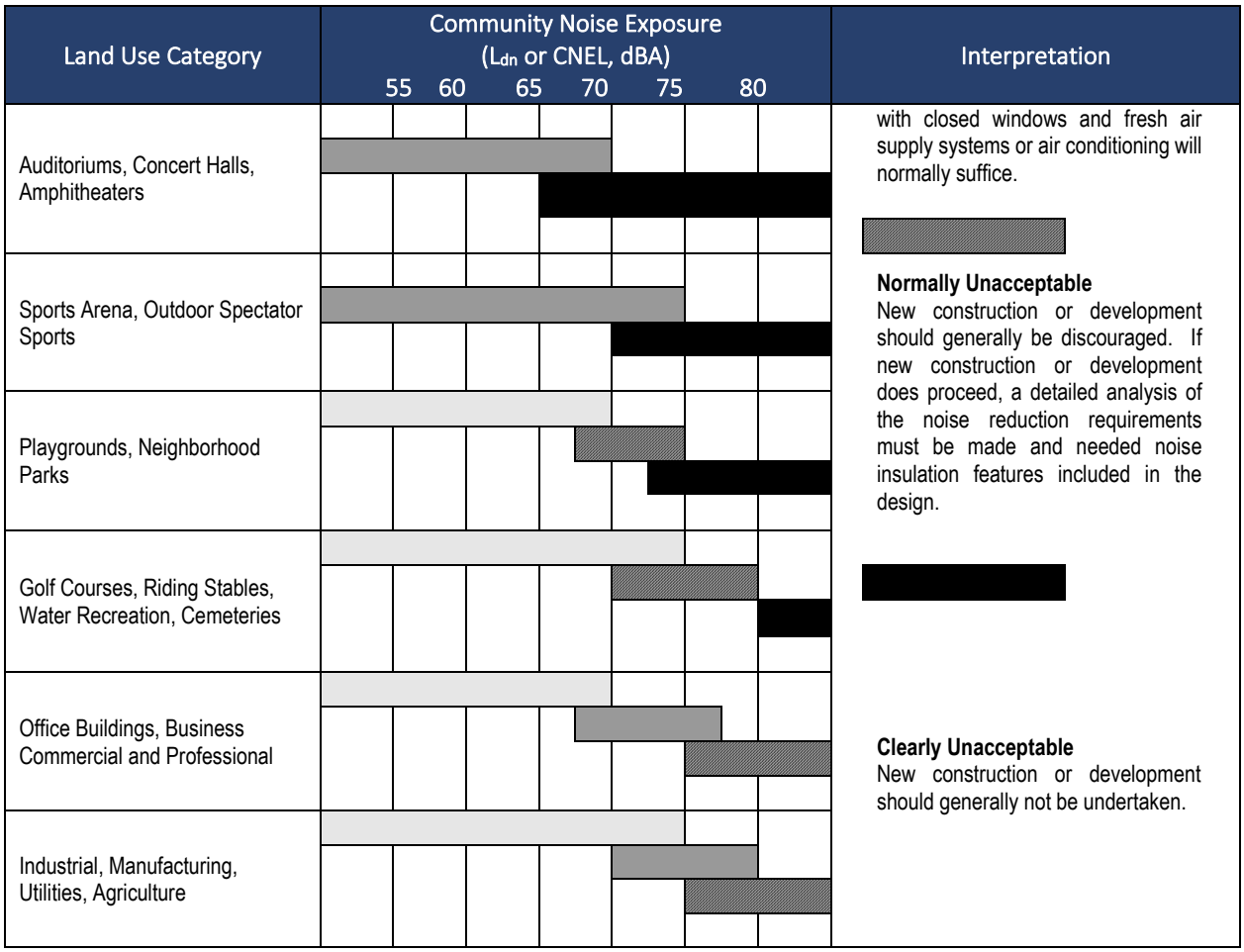
Fowler General Plan Land Use Element incorporates development and noise-performance standards to ensure that industrial noise levels at adjacent land uses do not exceed acceptable levels. For industrial uses affecting residential uses, the following standards are required:[116]

- On properties planned for industry, a landscaped setback 20 feet wide containing deciduous and evergreen trees shall be planted and maintained along the property line with abutting property planned for residential uses and along abutting local streets.
- Roof-mounted and detached mechanical equipment shall be acoustically baffled to prevent equipment noise from exceeding 55 dBA measured at the nearest residential property line.
- Exterior area lighting for industrial buildings, parking areas, garages, access drives, and loading areas, shall be low profile, hooded, and directed away from abutting property planned for residential use.

Table 4-32: State of California Land Use Compatibility Noise Criteria

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA) 55 60 65 70 75 80	Interpretation
Residential – Low Density Single Family, Duplex, Mobile Homes		**Normally Acceptable** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. **Conditionally Acceptable** New construction or development should be undertaken only after a detailed analysis of noise reduction requirements and needed noise insulation features included in the design. Conventional construction
Residential – Multiple Family		
Transient Lodging – Motels, Hotels		
Schools, Libraries, Churches, Hospitals, Nursing Homes		

[115] (City of Fowler 2014)
[116] (City of Fowler 2004)



Source: California GOPR 2017

Fowler General Plan Circulation Element includes policies to reduce transportation noise impacts to community residents and sensitive land uses, including the designation of specified truck routes within the community and incorporation of increased setback distances, wall, landscaped berms, and other noise-reduction measures for land uses located along major transportation corridors.[117]

Fowler Municipal Code

The FMC (Title 5, Public Welfare, Chapter 21, Nuisances, Article 6, Unlawful Noise Related Nuisances) includes various provisions intended to protect community residents from prolonged unnecessary, excessive, and annoying sound levels that are detrimental to the public health, welfare, and safety, or are contrary to the public interest. Examples of noise sources subject to the City's municipal Code include, but are not limited to, industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.[118]

Noise sources associated with construction-related activities are typically exempt from the City's nuisance ordinance provided that the activities do not take place between the hours of eight p.m. and seven a.m. or by special permit from the City Manager. Various other activities are also exempt, including, but not limited

[117] (City of Fowler 2004)
[118] (City of Fowler 2021)

to, school entertainment and athletic events, mobile sources associated with agricultural activities, and emergency response activities.[119]

In addition to the City's nuisance ordinance, Article 14, Section 9-5.1417, Performance Standards, of the City's zoning ordinance establishes exterior noise level standards for industrial uses. The City's exterior noise standards are summarized in Table 4-33. These standards are applied at the property line of the receiving land use and vary by exposure duration and period of the day.[120]

Table 4-33: City of Fowler Municipal Code Noise Level Standards - Industrial Uses

Receiving Land Use Category	Time Period	Noise Level (dBA)[1]
Residential	10:00 p.m. to 7:00 a.m.	50
	7:00 a.m. to 10:00 p.m.	60
Public Use[2]	10:00 p.m. to 7:00 a.m.	55
	7:00 a.m. to 10:00 p.m.	60
Commercial	10:00 p.m. to 7:00 a.m.	60
	7:00 a.m. to 10:00 p.m.	65
Industrial	Any time	70

Applied at the property line of the receiving land use.
The noise standard of a cumulative 30-minute period during any hour
A 10 dB increase of the noise standard for a cumulative of 5, or more, minutes during any hour
A 20 dB increase of the noise standard, or exceed maximum ambient noise level during any time period
Includes schools, libraries, hospitals, churches, and parks.
Noise standards do not apply to railroad operations, motor vehicles, including trucks, or to agricultural equipment used in the cultivation of any agricultural land in the M-I Zone. Noise standards are subject to review/amendment by the City

4.14.3 Methodology and Thresholds of Significance

Methodology

A combination of use of existing literature and general application of accepted noise thresholds was used to determine the impact of ambient noise levels resulting from and on development within the planning area. Short- and long-term impacts associated with transportation and non-transportation noise sources were qualitatively assessed based on potential increases in ambient noise levels anticipated to occur at noise-sensitive land uses. Traffic noise levels along major area roadways were estimated using the FHWA Highway Traffic Noise Prediction model (FHWA-RD-77-108.) The FHWA modeling was based upon the Calveno noise-emission factors for automobiles and medium- and heavy-duty trucks. Input data used in the model included average-daily traffic volumes, day/night percentages of automobiles and medium and heavy trucks, vehicle speeds, ground attenuation factors, roadway widths, and ground elevation data. Traffic volumes for major roadway segments within the City were derived from the traffic analysis prepared for this project. Projected traffic noise levels (future year 2042) were also quantified for nearby segments of SR-99 based on projected increases in traffic obtained from Kittelson & Associates, including the assumption that full buildout of the Fowler 2040 GP would occur by 2042 to align with the Fresno COG transportation model horizon.

Predicted train noise levels and corresponding distances to noise contours for the UPRR railroad corridor were calculated in accordance with the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment* guidance.[121] Train noise levels were quantified for freight trains along the UPRR freight

[119] Ibid
[120] Ibid
[121] (United States Department of Transportation 2018)

line. Predicted train volumes and operational data were obtained from the Fowler General Plan Element Preparation.[122] Projected train volumes (future year 2042) for this corridor were unable to be obtained.

Thresholds of Significance

State CEQA Guidelines Appendix G provides the following screening criteria to evaluate potential impacts related to noise. The Fowler 2040 GP would have a significant impact if it would:

- Result in exposure of persons or 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.
- Result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.
- Expose people residing or working in the project area to excessive noise levels for a project located within an airport land use plan area or, where such a plan has not been adopted, or within two miles of a public airport or a public use airport.

4.14.4 Impacts

Threshold 1: Would the project 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?

Less than Significant Impact. The Fowler 2040 GP consists of developing parcels that are currently vacant, or under-developed and have the potential for enhanced or further development. Buildout within the Fowler planning area would result in the construction of an estimated 16,414,061 square feet of industrial land uses, 1,631,444 square feet of commercial land uses, 197,838 square feet of public facilities, and 12,494 additional dwelling units. This would result in a total of approximately 1,240,395 VMT per day. Future development would result in a net increase of approximately 992,501 VMT. Short-term construction and long-term operational noise impacts associated with future development are discussed as follows:

Short-term Exposure to Construction Noise

Construction noise typically occurs intermittently and varies depending upon the nature or phase (e.g., demolition/land clearing, grading and excavation, erection) of construction. Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Temporary increases in ambient noise levels, particularly during the nighttime hours, could result in increased levels of annoyance and potential sleep disruption. Although noise ranges were found to be similar for all construction phases, the grading phase tends to involve the most equipment and resulted in slightly higher average-hourly noise levels. Typical noise levels for individual pieces of construction equipment and distances to predicted noise contours are summarized in Table 4-34. As depicted, individual equipment noise levels typically range from approximately 74 to 88 dBA L_{eq} at 50 feet. Typical operating cycles may involve 2 minutes of full power, followed by 3 or 4 minutes at lower settings. Intermittent noise levels can range from approximately 77 to 95 dBA L_{max}, the loudest of which include the use of pile drivers and impact devices (e.g., hoe rams, impact hammers).

Assuming a construction noise level of 88 dBA L_{eq} and an average attenuation rate of 6 dBA per doubling of distance from the source, construction activities located within approximately 1,330 feet of noise-

[122] (City of Fowler 2014)

sensitive receptors could reach levels of approximately 60 dBA L_{eq}. Depending on distances from nearby noise-sensitive land uses and the specific construction activities conducted, construction activities may result in temporary and periodic increases in ambient noise levels at nearby receptors. Of particular concern, are activities that occur during the evening and nighttime hours. Construction activities that occur during these more noise-sensitive hours may result in increased levels of annoyance and potential sleep disruption to occupants of nearby noise-sensitive land uses (e.g., residential dwellings, schools). As a result, such increases could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project and could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies or neighboring jurisdictions. However, the following Fowler 2040 GP policies and action items would help to further reduce criteria noise impacts on receptors.

Due to the short-term and intermittent frequency of construction noise, and the required compliance with the FMC and the above Fowler 2040 GP policies, which would require compliance with applicable standards and procedures for the control of noise impacts, construction noise level increases would not result in a substantial temporary or periodic increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance. As a result, this impact would be considered **less than significant**.

Table 4-34: Typical Individual Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) 50 feet from Source		Distance to Noise Contours (feet, dBA L_{eq})		
	L_{max}	L_{eq}	70 dBA	65 dBA	60 dBA
Air Compressor	80	76	105	187	334
Auger/Rock Drill	85	78	133	236	420
Backhoe/Front End Loader	80	76	105	187	334
Blasting	94	74	83	149	265
Boring Hydraulic Jack/Power Unit	80	77	118	210	374
Compactor (Ground)	80	73	74	133	236
Concrete Batch Plant	83	75	94	167	297
Concrete Mixer Truck	85	81	187	334	594
Concrete Mixer (Vibratory)	80	73	74	133	236
Concrete Pump Truck	82	75	94	167	297
Concrete Saw	90	83	236	420	748
Crane	85	77	118	210	374
Dozer/Grader/Excavator/Scraper	85	81	187	334	594
Drill Rig Truck	84	77	118	210	374
Generator	82	79	149	265	472
Gradall	85	81	187	334	594
Hydraulic Break Ram	90	80	167	297	529
Jack Hammer	85	78	133	236	420
Impact Hammer/Hoe Ram (Mounted)	90	83	236	420	748
Pavement Scarifier/Roller	85	78	133	236	420
Paver	85	82	210	374	667
Pile Driver (Impact/Vibratory)	95	88	420	748	1,330
Pneumatic Tools	85	82	210	374	667
Pumps	77	74	83	149	265
Truck (Dump/Flat Bed)	84	80	167	297	529
Sources: FTA 2018, FHWA 2008					

The Policies CH-33, CH-34, CH-35, and CH-36 outlined below, would ensure that potential impacts related to short-term exposure to construction noise are less than significant.

Long-term Exposure to Non-Transportation Noise

The proposed Fowler 2040 GP would primarily facilitate new residential, commercial, industrial, and public land uses within the city limits. Potential noise/land use conflicts would occur at the interface between planned residential and commercial land uses 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 level standards (see Table 4-33). Through the implementation of City policies governing noise levels, potential impacts in relation to non-transportation related noise exposure would be reduced to a less than significant level.

Implementation of policies CH-25, CH-26, CH-27, CH-28, CH-30, CH-31, and CH-32 would ensure specific projects adhere to the Municipal Code and would mitigate any significant nuisance noise from commercial activities, rooftop-mounted HVAC equipment, delivery trucks, car washes, and amplified sound. Therefore, implementation of the Fowler 2040 GP would not result in ambient noise level environments at noise-sensitive uses that exceed the City's maximum allowable noise exposure standards set forth in Table 4-33. Consequently, future noise/land use conflicts between planned residential and commercial land would be less than significant.

Policy CH-25	New development of the land uses listed in *Table 7-1* shall be located, designed, and operated in such a way that external noise levels from stationary noise sources do not exceed the maximum identified. Noise levels shall be measured immediately within the property line of the affected land use. Where two land uses meet, the more restrictive standard shall be used.
Action Item CH-25a	Require an acoustical analysis as part of the environmental review process when uses are proposed within the contour lines as shown on *Figure 7-1* that exceed the exterior noise levels identified in *Table 7-1*.
Action Item CH-25b	Require an acoustical analysis as part of the environmental review process when a proposed use is likely to exceed the permitted exterior noise levels identified in *Table 7-1*.
Action Item CH-25c	Temporary uses such as live music events, festivals, or markets that are considered short-term or intermittent may exceed maximum noise levels but shall incorporate noise reduction measures to the extent feasible.
Action Item CH-25d	Review and revise, as necessary, the Municipal Code to reflect the noise standards contained in this chapter.
Policy CH-26	New development shall be designed and operated in such a way that interior noise levels from both stationary and mobile noise sources do not exceed 45 dBA Ldn for adjacent residential uses or other uses where people normally sleep and 45 dBA Leq at peak hour for adjacent office, school, church, or similar use.
Policy CH-27	New uses increasing stationary and/or mobile noise levels shall be subject to the following thresholds for CEQA significance: • Where existing ambient noise levels are less than 60 dB, an increase of 5 dB or more, measured at the outdoor activity area of a noise-sensitive use, shall be considered significant; • Where existing ambient noise levels are between 60 and 65 dB, an increase of 3 dB or more, measured at the outdoor activity area of a noise-sensitive use, shall be considered significant;

	• Where existing ambient noise levels are greater than 65 dB, an increase of 1.5 dB or more, measured at the outdoor activity area of a noise-sensitive use, shall be considered significant.
Policy CH-28	Require noise generators to provide increased setbacks, walls, landscaped berms, other sound-absorbing barriers, or a combination thereof to prevent excessive noise exposure and reduce noise levels to acceptable levels, as needed.
Policy CH-29	Require noise reduction methods along major roadways in order to protect adjacent, noise-sensitive land uses against excessive noise. Noise reduction methods shall include design strategies, including setbacks, landscaped berms, and other sound-absorbing barriers, when possible, in lieu of sound walls, to mitigate noise impacts and enhance aesthetics. Sound walls may also be appropriate noise-reduction strategies.
Policy CH-30	When sound walls are proposed, encourage a combination of berms and/or landscaping and walls to produce a more visually pleasing streetscape.
Policy CH-31	Require roof-mounted and detached mechanical equipment to be acoustically buffered when adjacent to residential uses to prevent equipment noise in excess of 55dBA as measured at the nearest residential property line.
Policy CH-32	Purchase City vehicles and equipment with low noise generation. Maintain City vehicles to minimize noise.
Action Item CH-32a	Consider City vehicles and equipment as part of the Capital Improvement Program process.

Long-term Exposure to Transportation Noise

Major noise sources in the planning area consist predominantly of vehicle traffic on area roadways. Major roadway segments in the City include, but are not limited to, SR99, Golden State Boulevard, Clovis Avenue, Manning Avenue, and Merced Street. In addition, as noted earlier in this report, rail traffic along the UPRR also contributes to transportation noise levels in the community.

Roadway Traffic Noise

Traffic noise levels were estimated using the FHWA Highway Traffic Noise Prediction model (FHWA-RD-77-108) for existing and future cumulative (year 2042 conditions. Predicted future cumulative traffic noise levels and distances to projected noise contours are summarized in Table 4-35. It is important to note that predicted noise contours are approximate and do not take into account shielding or reflection of noise due to intervening terrain or structures. As a result, predicted noise contours should be considered to represent bands of similar noise exposure along roadway segments, rather than absolute lines of demarcation. Although these predicted noise contours are not considered site-specific, they are useful for determining potential land use conflicts. Predicted increases in future cumulative traffic noise levels, in comparison to existing traffic noise levels, are summarized in Table 4-36.

Under future cumulative conditions with buildout of the GP and in comparison, to existing conditions, the GP would contribute to significant increases in traffic noise levels along segments of American Avenue, Adams Avenue, Sumner Avenue, Manning Avenue, Clovis Avenue, South Fowler Avenue, Golden State Boulevard, Merced Street, and SR99 (Refer to Table 4-35). In addition, development of future land uses within the proposed focus areas would likely occur along major roadways. Depending on the type of land uses proposed, distances from area roadways, and site conditions, future development could be exposed to traffic noise levels in excess of the City's current noise standards for land use compatibility (refer to Table 4-33). Through the implementation of City policies governing noise levels, potential impacts in relation to vehicular noise exposure would be reduced to a less than significant level.

Table 4-35: 2040 GP Buildout Roadway Traffic Noise Levels & Contour Distances

Roadway Segment	ADT Volumes	CNEL at 50 ft. from Near-travel-lane Centerline	Distance to CNEL Contour (Feet from Road Centerline)		
			70	65	60
American Ave, SR-99 to Golden State Blvd	15,022	69.8	54.3	116.5	250.6
Adams Ave, SR-99 to Golden State Blvd	17,352	67.7	WR	88.7	190.4
Adams Ave, Golden State Blvd to 7th St	11,407	62.9	WR	WR	90.8
Adams Ave, East of 5th St	7,694	61.1	WR	WR	70
Adams Ave, Armstrong Ave to Temperance Ave	6,277	59.8	WR	WR	62.3
Adams Ave, Temperance Ave to Locan Ave	5,079	59.3	WR	WR	53.5
Sumner Ave, Sunnyside Ave to Merced St	11,485	64.6	WR	54.5	116.4
Manning Ave, W of 99 SB Ramps	29,134	71.5	70.6	151.7	326.6
Manning Ave, E of 99 NB Ramps	39,103	71.0	90.4	186.4	397.5
Manning Ave, E of Golden State	32,092	70.1	80.5	164	348.7
Clovis Ave, S of Lincoln Ave	36,041	72.2	99.3	209.3	448.8
Clovis Ave, N of SR 99 NB Ramps, S of Golden State Blvd Frontage Connector Road	39,075	72.2	105.8	221.3	473.6
Clovis Ave, SR 99 SB off to Adams Ave	16,123	70.1	56.9	122.1	262.7
Clovis Ave, Adams Ave to Summer Ave	17,174	70.4	59.3	127.3	274
Clovis Ave, Summer Ave to South	9,493	67.8	WR	85.9	184.6
Clovis Ave, South Ave to Parlier Ave	6,719	66.3	WR	68.3	146.7
S Fowler Ave, Merced St. to Fresno St.	19,438	68.5	WR	95.4	205.3
S Fowler Ave, Fresno St. to South Ave.	15,352	68.8	WR	99.1	213.2
S Fowler Ave, South Ave to Parlier Ave	16,055	70.1	56.8	121.7	261.9
Golden State Blvd, American Ave to Lincoln Ave	31,974	73.4	146.1	303.2	647.5
Golden State Blvd, Lincoln Ave to Clayton Ave	26,225	72.5	129.8	266.5	567.8
Golden State Blvd, Clayton Ave to Adams Ave	22,354	71.8	118.3	240.4	510.8
Golden State Blvd, Adams Ave to Merced St.	28,845	70.0	94.2	184.4	388.2
Golden State Blvd, Merced St. to South Ave	25,114	70.4	99.4	196.8	415.5
Golden State Blvd, South Ave to Temperance Ave	23,504	70.2	96	188.8	397.8
Golden State Blvd, Temperance Ave to Valley Dr	33,283	71.7	116.2	235.6	500.4
Golden State Blvd, Valley Dr of Manning Ave	35,200	71.9	120	244.3	519.3
Golden State Blvd, Manning Ave to Springfield Ave	27,929	69.9	92.6	180.7	380
Merced St, 10th St to 9th St	23,946	67.6	WR	88.5	189.8
Merced St, 9th St to 8th St	21,045	67.1	WR	81.3	174.1
Merced St, 7th St to 6th St	12,100	65.0	WR	56.2	120.4
Merced St, 6th St to 5th St	11,593	64.8	WR	54.6	117.1
SR-99, South of Merced St	139,306	84.1	660.5	1,421.4	3,061.2
SR-99, Merced St to Adams Ave	146,209	84.3	682.1	1,468	3,161.5
SR-99, Adams Ave to Clovis Ave	152,422	84.5	701.3	1,509.3	3,250.4

Traffic noise levels for area roadways were calculated based on data obtained from the traffic analysis prepared for this project. Does not include shielding provided by intervening terrain or structures.
Projected roadway traffic noise contours for SR-99 are depicted in Figure 4 23, Figure 4 24, and Figure 4 25.
WR = Contour is located within road right-of-way
Source: Kittelson & Associates 2022

Table 4-36: Traffic Noise Levels Existing Compared to Year 2040 with General Plan Buildout

Roadway Segment	CNEL at 50 ft. from Near-travel-lane Centerline			Potentially Significant?[1]
	Existing Conditions	GP Buildout	Increase	
American Ave, SR-99 to Golden State Blvd	64.31	69.8	5.5	**Yes**
Adams Ave, SR-99 to Golden State Blvd	63.15	67.7	4.6	**Yes**
Adams Ave, Golden State Blvd to 7th St	58.56	62.85	4.3	No
Adams Ave, East of 5th St	57.61	61.14	3.5	No
Adams Ave, Armstrong Ave to Temperance Ave	57.43	59.77	2.3	No
Adams Ave, Temperance Ave to Locan Ave	56.52	59.29	2.8	No
Sumner Ave, Sunnyside Ave to Merced St	58.91	64.59	5.7	**Yes**
Manning Ave, W of 99 SB Ramps	64.52	71.53	7.0	**Yes**
Manning Ave, E of 99 NB Ramps	68.4	70.95	2.6	**Yes**
Manning Ave, E of Golden State	67.18	70.09	2.9	**Yes**
Clovis Ave, S of Lincoln Ave	68.61	72.17	3.6	**Yes**
Clovis Ave, N of SR 99 NB Ramps, S of Golden State Blvd Frontage Connector Road	68.48	72.16	3.7	**Yes**
Clovis Ave, SR 99 SB off to Adams Ave	64.58	70.11	5.5	**Yes**
Clovis Ave, Adams Ave to Summer Ave	63.95	70.38	6.4	**Yes**
Clovis Ave, Summer Ave to South	63.39	67.81	4.4	**Yes**
Clovis Ave, South Ave to Parlier Ave	63.04	66.31	3.3	**Yes**
S Fowler Ave, Merced St. to Fresno St.	64.33	68.5	4.2	**Yes**
S Fowler Ave, Fresno St. to South Ave.	63.52	68.75	5.2	**Yes**
S Fowler Ave, South Ave to Parlier Ave	63.59	70.09	6.5	**Yes**
Golden State Blvd, American Ave to Lincoln Ave	66.49	73.35	6.9	**Yes**
Golden State Blvd, Lincoln Ave to Clayton Ave	65.73	72.49	6.8	**Yes**
Golden State Blvd, Clayton Ave to Adams Ave	65.72	71.8	6.1	**Yes**
Golden State Blvd, Adams Ave to Merced St.	63.73	69.99	6.3	**Yes**
Golden State Blvd, Merced St. to South Ave	65.94	70.44	4.5	**Yes**
Golden State Blvd, South Ave to Temperance Ave	66.13	70.16	4.0	**Yes**
Golden State Blvd, Temperance Ave to Valley Dr	66.69	71.67	5.0	**Yes**
Golden State Blvd, Valley Dr of Manning Ave	66.24	71.91	5.7	**Yes**
Golden State Blvd, Manning Ave to Springfield Ave	65.91	69.85	3.9	**Yes**
Merced St, 10th St to 9th St	64.58	67.63	3.1	**Yes**
Merced St, 9th St to 8th St	64.23	67.07	2.8	No
Merced St, 7th St to 6th St	60.4	65.02	4.6	**Yes**
Merced St, 6th St to 5th St	59.83	64.84	5.0	**Yes**
SR-99, South of Merced St	82.41	84.12	1.7	**Yes**
SR-99, Merced St to Adams Ave	82.55	84.33	1.8	**Yes**
SR-99, Adams Ave to Clovis Ave	82.64	84.51	1.9	**Yes**

Traffic noise levels were calculated based on traffic volumes derived from the traffic analysis prepared for this project.

1. Significant increases are based on the following thresholds:

- *5.0, or greater, where the existing noise level is less than 60 dBA*
- *3.0, or greater, where the existing noise level is 60-65 dBA*
- *1.5, or greater, where the existing noise level is greater than 65 dBA*

Source: Kittelson & Associates 2022

Railroad Traffic Noise

The UPRR line runs northwest-southeast through the City adjacent to Golden State Boulevard. Roughly 35 freight trains currently travel along this rail corridor on a daily basis. By year 2040, freight trains traveling along this corridor are likely to increase but no reliable projections could be found in order to analysis future conditions.

Existing train noise levels and distance to noise contours are summarized in Table 4-30. Based on a conservative estimate of 35 trains per day, average-daily noise levels along the railroad corridor could reach levels of approximately 79 dBA CNEL at 100 feet from the rail corridor centerline. Although the proposed GP would not result in an increase in train traffic, the development of future land uses near the train tracks and could be exposed to train noise levels in excess of the City's current noise standards for land use compatibility (refer to Table 4-33). Train noise events can also be a source of intermittent noise, including noise generated by locomotive engines, wheel squeal, and warning horns. These instantaneous noise events can contribute to increased levels of annoyance to occupants of nearby noise-sensitive land uses. Through the implementation of City policies governing noise levels, potential impacts in relation to locomotive noise exposure would be reduced to a less than significant level.

Table 4-37: Future Railroad Traffic Noise Levels

Train Type	Number of Trains/Day	CNEL at 100 feet from Rail Corridor Centerline	Distance to CNEL Contours (feet) from Rail Corridor Centerline		
			70	65	60
UPRR Freight	35	79	263	468	830
UPRR freight trains distributed equally over a 24-hour period. Does not include shielding provided by intervening terrain or structures. Predicted noise contours do not include shielding by intervening structures.					

Major Surface Transportation Noise Contours

As previously noted, major surface transportation noise sources in Fowler include SR 99 and the UPRR, which parallels SR 99 to the east in a general northwest to southeast direction. Vehicle traffic along Golden State Boulevard also contribute to projected noise contours along this same general corridor. Combined projected future noise contours for these surface transportation noise sources are depicted in Figure 4-13, Figure 4-14, and Figure 4-15.

Implementation of Fowler 2040 GP policies CH-25, CH-26, CH-27, CH-28, CH-29, CH-30, and CH-32 as outlined above would reduce potential transportation noise impacts. Future development projects would be required to analyze project-related noise impacts and incorporate necessary noise-reduction measures. Noise-reduction measures typically implemented to reduce traffic noise include increased insulation, setbacks, and construction of sound barriers. Additional policies have been proposed to promote alternative means of transportation and to limit heavy truck traffic to designated truck routes, which would help to reduce transportation-related noise levels along area roadways. Implementation of these policies and actions will help to reduce impacts associated with future development.

Table 4-38: Maximum Allowable Noise Exposure for Transportation Noise Sources

Land Use	Interior Occupied Spaces (dBA)		Outdoor Activity Areas (dBA)[1]
	CNEL	L_{eq}[6]	
Residential	45[4]	--	65[2,3]
Convalescent Care Facilities, Hospitals	45[4]	--	70[2,3]
Transient Lodging	45	--	65[2,3]
Schools, Libraries, Museums and Places of Worship	--	45	--

Land Use	Interior Occupied Spaces (dBA)		Outdoor Activity Areas (dBA)[1]
	CNEL	L_{eq}[6]	
Playgrounds, Neighborhood Parks	--	--	70[5]
Office Buildings	--	45	70[3]
Commercial Retail & Light Industrial	--	--	75

1. *To be applied at outdoor activity areas. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied at the property line of the receiving land use.*
2. *Where it is not possible to reduce exterior noise levels to 65 dBA CNEL, or less, an exterior noise level of 70 dBA CNEL may be allowed provided that an acoustical analysis has been prepared for the project to identify available exterior noise-reduction measures to be incorporated and interior noise levels are in compliance with this table.*
3. *Where outdoor activity areas are not included in the project design, only the interior noise level standard shall apply.*
4. *In locations where railroad noise is the predominant noise source, the interior noise standard for residential land uses shall be reduced by 5 dB to account for the increased potential for sleep disruption to building occupants.*
5. *Where quiet is a basis for use.*
6. *This standard is intended to apply to land uses with operational hours predominantly during the daytime hours. The interior noise standard applies to a typical worst-case hour during the period of use.*

Threshold 2. Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. The effects of ground vibration can vary from no perceptible effects at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage. The effects of ground vibration are influenced by the duration of the vibration and the distance from the vibration source.

Table 4-39: Summary of Ground borne Vibration Levels and Potential Effects

Vibration Level (in/sec ppv)	Human Reaction	Effect on Buildings
0.006-0.019	Threshold of perception; possibility of intrusion.	Vibrations unlikely to cause damage of any type.
0.08	Vibrations readily perceptible.	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected.
0.10	Level at which continuous vibrations begin to annoy people.	Virtually no risk of "architectural" damage to normal buildings.
0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations).	Threshold at which there is a risk of "architectural" damage to fragile buildings.
0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges.	Potential risk of "architectural" damage may occur at levels above 0.3 in/sec ppv for older residential structures and above 0.5 in/sec ppv for newer structures.

The vibration levels are based on peak particle velocity in the vertical direction for continuous vibration sources, which includes most construction activities.
Source: Caltrans 2020

There are no federal, State, or local regulatory standards for vibration. However, various criteria have been established to assist in the evaluation of vibration impacts. For instance, Caltrans has developed vibration criteria based on human perception and structural damage risks. For most structures, Caltrans considers a peak-particle velocity (ppv) threshold of 0.2 inches per second (in/sec) to be the level at which architectural damage (i.e., minor cracking of plaster walls and ceilings) to normal structures may occur. Below 0.10 in/sec there is "virtually no risk of 'architectural' damage to normal buildings." Damage to historic or ancient buildings could occur at levels of 0.08 in/sec ppv. In terms of human annoyance,

continuous vibrations in excess of 0.1 in/sec ppv are identified by Caltrans as the minimum level perceptible level for ground vibration. Short periods of ground vibration in excess of 0.2 in/sec ppv can be expected to result in increased levels of annoyance to people within buildings.[123]

Ground borne vibration sources located within the City that could potentially affect future development would be primarily associated with construction activities. With the exception of pavement breaking and pile driving, construction activities and related equipment typically generate ground borne vibration levels of less than 0.2 in/sec, which is the architectural damage risk threshold recommended by Caltrans. Based on Caltrans measurement data, use of off-road tractors, dozers, earthmovers, and haul trucks generates ground borne vibration levels of less than 0.10 in/sec, or one half of the architectural damage risk level, at 10 feet. The highest vibration level associated with a pavement breaker was 2.88 in/sec at 10 feet. During pile driving, vibration levels near the source depend mainly on the soil's penetration resistance as well as the type of pile driver used. Impact pile drivers tend to generate higher vibration levels than vibratory or drilled piles. Ground borne vibration levels of pile drivers can range from approximately 0.17 to 1.5 in/sec ppv. Caltrans indicates that the distance to the 0.2 in/sec ppv criterion for pile driving activities would occur at a distance of approximately 50 feet. However, as with construction-generated noise levels, pile driving can result in a high potential for human annoyance from vibrations, and pile-driving activities are typically considered as potentially significant if these activities are performed within 200 feet of occupied structures .[124]

The Fowler 2040 GP includes numerous goals and policies that would help to further reduce short-term noise and vibration impacts to nearby sensitive land uses. Relevant policies include policies: CH-33, CH-34, CH-35, and CH-36.

Policy CH-33	Transportation and City infrastructure construction shall not be subject to typical noise standards so long as construction occurs between the hours of 7 AM and 7 PM, Monday through Friday, or between 8 AM and 5 PM on weekends and federal holidays. Construction may occur outside of these times if completing the work within these time frames is deemed infeasible.
Policy CH-34	The City shall require an assessment of construction noise impacts on nearby noise-sensitive land uses and associated activities to minimize those impacts as part of the discretionary review process.
Policy CH-35	Require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby residential and commercial uses based on current City or Federal Transit Administration (FTA) criteria.
Policy CH-36	The City may require a project-specific vibration impact assessment and associated impact reduction measures for projects involving the use of major vibration-generating equipment which could result in vibration levels in excess of 0.2 in/sec peak particle velocity (PPV).

Due to the short-term nature of construction vibrations, the intermittent frequency of construction vibrations, and the required compliance with the City's hourly restrictions related to construction activities, construction vibration level increases will not result in exposure of persons to or generation of excessive ground borne vibration that would result in a significant increase in annoyance. Application of Fowler 2040 GP policies would restrict the hours of construction and thus avoid vibrations during times when it could potentially be more of a nuisance, ensuring that the impact of new construction vibration

[123] (California Department of Transportation 2020)
[124] Ibid

is less-than-significant. In addition, individual development projects will be subject to site-specific environmental review, which will necessitate identification of site-specific mitigation in the event that potentially significant impacts are identified.

Threshold 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, would the project expose people residing or working in the project area to excessive noise levels?

Less than Significant Impact. The Selma Airport is located approximately one mile south of E. Springfield Avenue. As illustrated in the Selma Airport ALUCP, a portion of the planning area is located within the Airport's TPZ (see Table 4-25). Land use limitations in the TPZ include a density limit of 300 persons per acre, an open space requirement of 10 percent, and prohibitions on hazards to flight and high intensity uses such as stadiums. Future development within this area is not expected to result in excessive noise for people residing or working in the area. This portion of the planning area is planned for medium and high density residential, commercial, and light industrial land uses. Development within the TPZ would be subject to review by the Fresno County ALUC for consistency with the ALUCP. In addition, the Selma Airport is a small municipal airport that would not be a large producer of noise due to larger commercial jet engines. The planning area would not place residents or workers in an area where substantial noise is experienced resulting from airport operations.

The Fowler 2040 GP includes the policies and action items outlined above under Thresholds 1 and 2 would reduce noise impacts on sensitive receptors.

4.14.5 Mitigation Measures

Mitigation measures are not required.

4.14.6 Cumulative Impacts

The buildout of the 2040 GP would result in the increase of ambient noise levels as development occurs. Any potential noise and vibration related impacts would be site specific and would be considered on a project-by-project basis as development occurs. Future projects would be reviewed and approved on an individual basis, ensuring that noise and vibration impacts are considered in relation to other past and reasonably foreseeable future projects. In addition, the implementation of City noise related policies and standards would ensure that any potential impacts that could be considered cumulatively considerable would remain less than significant in nature.

Figure 4-12: Noise Measurement Locations and General Plan Update Focus Areas

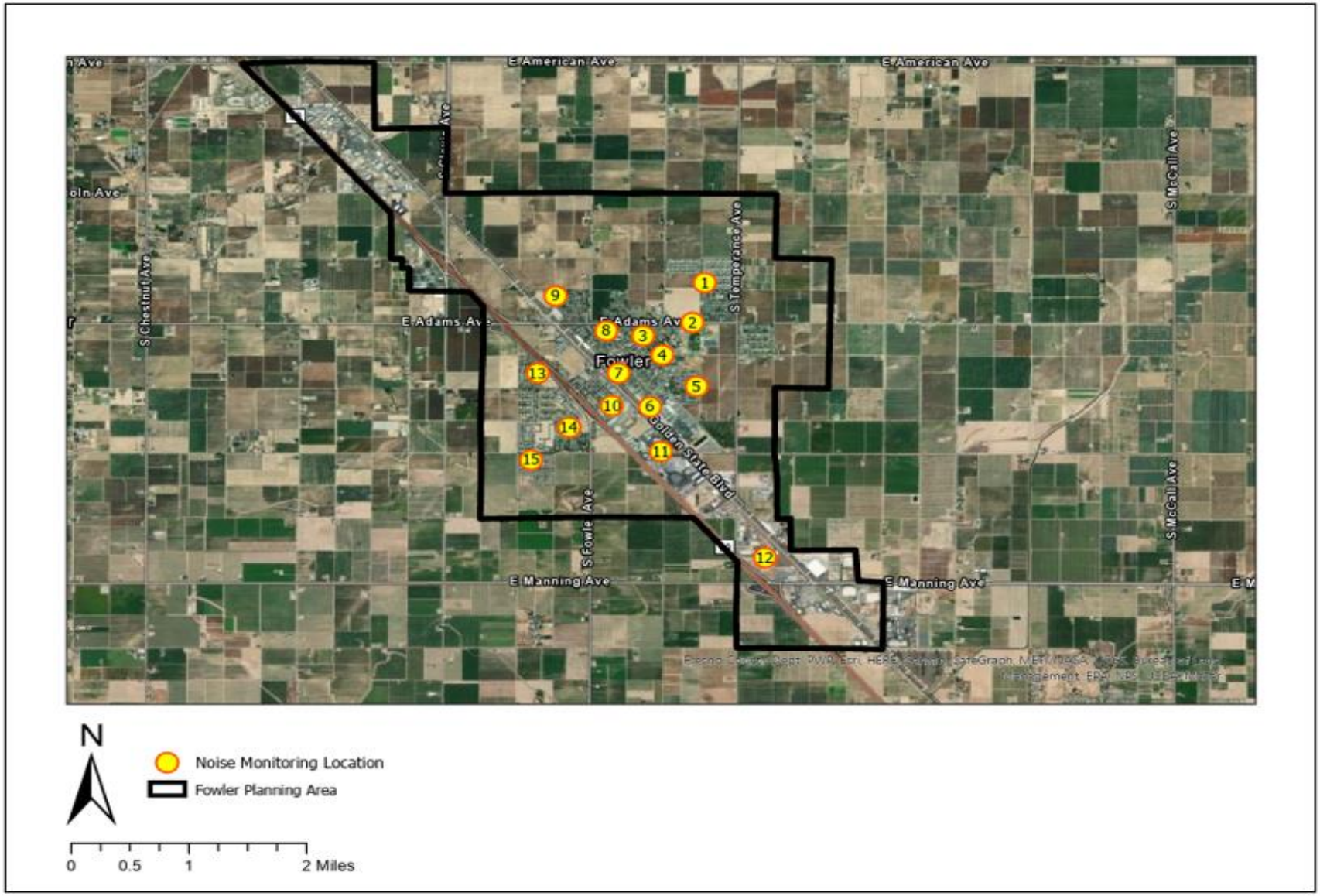


Figure 4-13: Existing Noise Contours – Major Surface Transportation Noise Sources

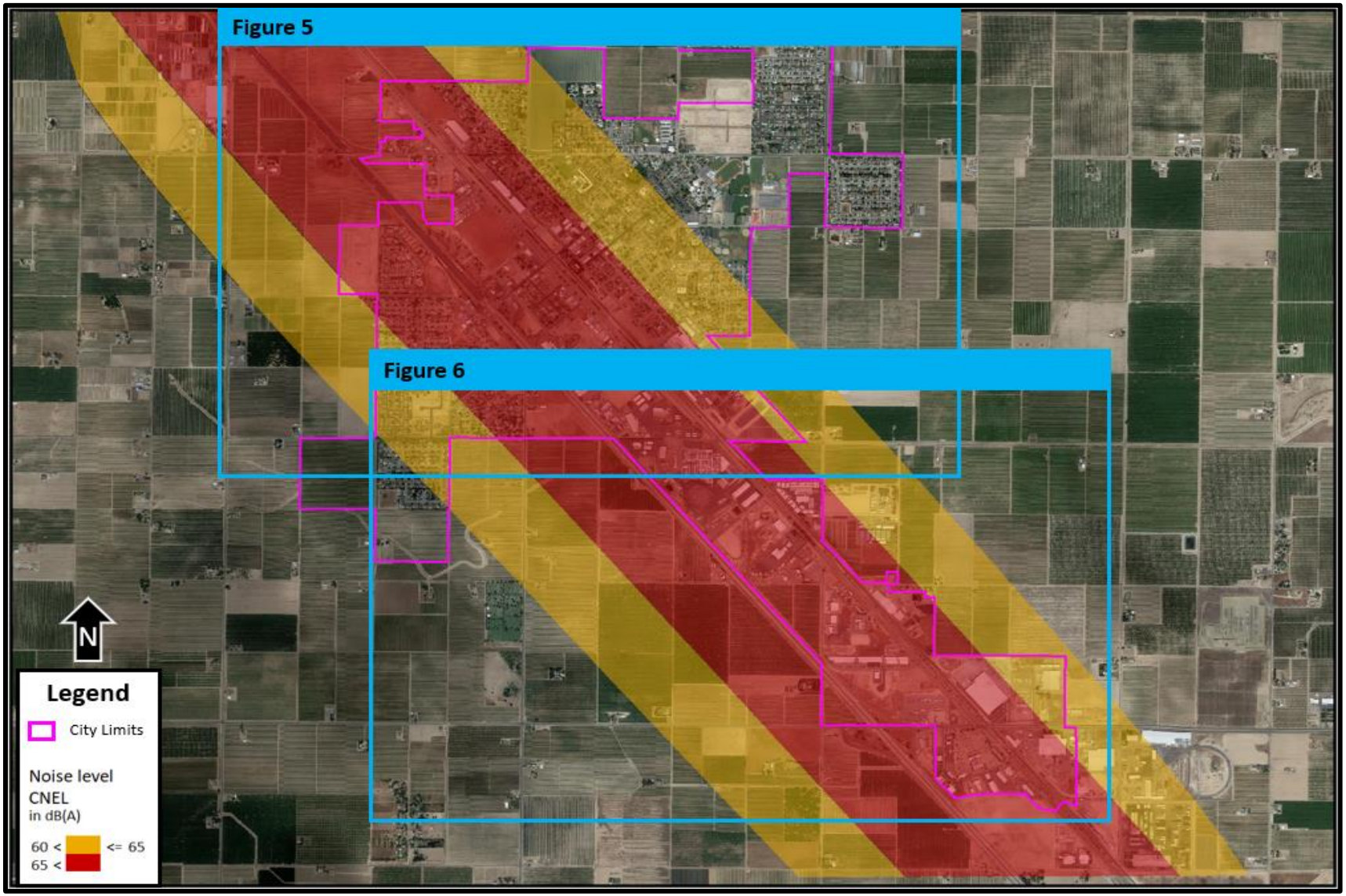


Figure 4-14: Existing Noise Contours - Northern Portion of the City of Fowler

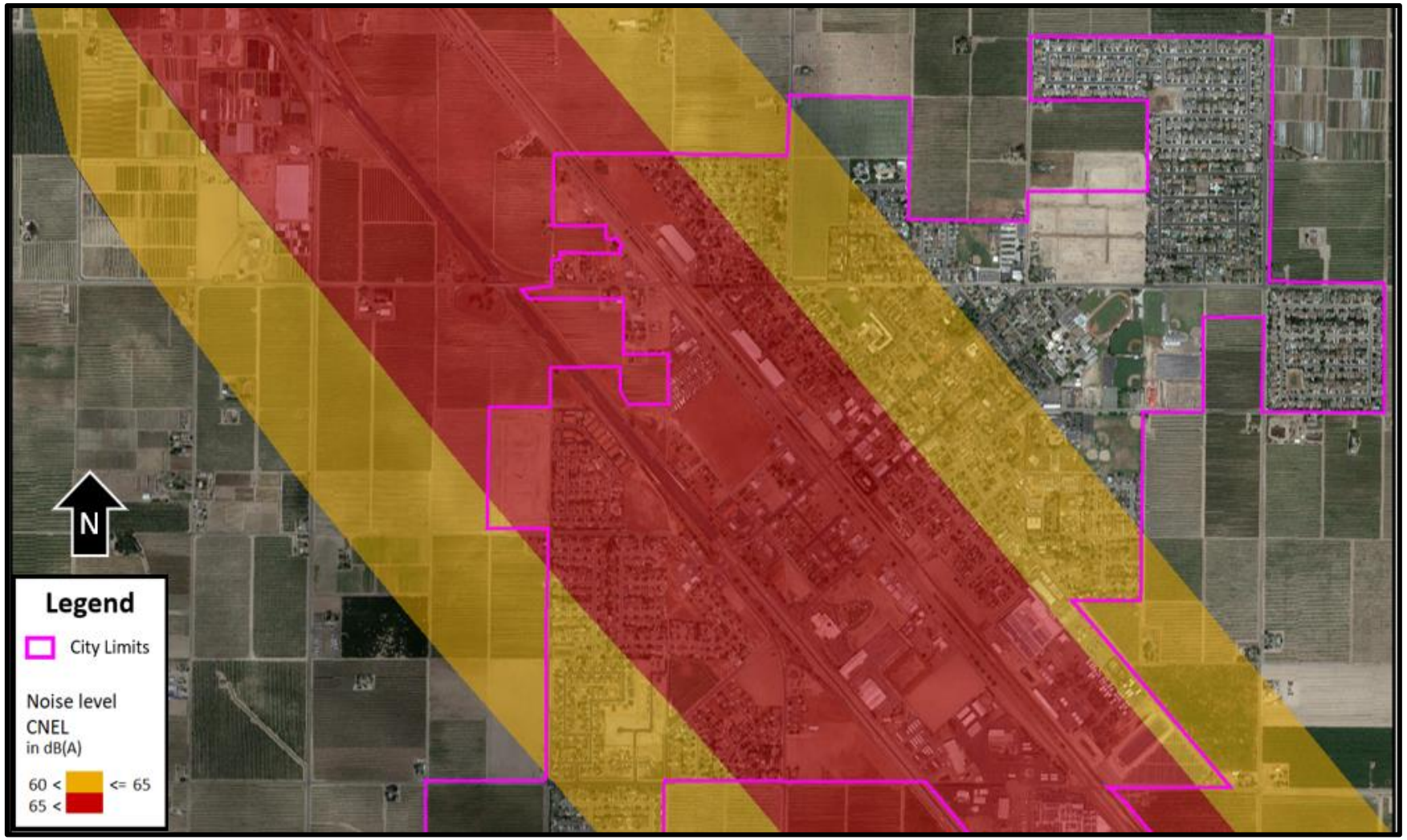
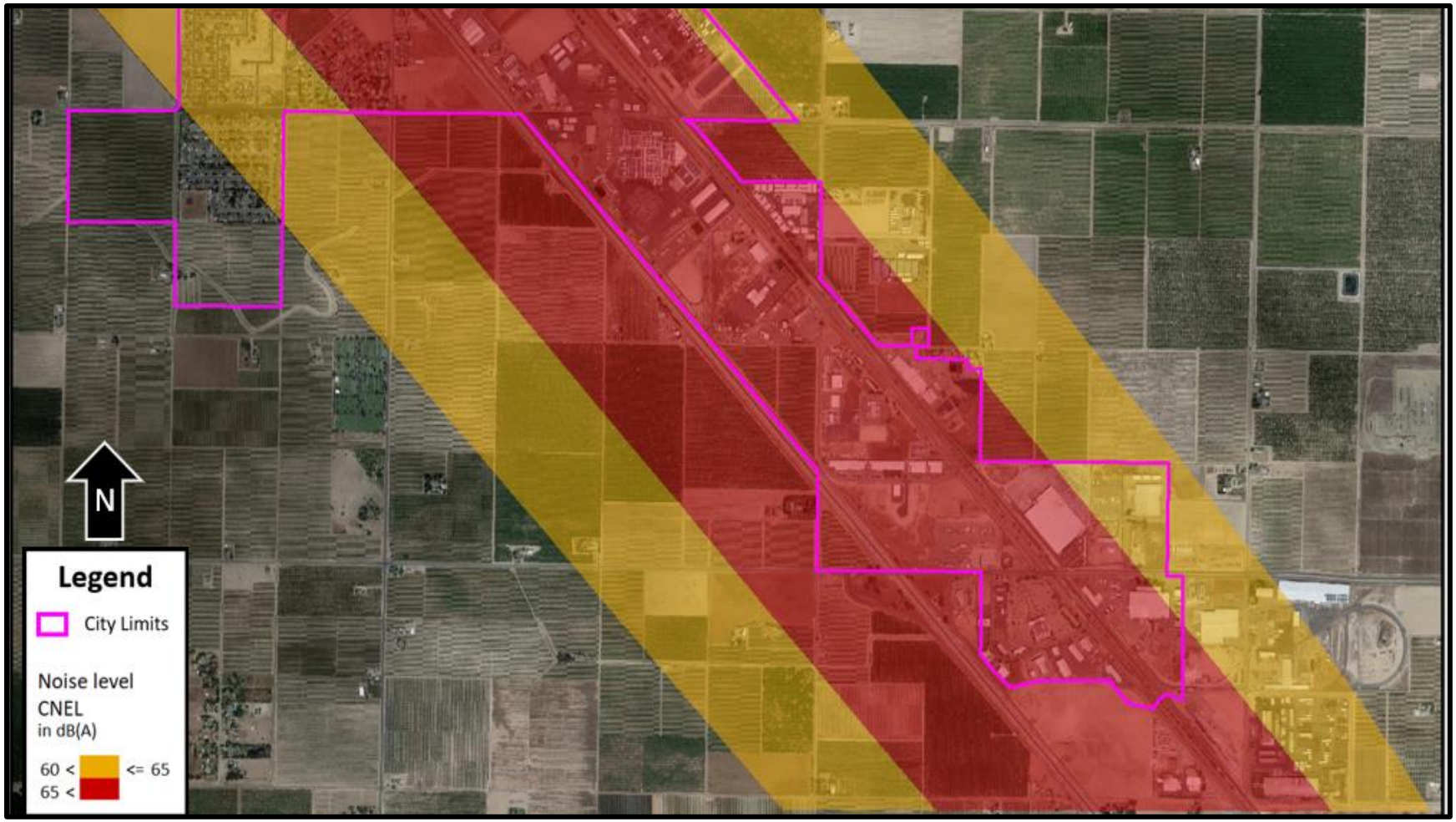


Figure 4-15: Existing Noise Contours - Southern Portion of the City of Fowler



4.15 Population and Housing

This section evaluates impacts to population and housing, including potential population growth and housing displacement impacts, that could result from implementation of the Fowler 2040 GP.

4.15.1 Environmental Baseline

Population and Housing

Fowler is one of 15 cities in Fresno County. In 2010, Fowler had a population of 5,570 people, while in comparison, the County had a population of 930,450 people.[125] In 2019, the population in Fowler had increased to 6,605 people, while the population in the County had risen to 999,101 people.[126] These numbers reflect that over this eight-year span Fowler grew by 18.6 percent (2.3 percent annual growth rate), compared to the County which grew by 7.4 percent (0.92 percent annual growth rate) over the same period. In 2019, Fowler had a persons per household of 3.28.[127] Persons per household accounts for the grouping and number of individuals that lives within a dwelling unit. Persons per dwelling units, discussed below, accounts for the number of people living within the City in comparison to the number of dwelling units available. In 2019, Fowler contained 2,061 dwelling units, resulting in a persons per dwelling unit count of 3.20. Buildout of the 2040 GP would result in a population of 48,131 people and a dwelling unit count of 14,764, resulting in 3.26 persons per dwelling unit.

Since 2010, Fowler has grown at an annual rate of between two and three percent. At a two percent growth rate, the population of Fowler would increase from 5,570 in 2010 to 8,364 in 2040. At three percent, the population would increase to and 11,883 in 2040.[128]

4.15.2 Regulatory Setting

Federal

There are no federal regulations, plans, programs, or guidelines associated with Population and Housing resources that are applicable to the Project.

State

Housing Element Statute

GC 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 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. GC Section 65588 dictates that housing elements must be updated at least once every eight years.

[125] (United States Census Bureau 2022)
[126] Ibid.
[127] This is an averaged number from data gathered from the California Department of Finance, the American Community Survey 2010-2020, and the Fresno Council of Governments.
[128] The 2-3% growth rate is based on City of Fowler growth data tracking dwelling units added annually. California Department of Finance estimates a 1.46% growth rate for the City of Fowler, which would increase to a population of 8,751 in 2040.

Senate Bill 375

Senate Bill 375, adopted in October 2008, calls upon each of California's Metropolitan Planning Organizations (MPOs) to develop an integrated transportation, land use, and housing plan known as a Sustainable Communities Strategy (SCS). This SCS must demonstrate how the region will reduce greenhouse gas emissions through long-range planning. It also requires the Regional Housing Needs Allocation, which anticipates housing need for local jurisdictions, to conform to the SCS, which is an opportunity to advocate for increased access to and distribution of affordable housing across the region.

Surplus Land Act

The California Surplus Land Act requires that when cities, counties, transit agencies and other local agencies sell or lease their land, they must prioritize it for affordable housing development and parks and open space development.

2019 Housing Bills

Governor Gavin Newsom signed 18 bills in October of 2019 to address the statewide housing crisis (listed below). The bills incentivize affordable housing, make Accessory Dwelling Units (ADUs) easier to build, and streamline permitting and approvals to address the California housing crisis. The Governor signed SB 113 by the Committee on Budget and Fiscal Review, which will enable the transfer of $331 million in state funds to the National Mortgage Special Deposit Fund and establishes the Legislature's intent to create a trust to manage these funds to provide an ongoing source of funding for borrower relief and legal aid to vulnerable homeowners and renters.

The Governor signed the following bills to remove barriers and boost housing production:

- SB 330 established the Housing Crisis Act of 2019, which was intended to accelerate housing production in California by streamlining permitting and approval processes, ensuring no net loss in zoning capacity, and limiting fees after projects are approved.
- AB 1763 creates more affordable housing by giving 100 percent affordable housing developments an enhanced density bonus to encourage development.
- AB 116 removes the requirement for Enhanced Infrastructure Financing Districts to receive voter approval prior to issuing bonds.
- AB 1485 will build on existing environmental streamlining law and encourage moderate-income housing production.
- AB 1255 requires cities and counties to report to the state an inventory of their surplus lands in urbanized areas. The bill then requires the state to include this information in a digitized inventory of state surplus land sites.
- AB 1486 expands Surplus Land Act requirements for local agencies, requires local governments to include specified information relating to surplus lands in their housing elements and annual progress reports, and requires the state Department of Housing and Community Development to establish a database of surplus lands, as specified.
- SB 6 requires the state to create a public inventory of local sites suitable for residential development, along with state surplus lands.
- SB 751 creates the San Gabriel Valley Regional Housing Trust to finance affordable housing projects for homeless and low-income populations and address the homelessness crisis in the region.
- AB 1483 requires local jurisdictions to publicly share information about zoning ordinances, development standards, fees, exactions, and affordability requirements. The bill also requires the

Department of Housing and Community Development to develop and update a 10-year housing data strategy.

- AB 1010 allows duly constituted governing bodies of a Native American reservation or Rancheria to become eligible applicants to participate in affordable housing programs.
- AB 1743 expands the properties that are exempt from community facility district taxes to include properties that qualify for the property tax welfare exemption and limits the ability of local agencies to reject housing projects because they qualify for the exemption.
- SB 196 enacts a new welfare exemption from property tax for property owned by a Community Land Trust and makes other changes regarding property tax assessments of property subject to contracts with Community Land Trusts.

The construction of ADUs can also help cities meet their housing goals and increase the state's affordable housing supply. Several recent pieces of legislation have been implemented to eliminate barriers to building ADUs:

- AB 68 makes major changes to facilitate the development of more ADUs and address barriers to building. The bill reduces barriers to ADU approval and construction, which will increase production of these low-cost, energy-efficient units and add to California's affordable housing supply.
- AB 881 removes impediments to ADU construction by restricting local jurisdictions' permitting criteria, clarifying that ADUs must receive streamlined approval if constructed in existing garages, and eliminating local agencies' ability to require owner-occupancy for five years.
- AB 587 provides a narrow exemption for affordable housing organizations to sell deed-restricted land to eligible low-income homeowners.
- SB 13 creates a tiered fee structure which charges ADUs more fairly based on their size and location. The bill also addresses other barriers by lowering the application approval timeframe, creating an avenue to get unpermitted ADUs up to code, and enhancing an enforcement mechanism allowing the state to ensure that localities are following ADU statute.
- AB 671 requires local governments' housing plans to encourage affordable ADU rentals and requires the state to develop a list of state grants and financial incentives for affordable ADUs.

Local

Fowler Housing Element

The California Housing Element law requires every jurisdiction to prepare and adopt a housing element as part of its general plan. It is typical for each city or county to prepare and adopt its own separate housing element. However, Fresno County and 12 of the 15 cities in the County, including Fowler, with the help of the Fresno Council of Governments, prepared a Multi-Jurisdictional Housing Element (MJHE) for the 5th Cycle of housing element updates (2015-2023). The MJHE provides an opportunity for countywide housing issues to be effectively addressed at the regional level and also provides the opportunity for local governments to accommodate the Regional Housing Needs Allocation assigned to the Fresno County region. The 6th Cycle Fresno Multi-Jurisdictional Housing Element is currently being prepared. Certification is required by December 31, 2023.

Goals and Policies from the 5th Cycle MJHE would remain in effect for the Fowler 2040 GP. The applicable goals and policies are listed below:

Goals

Goal 1: Facilitate and encourage the provision of a range of housing types to meet the diverse needs of residents.

Policies

Policy 1.2: 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 1.4: Promote balanced and orderly growth to minimize unnecessary development costs adding to the cost of housing.

Policy 1.5: Encourage infill housing development on vacant, by-passed, and underutilized lots within existing developed areas where essential public infrastructure is available.

Policy 1.6: 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 1.7: Ensure the adequate provision of water, sewer, storm drainage, roads, public facilities, and other infrastructure necessary to serve new housing.

Fresno Council of Governments 2022 Regional Transportation Plan and SCS

The Fresno Council of Governments (FCOG) 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 Plan includes mobility and growth projections through 2042.

4.15.3 Methodology and Thresholds of Significance

Population and housing trends in Fowler were evaluated by reviewing the most current data available from the United States Census Bureau, Department of Finance, and the current Fowler GP. Impacts related to population are generally social or economic in nature. Under CEQA, a social or economic change generally is not considered a significant effect on the environment unless the changes are directly linked to a physical change.

According to the CEQA Guidelines Appendix G, the proposed project would have a significant impact related to population and housing if it would:

- 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); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

For purposes of this analysis, "substantial" population growth is defined as growth exceeding FCOG population forecasts for Fowler. "Substantial" displacement would occur if allowed land uses would displace more residences than would be accommodated through growth accommodated by the project.

4.15.4 Impacts

Threshold 1: Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than Significant Impact. Buildout of the Fowler 2040 GP would directly and indirectly result in population growth within the planning area through the construction of new homes, businesses, and the extension of utilities and infrastructure to support future growth and development of Fowler. The Fowler 2040 GP creates an updated land use plan for Fowler that plans for additional residential growth, which would result in an increase in the number of dwelling units and population to 14,764 and 48,131, respectively. This results in a persons per dwelling units of 3.26. As of 2019, Fowler had a dwelling unit count of 2,061 units and a population of 6,605 people. This results in a persons per dwelling units of 3.20. The Fowler 2040 GP would establish the planned growth and land uses for the City through 2040. Population and housing development projects would be required to align with the General Plan. This would ensure that substantial unplanned growth would not occur. The Fowler 2040 GP would also result in additional industrial and commercial growth, which would increase the employment base within Fowler.

Threshold 2: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less than Significant Impact. The Fowler 2040 GP does not propose the displacement of substantial amounts of people or housing that would necessitate the construction of replacement of housing elsewhere. The Fowler 2040 GP plans for full buildout to accommodate 48,131 people and 14,764 dwelling units, necessitating the construction of new housing both within the existing city limits of Fowler and within the planning area beyond the existing city. The Fowler 2040 GP does encourage the utilization and redevelopment of both infill sites and underutilized parcels within the planning area, which could result in the replacement of existing housing. However, the project would result in an overall increase in housing stock. As potential residential development or redevelopment projects are identified, additional project specific analysis would be completed at that time, including preparation of a relocation analysis in accordance with applicable federal and state laws. The Fowler 2040 GP would not require construction of replacement housing and the impact would be less than significant.

4.15.5 Mitigation Measures

Mitigation measures are not required.

4.15.6 Cumulative Impacts

Future development and buildout of the Fowler 2040 GP would result in the increase of population, workforce, and housing within Fowler. In addition, future buildout would contribute to increased density and intensity of land uses that would undergo development. Cumulative development of the planning area is not expected to result in the exceedance of projections provided by Fresno COG. In addition, market conditions and occupancy rates would be a limiting factor in any potential unexpected exceedance of the projected growth planned for within the planning area. The Fowler 2040 GP would provide a plan for reasonably foreseeable development, with an array of housing types that would support all levels of socioeconomic status. Any cumulative impacts result from the buildout of the Fowler 2040 GP would not be cumulatively considerable.

4.16 Public Services

This section evaluates impacts to public services, including fire and police protection, public schools, libraries, and parks, that could result from implementation of the Fowler 2040 GP.

Impacts to water and wastewater infrastructure and solid waste collection and disposal are discussed in Section 4.20, Utilities and Service Systems.

4.16.1 Environmental Baseline

Fowler's population of 6,605 relies on a variety of public services, including fire protection and emergency services, police protection, school facilities, park facilities, and library services.

Fire Protection and Emergency Services

Fire protection services in the in Fowler are provided by Fowler Fire Department on a contract basis. Unincorporated portions of the planning area are within the jurisdiction of the Fresno County Fire Protection District. The Fire Department also provides emergency medical services and responds to the following incidents within the service area:

- Fire;
- Medical;
- Vehicle;
- Multi-casualty;
- Hazardous materials;
- Confined space rescue; and
- Any other mutually agreed to response service.

The Fowler fire station is located at 220 E. Main Street across from City Hall and would ultimately house 11 personnel.[129] The Fresno County Fire Protection District considers the City and its population when evaluating its fleet size and equipment.[130] The entirety of the Fresno County Fire Protection District fleet and resources are available to the Fowler. This would include the availability of the entire fleet.

Police

The Fowler Police Department operates from its City Hall headquarters at 128 South 5th Street. The department provides crime prevention, traffic law enforcement, as well as enforcement of the Fowler Municipal Code in coordination with the Community Development Department within the city limits. Unincorporated portions of the planning area are within the jurisdiction of the Fresno County Sheriff Office's Area 3 Substation, which is staffed by 29 deputy sheriffs, 11 detectives, and four community service officers.

The Fowler Police Department does not have any detention facilities onsite; detainees are transported to the Fresno County Jail, located in downtown Fresno.

Fowler Police Department staff currently consists of a Chief of Police, ten sworn officers, three sworn part-time officers, and two support staff members.[131] The staffing ratio as of 2019 was approximately 1.5 full-

[129] (City of Fowler 2021)
[130] (National Fire Protection Association 2022)
[131] (City of Fowler 2021)

time officers per 1,000 residents. Equipment includes 15 patrol cars. The police department operates two patrol units on a 24-hours basis in two 12-hour shifts, with a minimum of two officers per shift with one additional 12-hour unit on patrol from 1400-0200 hrs. Non-sworn staff includes one records and property technician, and two part-time community service officers.

Schools

Fowler is served by the Fowler Unified School District (FUSD) which provides K-12 school education. While FUSD serves an area that extends beyond the planning area, a majority of the schools within FUSD are located within Fowler as shown on Figure 4-16. These include two elementary schools (Marshall Elementary and Fremont Elementary), one middle school (John Sutter), one high school (Fowler High), and one continuation high school (Fowler Academy). As of 2020, the school district had an enrollment of 2,589 students.[132]

From 2017-2021, the FUSD has maintained a graduation rate of 98 percent, the highest in Fresno County. In November 2016, Measure J passed with 78 percent voter approval.[133] This school bond authorized up to $42 million in funds to modernize and upgrade the school district's facilities. Upgrades included pool construction at Fowler High School, modernized playground equipment at the elementary schools, and the widening of Walter Avenue from the high school to Temperance Avenue, among other improvements.

The closest higher education facilities are Fresno Pacific University (8 miles), Fresno City College (13 miles), Reedley College (14 miles), California State University, Fresno (17 miles), Clovis Community College (23 miles), and College of the Sequoias in Visalia (32 miles).

Parks

There are currently four City parks in Fowler, all of which are managed by the Department of Recreation. Panzak Park is approximately 2.23 acres and includes a covered picnic area, large shade trees, playground equipment, and tennis courts. The recently developed Donny Wright Park covers an area of approximately 5.8 acres and includes an expanse of irrigated lawn and trails for recreation. Margaret Cowings Park is an approximate 0.17-acre neighborhood park with an irrigated lawn and shade trees located on North 9th Street between Merced and Tuolumne. Also considered a City park, the Fowler Veteran's Monument covers an area of approximately 0.08 acres and includes benches on paved surfaces, a fountain, several flag poles, ornamental hedges, and rose gardens. While not yet constructed, an eight-acre sports park west of SR 99 is in the planning and development stage. There are no State or regional parks located in the planning area.

Libraries

A reading room was established in Fowler in 1890, and the Fresno County Public Library opened a branch in the City in 1910. In 1913, the two merged and the library remained in the same building for 94 years until 2008 when the Fowler branch was relocated to a new 8,660 square-foot building at 306 South 7th Street. While not operated by the City, the branch offers accessible and inclusive programs year-round for Fowler residents of all ages. In addition to lending materials, the branch also provides 20 Internet stations for public use, printing and photocopying for a fee, and meeting room space.

[132] (Ditrict, Fowler Unified School 2022)
[133] (City of Fowler 2021)

4.16.2 Regulatory Setting

Federal

Federal Fire Prevention and Control Act of 1974

The National Fire Incident Reporting System 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 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

Americans with Disabilities Act

The Americans with Disabilities Act requires that public agencies take all practicable efforts to make facilities accessible to and usable by all people. The Act applies to open space and recreational resources, requiring that, where practicable, the City’s recreational buildings and park trails accommodate wheelchairs, strollers, walkers, and children.

State

California Fire Plan

The Strategic California Fire Plan is the State’s road map for reducing the risk of wildfire. 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.

State Hazard Mitigation Plan

The purpose of the State 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 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. The SHMP was most recently updated in 2018.

Wildland-Urban Interface Building Standards

Title 24, Part 9 of the 2022 California Fire Code establishes standards and requirements for construction in relation to the prevention of wildfire. These codes include provisions for ignition-resistant construction standards in the wildland urban interface.

California Office of Emergency Service

Through the California Emergency Services Act of 1970, the California Office of Emergency Service provides the basis for local emergency preparedness. The Office of Emergency Services is responsible for preparing the California State Emergency Plan and for coordinating and supporting emergency services conducted by local governments. The responsibility for immediate response to an emergency, such as fires, landslides, earthquakes or riots, rests with local government agencies and segments of the private sector, with support services provided by other jurisdictions and/or State and federal agencies. In accordance with their normal operating procedures, the initial response to an emergency will be made by local Fire, Law Enforcement, Medical or Maintenance (Public Works) districts or departments.

California Fire and Building Code

The 2019 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.

California Health and Safety Code

State fire regulations are set forth in HSC Section 13000, et seq. This includes regulations for building standards (as also set forth in the CBC), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

California Code of Regulations

CCR Title 5, Education, contains the implementing regulations that govern all aspects of education within the State.

California AB 2926 —School Facilities Act of 1986

AB 2926, entitled the School Facilities Act of 1986, was enacted in 1986 and added GC 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 GC Section 66000, et seq. 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 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

The State Public Park Preservation Act (PRC Sections 5400-5409) 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.

California Commission on Peace Officer Standards and Training

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.

Quimby Act

The 1975 California Quimby Act (GC Section 66477), authorizes cities and counties to adopt ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Cities with a high ratio of park space to residents can set a standard of up to 5 acres per 1000 persons for new development. Cities with a lower ratio can only require the provision of up to 3 acres of park space per thousand people. The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of city-owned parkland.

Local

Fowler Municipal Code

The FMC regulates the use of City parks and other City public facilities. Title 10, City Parks and Recreation provide guidelines and procedures to follow for use of park facilities in providing opportunities for wholesome, year round public recreation service for all age groups. Fowler's Recreation department is responsible for maintaining parks and recreation facilities. The city also administers park fees and reservations through an application system.

Subdivision Ordinance

Fowler's Subdivision Ordinance, last updated in 1985, establishes the City's open space requirements as authorized by the Fowler GP and Quimby Act. Residential subdivisions greater than 50 lots are required to provide a portion of the Quimby Act ratio within their subdivision. The standard for park space is 3.0 acres per 1,000 residents.

4.16.3 Methodology and Thresholds of Significance

According to the CEQA Guidelines Appendix G, the proposed project would have a significant impact related to public services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire protection
    - Police protection
    - Schools
    - Parks
    - Other public facilities

The population numbers used for the analysis of public services and safety represent those for the predicted population under buildout of the Fowler 2040 GP. The analysis does not account for any daytime increase of population due to a higher population of people driving into Fowler for jobs.

4.16.4 Impacts

Threshold 1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection:

Less than Significant Impact. Buildout of the Fowler 2040 GP would add approximately 41,526 residents within the planning area, resulting in a total estimated population of 48,131. The Fowler 2040 GP also facilitates additional growth of non-residential land uses, such as commercial and industrial uses. This growth would elevate the demand for fire protection services within the planning area. It is anticipated that as demand increase, additional facilities may be required in order to maintain adequate levels of service. The Fowler's fire station is located on the eastern side of SR 99 providing access to the majority of development within the Fowler's eastern half. Development on the west side of SR 99 is connected to the eastern parts of the Fowler by Merced Street. In an emergency situation on Fowler's western side, the Fowler Fire Department would be required to use Merced Street as an inflection point, before converging on the situation. Should additional facilities be required, those facilities will be planned and constructed as future development occurs to ensure that adequate staffing is maintained. Project-specific impacts will be evaluated at the time additional facilities are proposed. Although, the Fowler 2040 GP 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 following policies and action items of the Fowler 2040 GP would ensure adequate firefighting staff, infrastructure, and fire protection services are provided.

Policy PF-11	In cooperation with the Fresno County Fire Protection District, provide firefighting equipment, facilities, and staffing sufficient to assure adequate response and fire flow at all times.

Policy PF-12	Ensure adequate water supplies are available for fire suppression throughout the City and require development to construct all necessary fire suppression infrastructure and equipment.
Policy PF-13	Maintain mutual aid agreements with other fire and emergency service departments in Fresno County to ensure adequate service throughout the City of Fowler and its Planning Area.
Policy PF-14	Maintain staffing levels of City emergency service departments, including fire and police.
Action Item PF-14a	Prepare a staffing plan for the Police Department to establish target staffing levels and update the plan periodically. The following staffing targets shall be used until the staffing plan is prepared and adopted: • Target an average staffing level of 1.5 police officers per 1,000 persons when the City population is less than 10,000. • Target an average staffing level of 1.25 police officer per 1,000 persons once the City reaches a population of 10,000 or more.
Action Item PF-14b	Explore options to staff full-time or part-time fire fighter and support staff.

Compliance with Fowler 2040 GP policies PF-11, PF-12, PF-13, and PF-14 and action items PF-14a and PF-14b, outlined above, would ensure that potential impacts related to fire protection are less than significant.

Police Protection:

Less than Significant Impact. As with fire protection services, growth facilitated by the Fowler 2040 GP would increase demand for police protection services within the planning area. It is anticipated that additional facilities may be required as demand increases, in order to maintain adequate levels of service for police protection. Currently, the Fowler Police Department has one Chief of Police, ten sworn officers, three sworn part-time officers, and two support staff members[134] and provides services from the police station located in downtown Fowler. Should additional facilities be required, those facilities will be planned and constructed as future development occurs to ensure that adequate staffing is maintained. Project-specific impacts will be evaluated at the time additional facilities are proposed. Although, the Fowler 2040 GP would facilitate development that would increase the demand for police protection services such that both additional staff and new facilities would likely be needed in order to accommodate growth in the planning area, the following policies and action items of the Fowler 2040 GP would ensure adequate police staff, infrastructure, and police protection services are provided.

Compliance with Fowler 2040 GP policy PF-14 and action item PF-14a outlined above would ensure that potential impacts related to police protection are less than significant.

Schools:

Less than Significant Impact. 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, including fees imposed under AB 2926,

[134] (City of Fowler 2021)

which fees may be used to construct new facilities and are updated periodically. The amount of fees imposed on developers is limited pursuant to SB 50. Specifically, GC Section 65995(3)(h) states:

> *"…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 in excess of the established fee.

Buildout of the Fowler 2040 GP would increase demand for schools within the planning area. Growth accommodated by the Fowler 2040 GP would generate revenue for schools through development fees which would be allocated to the school district. Under the Ordinance, Fowler 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 would not overcrowd the existing school system and that adequate school facilities are funded to meet growing demand.

Although, the Fowler 2040 GP would facilitate development that would increase the demand for school services, collection of applicable fees as noted above would ensure that impacts to schools are less than significant.

Parks:

Less than Significant Impact. Policy OS-1 requires parks to be developed to provide 2.0 acres/1,000 residents for Neighborhood Parks and 1.0 acres/1,000 residents for Community Parks. In order to meet the 1.0 acres/1,000 residents standard for community parks, Fowler would need approximately 48 acres of park land to accommodate a full buildout population of 48,131. In order to meet the 2.0 acres/1,000 residents standard for neighborhood parks, Fowler would need approximately 96 acres of park space to accommodate the full buildout population. The City currently has approximately 12.66 acres of developed parkland. The Fowler 2040 GP has a total of 55 acres designated for parks and open space on the land use diagram, inclusive of existing park space. Additionally, Policy OS-3 requires that five percent of the project area for all single-family residential projects be developed as usable open space. Should the open space be developed and dedicated to the standards required for neighborhood parks, approximately 123 acres of park land would be developed in addition to the acreage designated for park space on the land use diagram. This would result in a total of 178 acres of park space, which exceeds the minimum required to meet the standard. Should the usable open space not be dedicated, payment of an in-lieu fee, as adopted through the City's Quimby Ordinance would be paid to the City for acquisition of additional park land. Additionally, the Quimby fee is collected from multiple family residential developments when subject to subdivision, which would also be paid to the City for acquisition of park land. The City also has an adopted park impact fee collected from all new residential development, including multi-family residential, which may be used for acquisition or construction of park land.

Table 4-40: Park Classifications and Service Level Requirements

Park Type	Description	Access Radius	Service Level/Residents
Community Plaza	Community Plazas provide opportunities for public gathering or social events within an urban context. There is no size requirement for public plazas.	n/a	n/a
Neighborhood Park	Neighborhood parks may be up to 2 acres in size and provide both passive and active open space within the community and within residential subdivisions when dedicated for public use.	0.25 Miles	2.0 per 1,000
Community Park	Community parks range in size from just over 2 acres to 25 acres and provide amenities for multiple age groups and opportunities for passive and active recreation.	0.5 Miles	1.0 per 1,000

Implementation of the following Fowler 2040 GP policies would facilitate the addition of new parks, and park facilities, in accordance with adopted standards.

Policy OS-1	Parks shall be developed according to the park classifications, access radii, and service level requirements outlined in ***Table 8-1***.
Policy OS-3	Within single family residential projects, whether attached or detached, a minimum of 5% of the project site, not inclusive of existing or future major road rights-of-way, shall be developed with usable open space. Such open space shall be maintained by an assessment district, landscape/lighting district, homeowners' association, or other appropriate maintenance entity.
Action Item OS-3a	Adopt standards that establish minimum requirements for open space areas to qualify as usable for purposes of meeting the 5% usable open space requirement. Such standards shall require a minimum of a one-half acre park site. The remaining acreage needed to satisfy the 5% usable open space requirement may be made up of neighborhood trails or other usable open space areas meeting the minimum established requirements. In instances where 5% of a project site's acreage, exclusive of rights of way, results in less than one-half acre, the park site for that project site may be constructed equal to the minimum acreage required to comply with 5% standard.
Policy OS-4	Usable open space areas, as required in Policy OS-3, may fulfill the requirements for parkland dedication, per the City's Quimby Ordinance. To qualify, such land shall be dedicated to the City and meet the minimum established requirements for usable open space.

Compliance with the Quimby Ordinance and with Fowler 2040 GP policies OS-1, OS-3, and OS-4 outlined above would ensure that impacts related to parks are less than significant.

Other: Library Services

No Impact. As discussed above, full buildout under the Fowler 2040 GP would increase the demand for additional public services such as library services. The Fresno County Public Library provides library services in Fowler and is responsible for the planning of new library facilities and anticipating demand to meet existing and future population needs. The County will remain responsible for library services going forward and as such there would be no impacts.

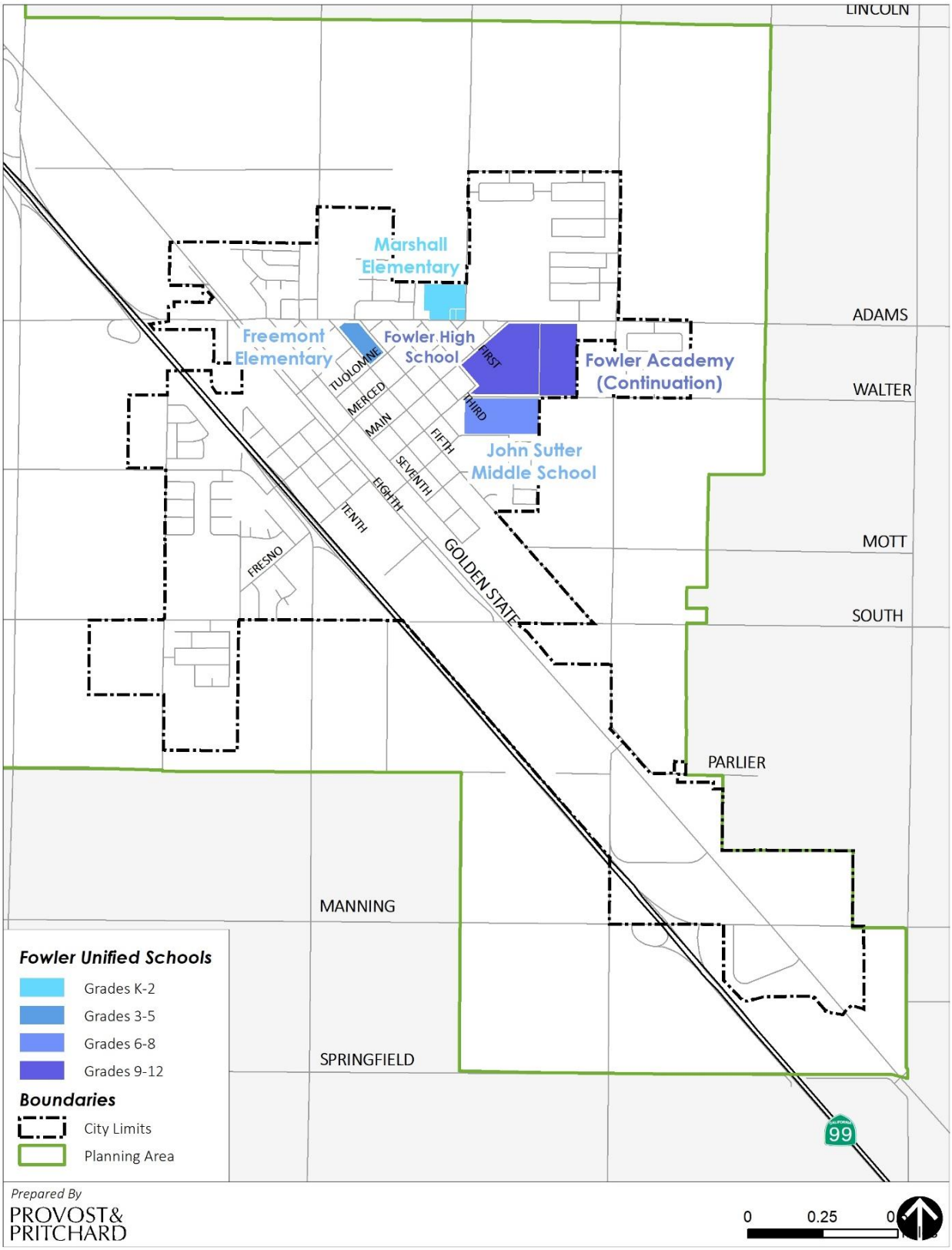
4.16.5 Mitigation Measures

No mitigation measures are required.

4.16.6 Cumulative Impacts

Cumulative development in Fresno County surrounding Fowler in combination with development proposed under Fowler 2040 GP may contribute to the need for additional public services including police, fire, school, library services, and park facilities. Implementation of Fowler 2040 GP would increase density and intensity of existing land uses, which could regionally impact public services. However, goals and policies contained within Fowler 2040 GP would ensure adequate levels of public service under future development. Therefore, Fowler 2040 GP would have incremental contribution to cumulative impacts associated with public services and would not be cumulatively considerable. Cumulative impacts would be less than significant.

Figure 4-16: Fowler Unified School District Facilities



4.17 Recreation

This section evaluates impacts on recreational facilities, including an evaluation of existing park facilities and the planned development of future parks and recreational facilities, that could result from implementation of the Fowler 2040 GP.

4.17.1 Environmental Baseline

Fowler owns and operates four parks and one recreational facility which are managed by the Fowler Recreation Department. The parks provide residents various amenities such as playgrounds, bench seating, and picnic areas. The Edwin Blayney Senior Center is a recreational facility that provides a daily meeting place for senior citizens. See for some of the amenities provided by parks in Fowler. There are three additional parks that are located within recently developed subdivisions, Tract 5952, Tract 6188, and Tract 6274. These facilities are described in Table 4-41 below. City park and recreational facilities are located throughout the City with most located east of SR 99. Nearly half of the City parks are less than 1 acre in size, offering passive recreational amenities and children's play areas.

Table 4-41: Existing Parks and Recreational Facilities

Facility	Amenities	Acres
Donny Wright Park	Irrigated grass lawn and trails for recreation	5.80
Panzak Park	Covered picnic area, amphitheater, large shade trees, playground equipment, and tennis courts	2.23
Veteran's Memorial Park	Benches on paved surfaces, a fountain, several flag poles, ornamental hedges, and rose gardens	0.08
L. V. Margaret Cowings Park	Irrigated grass lawn and shade trees	0.17
Tract 5952		2.00
Tract 6188		1.39
Tract 6274		0.99
	Total	**12.66**

The Fowler Recreation Department offers community recreational and leisure activities, including the seasonal Summer Swim Program, and annual events such as the Fowler Summerfest Celebration, a weekly farmer's market during summer months, Pumpkin Carving festivity, Children's Christmas Shopping Sale, Easter Egg Hunt, and the Christmas Tree Lighting Ceremony. Additionally, the Edwin Blayney Senior Center offers a meeting place and specialized recreation opportunities for senior citizens, as noted above.

Although Fowler does not have an extensive system of pedestrian paths and trails, there is a class II bicycle lane along Adams Avenue from Vista to Temperance and Golden State Boulevard. Some areas within the City contain elements that make it easier to walk and ride, such as the downtown area. This is due to its short blocks, moderate density, occurrence of mature shade trees, and close proximity of destinations – all factors that contribute to walkability.

Figure 4-17: Park Amenities

Figure 4-18: Park Amenities

Figure 4-19: Park Amenities

4.17.2 Regulatory Setting

Federal

There are no federal regulations, plans, programs, or guidelines associated with recreation that are applicable to the Project.

State

Quimby Act

The 1975 California Quimby Act (GC Section 66477), authorizes cities and counties to adopt ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Cities with a high ratio of park space to residents can set a standard of up to 5 acres per 1000 persons for new development. Cities with a lower ratio can only require the provision of up to 3 acres of park space per thousand people. The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of city-owned parkland.

Mitigation Fee Act

Enacted as AB 1600, the Mitigation Fee Act (GC Section 66000, et seq.) requires a local agency establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put. The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development plan on which it is to be levied.

Local

Fowler Subdivision Ordinance

Fowler's Subdivision Ordinance establishes open space requirements as authorized by the Fowler GP and Quimby Act. Residential subdivisions greater than 50 lots are required to provide a portion of the Quimby Act ratio within their subdivision. The standard for park space is 3.0 acres per 1,000 residents.

Fowler Municipal Code

Article 2 of Chapter 2 of Title 2 of the FMC establishes the Recreation Commission, which is composed of seven (7) appointed citizens. Its duties consist of:

> Planning and recommending to the City Council, by way of regular reports, actions as necessary to organize community sports of all kinds, community singing, music, games, plays, celebrations, and similar activities;
>
> Cooperating with individuals or organizations interested in public recreation and encourage the provision of recreation for the citizens of the City.

The goal of the Recreation Commission is to meet the needs of the City providing organized, quality, balanced, and wholesome recreational programs that are free or at a reasonable cost to participants, and to constantly review and evaluate existing programs for quality and develop new and innovative programs.

Section 9-5.101 of the Fowler Municipal Code outlines the general purpose of Title 9 (Zoning), which is to promote and protect the public health, safety, and general welfare.

Articles 8 (RM – Multi-Family Residential Districts) and 16 (Design Review) establish the open space requirements of multifamily projects and residential subdivisions.

4.17.3 Methodology and Thresholds of Significance

According to the CEQA Guidelines Appendix G, the proposed project would have a significant impact related to recreation if it would:

- 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
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.17.4 Impacts

Threshold 1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact. Fowler's existing 2025 GP adopted a policy requiring 3.0 acres of parkland per 1,000 residents. With an estimated 2019 population of 6,605 residents, Fowler has a parks and open space deficit of approximately nine acres. The Fowler 2040 GP also requires 3.0 acres of parkland per 1,000 residents. Buildout of the Fowler 2040 GP would add approximately 41,526 additional residents within the planning area, resulting in a total estimated population of 48,131.

As discussed under Section 4.16, policy OS-1 requires the provision of 2.0 acres/1,000 residents for neighborhood parks and 1.0 acres/1,000 residents for community parks. Further, policy OS-3, policy OS-3 requires that five percent of the project area for all single-family residential projects be developed as

usable open space. Development of park space in accordance with these policies would result in a total of 178 acres of park space, which exceeds the minimum required to meet the standard. Additionally, the City also has an adopted park impact fee collected from all new residential development, including multi-family residential, which may be used for acquisition or construction of park land.

The following policies of the Fowler 2040 GP would facilitate the addition of new parks and open space facilities to comply with the target parkland-to-population ratio and reduce the impact of overuse of existing facilities such that no substantial physical deterioration is expected to occur. The following policies also require payment of parks fees that would contribute toward the maintenance of City parks, trails, and recreation system.

Policy OS-1	Parks shall be developed according to the park classifications, access radii, and service level requirements outlined in *Table 8-1.*
Policy OS-3	Within single family residential projects, whether attached or detached, a minimum of 5% of the project site, not inclusive of existing or future major road rights-of-way, shall be developed with usable open space. Such open space shall be maintained by an assessment district, landscape/lighting district, homeowners' association, or other appropriate maintenance entity.
Action Item OS-3a	Adopt standards that establish minimum requirements for open space areas to qualify as usable for purposes of meeting the 5% usable open space requirement. Such standards shall require a minimum of a one-half acre park site. The remaining acreage needed to satisfy the 5% usable open space requirement may be made up of neighborhood trails or other usable open space areas meeting the minimum established requirements. In instances where 5% of a project site's acreage, exclusive of rights of way, results in less than one-half acre, the park site for that project site may be constructed equal to the minimum acreage required to comply with 5% standard.
Policy OS-4	Usable open space areas, as required in Policy OS-3, may fulfill the requirements for parkland dedication, per the City's Quimby Ordinance. To qualify, such land shall be dedicated to the City and meet the minimum established requirements for usable open space.
Policy OS-17	The City shall use a broad range of funding and economic development tools to ensure high quality development, maintenance, and programming of the City parks, trails, and recreation system.
Policy OS-18	All residential projects shall be subject to the payment of park development impact fees, as adopted by resolution of the City Council. Payment of these development impact fees shall be in addition to any parkland dedication or in-lieu fee payment requirements in accordance with Fowler's adopted Quimby Act Ordinance, as applicable, except as provided for in *Policy OS-6*.

Table 4-42: Park Classifications and Service Level Requirements

Park Type	Description	Access Radius	Service Level/Residents
Community Plaza	Community Plazas provide opportunities for public gathering or social events within an urban context. There is no size requirement for public plazas.	n/a	n/a
Neighborhood Park	Neighborhood parks may be up to 2 acres in size and provide both passive and active	0.25 Miles	2.0 per 1,000

Park Type	Description	Access Radius	Service Level/Residents
	open space within the community and within residential subdivisions when dedicated for public use.		
Community Park	Community parks range in size from just over 2 acres to 25 acres and provide amenities for multiple age groups and opportunities for passive and active recreation.	0.5 Miles	1.0 per 1,000

Compliance with the Fowler 2040 GP policies OS-1, OS-3, OS-4, OS-17, and OS-18 outlined above would ensure that potential impacts related to accelerated deterioration of existing neighborhood and regional parks or other recreational facilities are less than significant.

Threshold 2: Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than Significant Impact. The Fowler 2040 GP anticipates the development of new parks, as discussed under Threshold 1 above, and recreational facilities, including a community trail system as shown in Figure 4-21. However, no construction is proposed at this time as development of the planned park and recreation facilities would occur as anticipated growth occurs under the Fowler 2040 GP. While future development of new parks and recreational facilities could have a potential environmental impact, a lack of project-specific details would result in an analysis that is speculative in nature at this time. Future construction of new parks and recreational facilities would be evaluated at the time they are proposed and would comply with CEQA as applicable to ensure that potential environmental impacts are evaluated as required. Further, any future projects would be subject to compliance with all applicable federal, State, and local requirements, including those that would minimize potential environmental impacts. Future development projects would also be required to use the most recent efficiency standards intended to reduce environmental impacts on a project specific level. Implementation of the newest efficiency standards would limit any future impacts to energy, air quality, and GHGs. In addition, during construction of such infrastructure, contractors would be required to adhere to industry BMPs, minimizing potential impacts to a less than significant level. As adoption of the Fowler 2040 GP does not authorize construction of park and recreation facilities and additional analysis will be conducted at the time development of such facilities is proposed, the impact is anticipated to be less than significant.

4.17.5 Mitigation Measures

Mitigation measures are not required.

4.17.6 Cumulative Impacts

The scope for potential cumulative impacts to recreation includes all projects within the planning service area. The analysis in this section examines the potential impacts to parks and recreational facilities in Fowler as a result of all potential buildout in the service areas for these resources. Therefore, the analysis of impacts to these services and associated facilities is cumulative in nature. The Fowler 2040 GP would result in less than significant impacts parks and recreation facilities. Therefore, the Fowler 2040 GP would result in less than significant cumulative impacts to recreational resources and open space.

Figure 4-20: Park Facilities

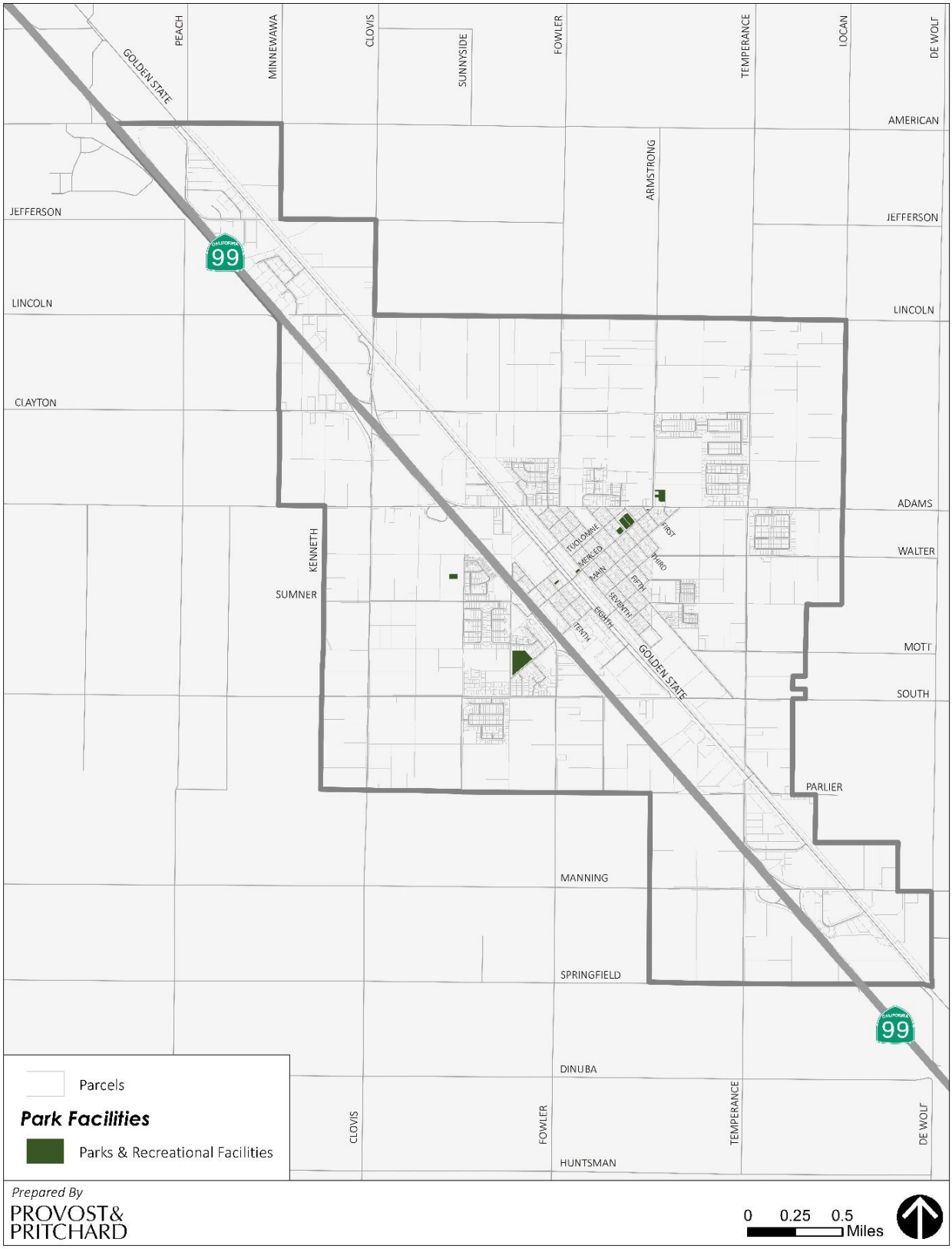
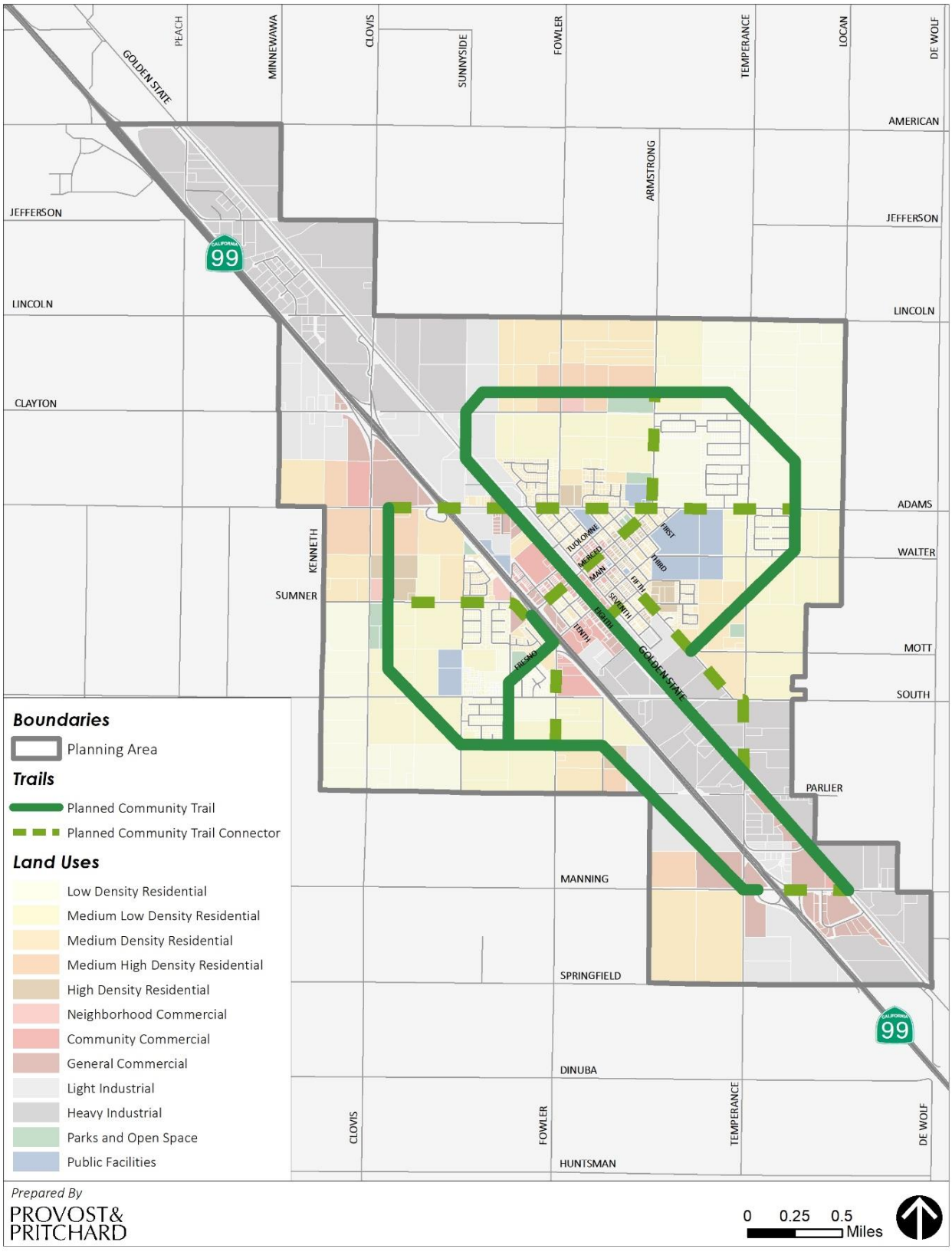


Figure 4-21: Trail Facilities



4.18 Transportation

This section evaluates the impacts on the local and regional circulation system, including an analysis of the potential for the proposed GP to increase local and regional traffic VMT, increase in hazards due to a design feature, interfere with emergency access, or conflict with applicable alternative transportation programs, that could result from implementation of the Fowler 2040 GP.

4.18.1 Environmental Baseline

A city's circulation network provides for the movement of people, goods, energy, and other resources throughout its community. The circulation network is aligned with existing and future land uses. Understanding how a community operates, and its physical infrastructure and capacity is important in analyzing a its transportation system. The purpose of the General Plan Circulation Element is to provide for a safe, convenient and efficient transportation system.

Personal automobile use is by far the dominant mode of transportation to work in the planning area, with almost 90 percent of workers traveling by either car, truck, or van. Approximately 90 percent of automobile users drove alone to work, while 10 percent participated in carpools. Approximately 2 percent of workers either walked or traveled by bicycle, while 4.5 percent of the workforce works from home. There was zero utilization of public transit as a means of travel to work.[135]

Existing Major Roadways

The roadway system within the Fowler planning area includes SR 99 as well as numerous City and County routes. Fowler established a hierarchy of roads, also known as a functional classification system, which groups streets into categories by the type of service they provide. There are five classifications, as follows:

- **Freeways.** Freeways carry regional traffic through the community with access only at major street interchanges. The only Freeway in the planning area is SR 99;
- **Expressways.** Expressways connect regional destinations on the non-freeway system and generally pass through several jurisdictions. Traffic carrying capacity is maintained through access control at 2-mile intervals. The only Expressway in the planning area is Temperance Avenue;
- **Arterials.** Arterials serve as the principal network for cross-town traffic flow. They connect areas of major traffic generation within the urban area and link important county roads with state highways. They also provide for the distribution and collection of through traffic to and from collector and local streets. America, Fowler, and Manning Avenues and Golden State Boulevard are designated Arterials;
- **Collectors.** Collectors provide for traffic movement between arterial and local streets, traffic movement within and between neighborhoods and major activity centers, and limited direct access to abutting properties. 5th, 7th, 8th, Adams, Armstrong, Clayton, Fowler, Fresno, Lincoln, Merced, Parlier, South, Springfield, Sumner, Sunnyside, Walter are all designated Collectors;
- **Local Streets.** Two- to three-lane roadways designed to provide direct access to properties, while discouraging excessive speeds and volumes of motor vehicle travel incompatible with neighborhoods being served through the implementation of multiple, well connected routes and traffic calming measures.

[135] (United States Census Bureau 2019)

Accessing the Planning Area

SR 99 is the major regional transportation route into and out of the planning area. There are four exits from SR 99 that provide direct access into the planning area: Clovis Avenue, Adams Avenue, Merced Street, and Manning Avenue. Other notable entrances into Fowler include North Fowler Avenue, South Fowler Avenue, South Temperance Avenue, Golden State Boulevard, and East South Avenue.

While Fowler's position along SR 99 provides easy access to northern and southern California, it also acts as a dominant physical barrier, separating the east and west sides of the planning area. Most land area lies on the east side of SR 99; however, substantial residential land uses exist west of SR 99. Retail and industrial uses are generally clustered along SR 99 to the east of the highway. Only Merced Street, Adams Avenue, and Manning Avenue provide access across the highway, limiting the flow of both automobile and pedestrian traffic between the east and west sides of the planning area.

Pedestrians and Bicycle Facilities

While there have been some recent additions to bicycle and pedestrian facilities in Fowler, the planning area does not have an extensive system of bike lanes, bike paths, or walking trails. The ease of walking and driving in Fowler varies depending on the area. The downtown area is more walkable due to its short blocks, moderate density, occurrence of mature trees for shading, and close proximity of destinations. In addition, there is a class II bicycle lane along Adams Avenue from Vista to Temperance and Golden State Boulevard.

The Fresno Regional Active Transportation Plan identifies current bicycling and sidewalk facilities in Fowler as of 2017. Table 4-43 provides a summary of those facilities. Table 4-43 below provides an overview of these bicycle facilities throughout the planning area.

Table 4-43: Bicycle and Pedestrian Facilities

Bike Facilities Designation	Description	Miles
BIKE PATH (CLASS I)	Class I bikeways, also known as bike paths or shared-use paths, are facilities with exclusive right of way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized. Some systems provide separate pedestrian facilities.	0.0
BIKE LANE (CLASS II)	Class II bikeways are bike lanes established along streets and are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel. Bike lanes are one-way facilities, typically striped adjacent to motor traffic travelling in the same direction. Contraflow bike lanes can be provided on one-way streets for bicyclists travelling in the opposite direction.	7.0
BIKE ROUTE (CLASS III)	Class III bikeways, or bike routes, designate a preferred route for bicyclists on streets shared with motor traffic not served by dedicated bikeways to provide continuity to the bikeway network. Bike routes are generally not appropriate for roadways with higher motor traffic speeds or volumes. Bike routes are established by placing bike route signs and optional shared roadway markings (sharrow) along roadways.	1.0
SEPARATED BIKEWAY/CYCLE TRACK (CLASS IV)	A Class IV separated bikeway, often referred to as a cycle track or protected bike lane, is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. The separation may include, but is not limited to, grade separation, flexible posts, inflexible barriers, or on-street parking. Separated bikeways can provide for one-way or two-way travel.	0.0
SIDEWALK	Paved areas immediately adjacent to the vehicular right-of-way for the exclusive use of pedestrians. Sidewalks may be used by cyclists unless prohibited.	42.9

Vehicle Miles Traveled

As shown in Table 4-44 and Table 4-45, and as can be reasonably expected due to Fowler's distance from major activity centers, VMT averages for Fowler are generally greater than the countywide average. The

residential VMT/person for the City is 20.0 compared to 16.1 for the County as a whole. Employment VMT averages reflect a similar pattern. Fowler is 35.6 VMT/employee compared to 25.6 for the overall County.

Public Transportation

The Fresno County Rural Transit Agency

The Fresno County Rural Transit Agency (FCRTA) provides general public transit service to rural communities throughout Fresno County, keeping the Central Valley connected and allowing passengers to conveniently travel within their community and throughout the Central Valley. FCRTA provides both scheduled, fixed route services with designated bus stops along specific routes, as well as reservation-based, demand responsive service that offers curb-to-curb transportation.[136] The Southeast Transit and Kingsburg to Reedley College Transit routes make stops at the intersection of Merced and 7th Street and at the Valley Children's Healthcare Center.

AMTRAK

Fresno County's sole AMTRAK station is located in downtown Fresno and provides AMTRAK services to San Francisco and Sacramento to the north, as well as Bakersfield and Los Angeles to the south. The AMTRAK San Joaquin line provides seven trains daily traveling along both north and southbound routes. The San Joaquin line joins with the Union Pacific Railroad line southeast of downtown Fresno, then separates and moves south, bypassing Fowler.

There is not a train terminal in Fowler. The closest station to Fowler is in downtown Fresno, approximately 11 miles to the north. The next closest station is in Hanford, approximately 23 miles to the south.

High Speed Rail Authority

The California High-Speed Rail Authority is responsible for planning, designing, and building the California high speed rail. Once complete, the rail will connect major regions of the state. Phase 1 will run from San Francisco to Los Angeles. Subsequent phases will extend to Sacramento and San Diego.

The first phase of rail construction will connect Merced to Bakersfield, with stations planned in downtown Merced, downtown Fresno, and downtown Bakersfield. As of July 2019, construction in Fresno County was underway, with work beginning on construction of the arches at the San Joaquin River Viaduct and the final paving at Avenue 8 in Madera.

Rideshare

Since the last update to the General Plan, on-demand rideshare services, such as Uber and Lyft, are now available to Fowler residents. These rideshare programs are privately operated and provide on-demand rideshare service within Fowler and throughout Fresno County with the use of a smart phone application.

Airports

There are no existing airports within the limits of Fowler. The nearest airports are as follows:

Fresno-Chandler Executive

- Airport
- Fresno Yosemite International Airport
- Reedley Municipal Airport

[136] (Fresno County Rural Transit Agency 2021).

- Selma Airport

Movement of Goods

Truck Routes

There are several local businesses that rely on transporting goods via SR 99. Movement of goods from those businesses relies on prescribed trucking routes in order to navigate to the nearest SR 99 intersection. The estimated pass-through truck trips along SR 99 within Fowler and Golden State Boulevard is not currently known.

In 2016, Fresno Council of Governments published the San Joaquin Valley 1-5/SR 99 Goods Movement Study. The study identified truck traffic generators, congested segments, collision hotspots, and truck service facilities along the 99 corridor. The study identified that while Fowler is impacted by traffic along these freeways, Fowler does not have a significant amount of congested or critical safety segments.[137]

The Fowler 2040 GP establishes preferred designated truck routes as part of the circulation element. Fowler's municipal code expands that list of designated truck routes and offers clarification as to the purpose and types of vehicles which must travel along such routes.

Cargo

The Union Pacific Railroad runs through and provides freight services for Fowler. The Fresno Yosemite International Airport is the major air cargo system in the San Joaquin Valley. Although services are provided via rail and air, trucks are expected to continue to be the predominant method for goods movement in Fowler.

[137] (Cambridge Systematics, Inc., 2016)

Table 4-44: Existing Vehicle Miles Traveled per Capita

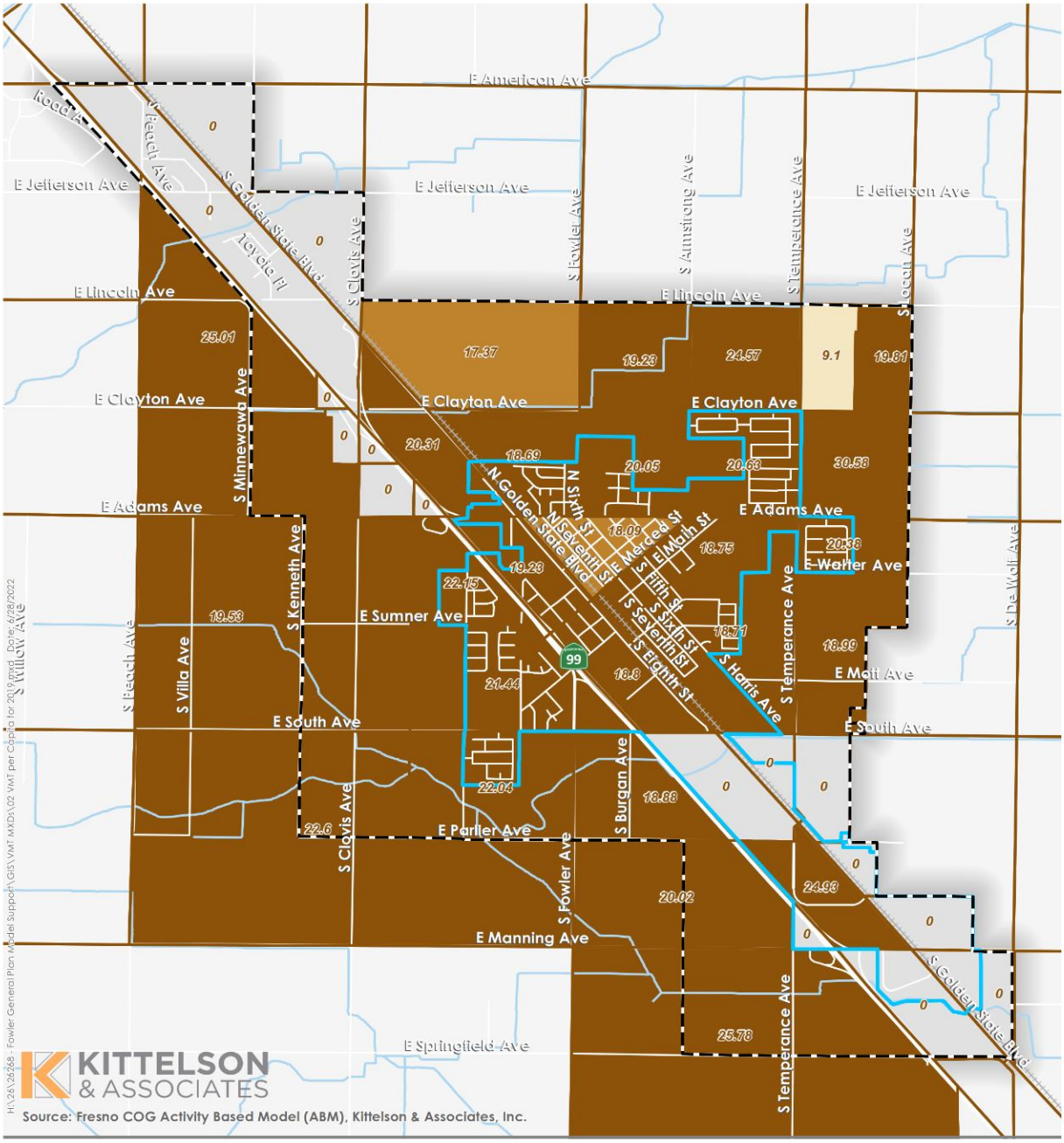


Table 4-45: Existing Vehicle Miles Traveled per Employee

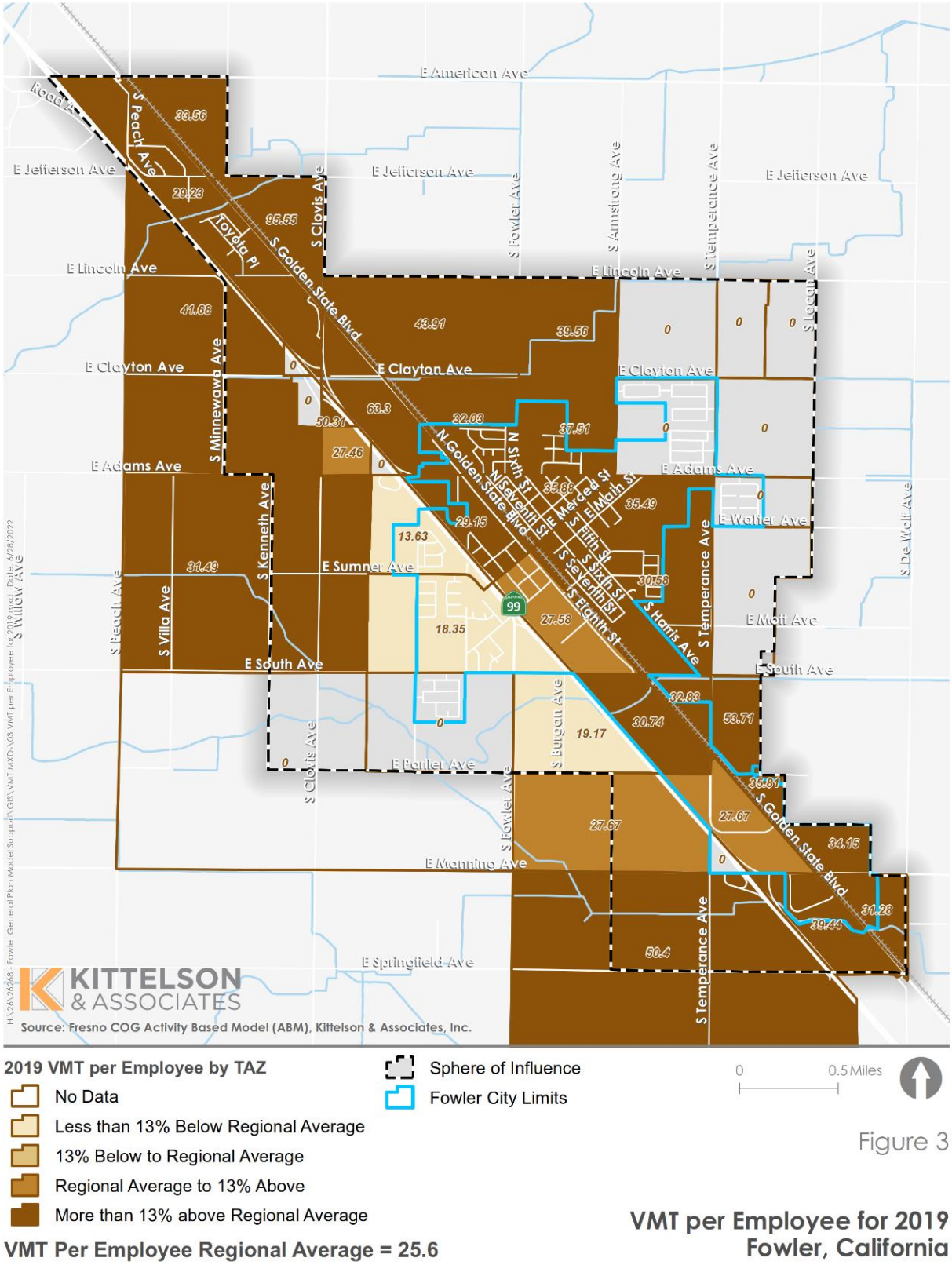
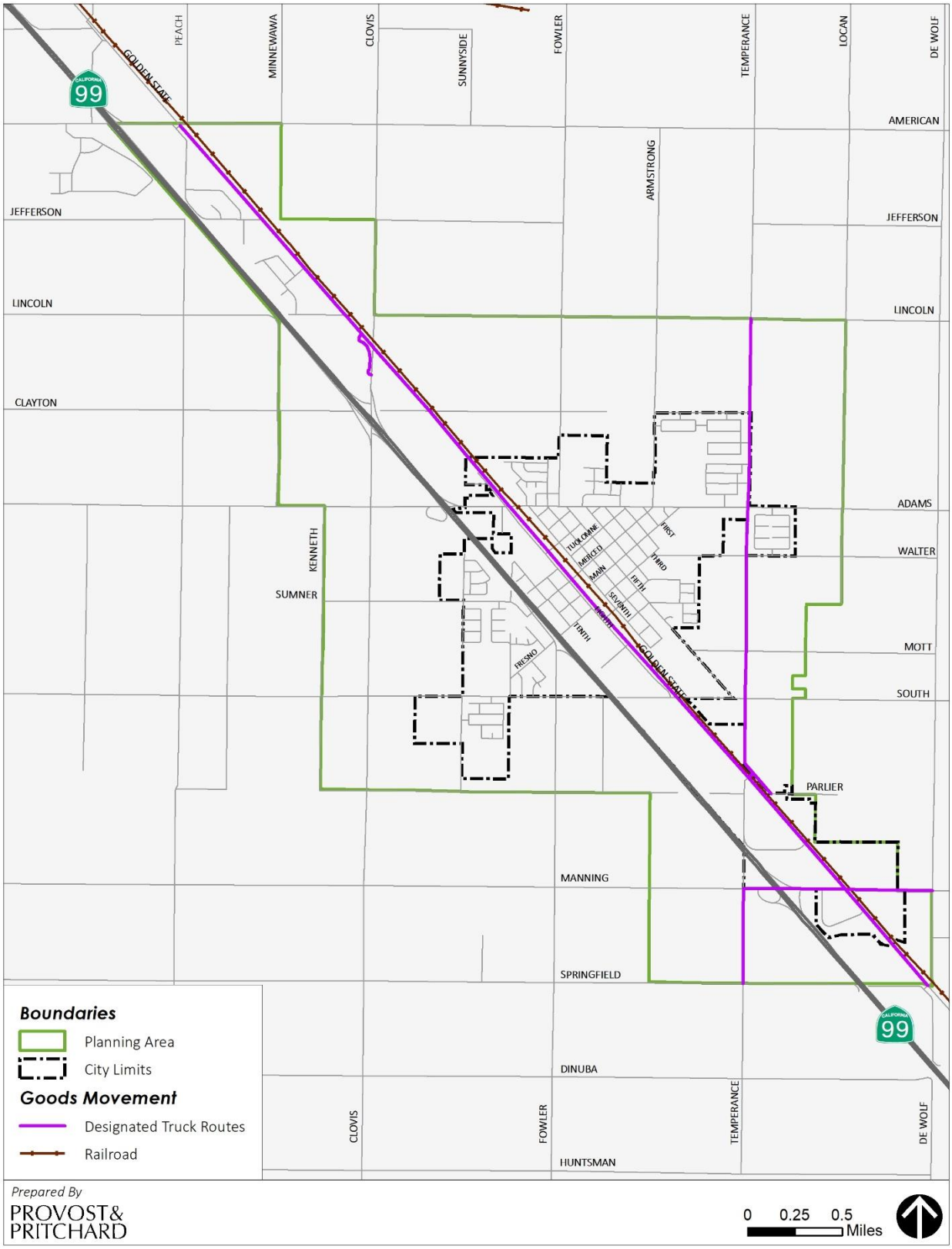


Table 4-46: Existing Designated Truck Routes



4.18.2 Regulatory Setting

Federal

Americans with Disabilities Act of 1990

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the United States Access Board, an independent federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. The guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. The guidelines apply to all proposed roadways in the project area.

Federal Highway Administration

The FHWA is responsible for the federally funded roadway system, including the interstate highway network and portions of the primary State highway network. FHWA funding is provided through the Fixing America's Surface Transportation Act. Federal funds can be used to fund eligible local transportation improvements, such as projects to improve the efficiency of existing roadways, traffic signal coordination, bikeways, pedestrian facilities, and transit system upgrades.

State

Senate Bill 743

SB 743, which was signed into law by Governor Brown in 2013, tasked OPR with establishing new criteria for determining the significance of transportation impacts under CEQA. SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." 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 PRC Section 21099(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 VMT 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 and because effective in January 2011. 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. Subsequently, AB 1358 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.

California Department of Transportation

Caltrans is charged with managing and maintaining the State's highway system. Caltrans directly manages more than 50,000 lane miles of State and federal highways, as well as over 12,000 highway bridges; permits

more than 400 public-use airports; and operates three of the top five Amtrak intercity rail services. Caltrans' Strategic Management Plan 2015 - 2020 defines five primary goals: Safety and Health; Stewardship and Efficiency; Sustainability, Livability, and Economy; System Performance; and Organizational Excellence.

Caltrans Deputy Directive 64-R1: Complete Streets – Integrating The Transportation System

In 2001, 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 GHG emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Sustainable Community Strategy (SB 375)

SB 375 requires MPOs to adopt an SCS or APS that will address land-use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, establishes regional reduction targets for GHGs emitted by passenger cars and light trucks for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, funding for transportation projects may be withheld. In 2018, CARB adopted updated SB 375 targets.

Local

Fresno County Regional Transportation Plan

FCOG's 2022 RTP comprehensively assesses all forms of transportation available in Fresno County, as well as travel and goods movement needs through 2040. FCOG's first RTP was adopted in 1975. Updated editions have been published every four years per federal statutes refinements of the original and subsequent plans, making this the 19th edition. Federal and state legislation mandates that these long-range transportation plans extend at least 20 years into the future. As the federally designated MPO and state-designated Regional Transportation Planning Agency, FCOG has developed the 2022 RTP update through a continuous, comprehensive, and cooperative framework. This process has involved the region's 15 cities, the County of Fresno, staff from related local public agencies, the SJVAPCD, Caltrans, other state and federal agencies, and the public. 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 more efficient use of autos and light trucks, as well as improve the overall quality of life in the region.

Fresno County Intelligent Transportation System Strategic Plan

The Fresno County Intelligent Transportation System (ITS) Strategic Plan contains goals and policies to improve mobility and enhance safety within the region. Nine core ITS components include Freeway Management; Transit Management; Incident Management; Electronic Fare Payment; Electronic Toll Collection; Railroad Grade Crossings; Emergency Management Services; and Regional Multimodal Traveler Information. The Plan can also be used to assist Fowler with application for federal or State funding for specific types of ITS projects.

Measure "C"

Measure "C" is the half-percent sales tax for transportation passed by Fresno County in 1986 and managed by the Fresno County Transportation Authority. The Measure provides funding for transportation projects (highway, transit, and ridesharing) over a 20-year period. Measure C funds are used by Fowler to repair streets and improve the existing and planned transportation system. The Measure C program will sunset in 2027.

Vehicle Miles Traveled Thresholds. In December 2021, the City adopted the *Fresno County SB 743 Implementation Regional Guidelines,* which establishes VMT thresholds and guidelines to address the shift from delay-based Level of Service (LOS) CEQA traffic analyses to VMT CEQA traffic analyses as required by SB 743. This document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. This GP as well as subsequent projects will be required to follow the guidance provided in the City's document for preparation of CEQA VMT analysis. The document includes the following:

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

4.18.3 Methodology and Thresholds of Significance

According to the CEQA Guidelines Appendix G, the proposed project would have a significant impact on transportation if it would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

Consideration of VMT as a threshold for traffic impact studies as a substitute to Level of Service (LOS) is required by California State law (Senate Bill 743) effective July 2020. In response to SB 743, OPR updated the existing methods for evaluating transportation impacts under CEQA. OPR established a VMT metric to assess traffic impacts instead of the prevailing LOS standard. However, although auto delay must no longer be considered a significant impact under CEQA, SB 743 does not prevent local jurisdictions from establishing locally appropriate metrics as a standard outside of the CEQA process.

As noted above, the City has adopted the Fresno Council of Governments' *Fresno County SB 743 Implementation Regional Guidelines* report as its threshold of significance, in which the following threshold applies to the Fowler GP:

> "The Technical Advisory provides a single sentence as consideration for land use plans. It states, "A general plan, area plan, or community plan may have a significant impact on transportation if

proposed new residential, office or retail land uses would in aggregate exceed the respective thresholds recommended above." This recommendation refers to a threshold of exceeding 13 percent below the existing regional average, for residential and office uses and no net gain for retail land uses."[138]

4.18.4 Impacts

Threshold 1: Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less than Significant Impact. The Fowler 2040 GP Circulation Element includes policies to encourage active transportation. This includes policies for complete streets, developing bicycle and pedestrian facilities, and integrating transit facilities into the circulation system. The Fowler 2040 GP also includes policies for maintaining LOS standards, but this is no longer considered an environmental impact under the CEQA Guidelines. Fowler's transportation network has pedestrian, bicycle, and public transit facilities to support modes of transportation alternative to the personal automobile. Currently, bicycle facilities are limited, however, according to the Fresno County Regional Active Transportation Plan, over 25 miles of planned bicycle facilities and over seven miles of pedestrian facilities are identified in the planning area.

Under the Complete Streets Act, general plans are required to include planning for "complete streets" which are streets that meet the needs of all users of the roadway, including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled.

Threshold 2: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?

VMT Analysis

Less than Significant Impact. The Fresno COG Activity Based [Travel Demand] Model (ABM) was used by Kittleson & Associates to estimate existing (2019) and model horizon year (2042) average VMT per capita and VMT per employee for the traffic analysis zones (TAZs) that comprise the Fowler General Plan. The analysis (Appendix I) utilized both the adopted VMT guidelines, regionwide VMT thresholds for employment land uses, and citywide VMT thresholds for residential land uses. The number of dwelling units and employment for the planning area were calculated at buildout, reduced based on general buildout assumptions,[139] and used to generate land use input files for running the activity-based model. These land use input files were then run through the activity-based model to develop model horizon year (2042) forecasts with the buildout of the planning area.

Table 4-47 below presents VMT per capita and VMT per employee findings for existing conditions in Fresno County and for the planning area at buildout in the model horizon year. Based on the VMT Guidelines adopted by Fowler, a GP would have a significant impact if the VMT per capita and VMT per employee of the planning area exceeded the same metrics for existing conditions in all of Fresno County.

[138] (LSA Associates 2021)
[139] Residential and employment land uses were modeled at 80% of allowable density and 0.2 to 0.3 floor area ratio, respectively, as most development does not occur at maximum capacity. See Appendix I for more information.

Table 4-47: VMT per Capita and VMT per Employee – Existing and Horizon Year

Trip Type	VMT per Capita	VMT per Employee
Fresno County (2019)	16.1	25.6
Fowler General Plan (2042)	12.3	16.7
Threshold	14.0	22.3
Significant Impact?	No	No

Source: Fresno COG Travel Demand Model, Kittelson & Associates, Inc. 2022.

As Table 4-47 shows, the projected VMT per capita and VMT per employee in the planning area are lower than existing conditions. Under the Fowler GP, VMT per capita is 3.8 lower, or 23% lower, while VMT per employee is 8.9 lower, or 34% lower. The decrease in VMT is the result of the proposed land use mix within the planning area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the employment-generating land uses allows employees to live close to work resulting in a VMT per employee that is lower than the County average today.

RTP/SCS Analysis

The RTP/SCS serves as the planning document for improving the sustainability and transportation system of the region. Table 4-48 addresses the proposed Fowler General Plan consistency with the goals of the 2018 RTP/SCS. The analysis in this table concludes that the Fowler General Plan would be consistent with the 2018 RTP/SCS. Therefore, implementation of the proposed Fowler General Plan would not result in significant land use impacts related to the 2018 RTP/SCS. Goals in the 2018 RTP/SCS goals focus on transit, transportation and mobility, and protection of the environmental and health of residents. Consistency with regional population growth projections is addressed separately in Section 4.15, Population and Housing. A general plan growth forecast typically exceeds the population and housing projections because buildout of the Fowler General Plan is not tied to a development timeline, whereas FCOG forecasts are demographic projections based on a time horizon. Therefore, the analysis in the table below focuses on consistency between the proposed Fowler General Plan and the policies of the RTP/SCS.

Table 4-48: RTP/SCS Consistency Analysis

RTP/SCS Policy	Project Consistency Analysis
a) An efficient, safe, integrated, multimodal transportation system.	**Consistent.** Policy MOB-18 seeks to improve access to public transit Citywide.
b) Improved mobility and accessibility for all, including the protected populations in accordance with federal and state statutes.	**Consistent.** Policy MOB-18 seeks to improve access to public transit Citywide.
c) Coordinate planning that is consistent with efforts that affect the region.	**Consistent.** Policies MOB-23, MOB-24, MOB-25, MOB-26 directs the City to coordinate regional agencies to improve access
d) 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).	**Consistent.** Policy MOB-14 directs the City to identify opportunities for a multi-modal transit hub in the planning area.
e) Encourage and prioritize full, fair, and equitable participation by all affected communities in transportation decision-making and planning processes.	**Consistent.** Policy CH-22 directs the City to create accessible opportunities for all, regardless of race, color, national origin, or income to engage in decision-making processes.

RTP/SCS Policy	Project Consistency Analysis
f) Actively work to ensure equitable distribution of the benefits and burdens of transportation projects.	**Consistent.** Policy MOB-9 allows for new development to address gaps in the active transportation network.
g) Promote the improvement and expansion of accessible transportation options to serve the needs of all residents, especially those who have historically faced disproportionate transportation burdens.	**Consistent.** Policies CH-22 and MOB-15 encourages the development of paratransit services and increase engagement with affected communities.
h) Encourage alternatives to single-occupancy vehicles that reduce VMT and greenhouse gas emissions.	**Consistent.** As described below, vehicle miles traveled per both capita and employee would significantly decrease compared to existing conditions.
i) Support investment in and promotion of active transportation and transit to improve public health and mobility, especially in historically underinvested areas.	**Consistent.** Policy MOB-9 allows for new development to address gaps in the active transportation network.
j) Encourage sustainable development that focuses growth near activity centers and mobility options that achieve greater location efficiency.	**Consistent.** Policies LU-8 and LU-12 ensure that orderly development occurs within established areas to ensure efficient travel throughout the planning area.
k) Support local jurisdictions' efforts to minimize the loss of farmland, environmentally sensitive areas, and natural resources.	**Consistent.** The proposed Fowler General Plan increases residential density from 2.62 units per acre to 3.12 units per acre, reducing the loss of environmental resources.
l) Support local jurisdictions' efforts to facilitate the development of diverse housing choices for all income groups.	**Not applicable.** This policy directs Fresno COG to support cities' efforts to provide a variety of housing choices.
m) Facilitate and promote interagency coordination and consistency across planning efforts.	**Consistent.** Policies MOB-23, MOB-24, MOB-25, MOB-26 directs the City to coordinate regional agencies to improve access.
n) Incentivize and support efforts to improve air quality and minimize pollutants from transportation.	**Consistent.** Policy CH-7 proposes solid and vegetative barriers near high volume roadways such as SR 99 and local expressways as a means to reduce transportation-related health impacts.
o) Prioritize investment in and promote multimodal safety measures to reduce traffic fatalities and incidents in the region.	**Consistent.** Policy CH-3 encourages the City to consider pedestrian and bicyclist safety and comfort in the design and development of streets.
p) Promote enhanced TSM and TDM strategies to reduce congestion and vehicle miles traveled.	**Consistent.** Policy MOB-1 contains an action item to identify TSM and TDM strategies to improve circulation system efficiency for all modes of travel.
q) Encourage improvements in travel connections across all modes to create an integrated, accessible, and seamless transportation network.	**Consistent.** Policy MOB-14 directs the City to identify opportunities for a multi-modal transit hub in the planning area.
r) Maximize the cost-effectiveness of transportation improvements.	**Consistent.** Policy MOB-28 directs the City to seek all available means of financing for circulation improvements.
s) Encourage investments that increase the system's resilience to extreme weather events, natural disasters, and pandemics.	**Consistent.** Policies CH-4 requires shade coverage along pedestrian and transit to bolster and encourage transit ridership during extreme events.
t) Preserve and maintain existing multimodal transportation assets in a state of good repair.	**Not Applicable.** The City of Fowler does not own any multimodal transportation assets, and no proposed policies seek to frustrate the intent of this policy.
u) Support local and regional economic development by leveraging planning and transportation funds that foster public and private investment.	**Consistent.** Policies MOB-23, MOB-24, MOB-25, MOB-26 directs the City to coordinate regional agencies to improve access.
v) Facilitate efficient, reliable, resilient, and sustainable goods movement.	**Consistent.** Policies MOB-19, MOB-20, and MOB-22 directs the City to designate heavy duty truck routes to allow for the efficient movement of goods.
w) Support innovative mobility solutions that are accessible, affordable, reduce greenhouse gas emissions, and improve air quality.	**Consistent.** The proposed Fowler General Plan seeks to employ a variety of policies revolving around land use and active transportation to affordably reduce greenhouse gas emissions and air pollutants.

RTP/SCS Policy	Project Consistency Analysis
x) Support efforts to expand broadband access throughout the region	**Consistent.** Policy PF-8 encourages the use of special districts to provide neighborhood improvements such as public works projects which could be used to extend broadband access.

Transit

Transit in the City consists of region-serving bus routes. Policies CH-4, MOB-1, MOB-14, MOB-15, MOB-16, MOB-17, MOB-18 of the Community Health and Equity and Mobility Elements support transit in the planning area. These include supporting trip reduction strategies to reduce the number and length of vehicular trips, first/last mile connectivity to enhance the viability of and expand the utility of public transit, and transit access for residents and to job centers.

Policy CH-4	Require street trees or other shade coverage along key pedestrian and bicycle routes and near transit stops.
Action Item CH-4a	Establish street design standards for each land use zone and require street trees of "medium" size or larger in commercial, residential, and mixed-use zones.
Policy MOB-1	Design and construct a multimodal circulation system as shown on *Figure 9-1: Circulation Diagram.*
Action Item MOB-1a	Establish and implement a Roadways Master Plan that addresses the following: • Identification of design standards, and exceptions to those standards where deviations are appropriate, for the roadway network. Design standards should include pedestrian, bicycle, public transit, and vehicular accommodations to ensure the circulation network is designed for complete streets. • Identification of Transportation System Management (TSM) and Transportation Demand Management (TDM) strategies for improving efficiencies in the circulation system for all modes of travel. • Integration of a Vision Zero goal of reducing traffic fatalities and sever injuries to zero and adopting strategies to achieve this goal.
Policy MOB-14	Identify opportunities for a multi-modal transit hub within the City.
Policy MOB-15	Support the development of paratransit service programs.
Policy MOB-16	Support transit operator efforts to maximize return for short- and long-range transit needs.
Action Item MOB-16a	Actively participate in the development of short and long-range transit plans, including the Fresno County Long Range Transit Plan and transit plans prepared by the Fresno County Rural Transit Agency (FCRTA).
Policy MOB-17	Incorporate the potential for public transit service expansion throughout the City.
Action Item MOB-17a	Review and revise, as needed, public works standards to incorporate design features to accommodate future public transit stops.
Policy MOB-18	Improve route options and access for public transit City-wide, specifically west of SR 99.
Action Item MOB-18a	Coordinate with Fresno County Rural Transit Agency (FCRTA) and other public transit agencies to facilitate additional transit stops.
Action Item MOB-18b	Ensure that pedestrian and bicycle facilities are provided along and/or near transit routes, whenever feasible, to improve access and connectivity. (

Conclusion

The VMT Guidelines adopted by Fowler states general plans would have an impact if the VMT per capita or VMT per employee in the planning area for the horizon year increases compared to the existing VMT per capita in Fowler or VMT per employee in the region (Fresno County). The VMT per capita in the planning area during the horizon year is 12.3, while VMT per employee is 16.7. Under existing conditions in Fresno County, the VMT per capita is 16.1, while the VMT per employee is 25.6. Because the VMT per capita and VMT per employee in the planning area during the horizon year is less than the VMT per capita and VMT per employee for existing conditions in Fresno County, the Fowler GP would not result in a significant impact for subsequent residential and office projects consistent with the proposed Fowler General Plan. Additionally, implementation of the Fowler General Plan would increase demand for public transit, bicycle, and pedestrian facilities, which would require the improvement and expansion of the circulation system. A review of the Fowler General Plan revealed no potential policy inconsistencies or conflicts with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or the performance or safety of those facilities. The Fowler General Plan incorporates future networks and policies related to supporting transit, bicycle, and pedestrians in the City. These networks are consistent with regional and local planning efforts supporting these modes of travel. Additionally, the Fowler General Plan has numerous policies supporting complete streets (providing accessibility for all users of all ages and abilities) and active transportation. Given the Fowler General Plan's consistency with regional efforts, and the lack of a significant impact resulting from VMT, impacts related to CEQA Guidelines Sections 15064.3(b) would be considered less than significant.

Threshold 3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact. The Fowler General Plan Mobility Element includes Goals MOB-1, MOB-2, and MOB-5 and Policies MOB-1, MOB-11, and MOB-12 to reduce hazards due to design, travel speed, or incompatible land uses and make the streets of Fowler safer for residents of all ages and abilities. The safety related policies of the Mobility Element are supported by complementary policies in other elements of the Fowler 2040 GP, such as CH-3 in the Community Health Element. The implementation of these policies and related actions would promote the design of improvements to the transportation network that improve safety for all modes of travel.

Since the proposed Fowler 2040 GP is a policy-level plan, all subsequent future public and private improvement projects and infrastructure facilities would be subject to additional review and approval to ensure safety. Through the Site Plan Review process, City staff evaluates development proposals and street improvements to ensure public health and safety by ensuring adequate and safe sidewalks or crosswalks, dedicated and protected bicycle facilities, realigning sharp curves, prohibiting certain movements, signalizing intersections, and improving sight distance, among other measures. All new streets and redesign of existing streets are designed according to applicable federal, State, and local design standards, such as the California Manual on Uniform Traffic Control Devices and the California Highway Design Manual. Impacts would be less than significant.

Threshold 4: Would the project result in inadequate emergency access?

Less than Significant Impact. The Fowler 2040 GP 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 Site Plan Review process for new projects includes review of 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 Fowler 2040 GP 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 Fowler.

Circulation Element

CIRC-2.2 Maintain Adequate LOS. Fowler 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 Fowler at which highway, arterial, and collector segments will operate. A level of service of B will be the desirable minimum service level in Fowler 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, potential impacts to emergency access will be less than significant.

Table 4-49: Roadway Design Requirements and Designations

Street Type	Design Requirements	Street Designation a	ROW
Freeway	Not applicable. The design of SR 99 is within the jurisdiction of Caltrans.	SR 99	
Expressway	Expressways shall be developed with a minimum right of way of 100 feet, to include four to six travel lanes and access restricted to 2 -mile intervals.	Temperance Avenue	100
Arterial	Arterials shall be developed with a minimum right of way of 80 feet, to include four travel lanes, parking, and a center median (either raised or painted). Traffic signals should be placed at no closer than ¼-mile intervals unless conditions warrant additional signalization to improve traffic flow. (Circulation Element, Goal 5-2, Policy 17)	American Avenue	84
		Fowler Avenue (west/south of SR 99)	84
		Golden State Boulevard	150
		Manning Avenue	84
Collectors	Collectors are designed to have a 72 to 80 foot right of way width that allows four lanes undivided with parking, or two lanes with a two-way continuous left turn center lane. Some Collectors in areas of heavy pedestrian use may deviate from these standards or utilize a narrower right of way to accommodate existing development patterns. Traffic signals should be placed at no closer than ¼-mile intervals unless conditions warrant additional signalization to improve traffic flow. (Circulation Element, Goal 5-2, Policy 17)	5th Street	80
		7th Street	80
		8th Street	80
		Armstrong Avenue	80
		Clayton Avenue	80
		Fowler Avenue (north of Adams)	80
		Fresno Street	80
		Lincoln Avenue	80
		Merced Street	80
		South Avenue	80
		Sumner Avenue	80
		Walter Avenue	80
		Adams Avenue	80
		Temperance Avenue (south of SR 99)	80
Local Streets	Local streets shall have a minimum 60 foot right of way with two travel lanes and parking. Local streets may be reduced in width when it can be demonstrated that projected traffic flows can be accommodated. Local public streets should not be reduced to less than 32 feet between curbs.	The alignments of future local streets are typically not specified by the General Plan Circulation Diagram, but existing local streets may be depicted for informational purposes.	

[a] Limits of applicability for each listed segment shall be determined by

Policy MOB-1	Design and construct a multimodal circulation system as shown on *Figure 9-1: Circulation Diagram.*
Action Item MOB-1a	Establish and implement a Roadways Master Plan that addresses the following: • Identification of design standards, and exceptions to those standards where deviations are appropriate, for the roadway network. Design standards should include pedestrian, bicycle, public transit, and vehicular accommodations to ensure the circulation network is designed for complete streets. • Identification of Transportation System Management (TSM) and Transportation Demand Management (TDM) strategies for improving efficiencies in the circulation system for all modes of travel. • Integration of a Vision Zero goal of reducing traffic fatalities and sever injuries to zero and adopting strategies to achieve this goal.
Policy MOB-2	Streets are designated and planned according to the functional classifications listed in *Table 9-2.*
Policy MOB-3	The right of way for arterials and collectors may be reduced to avoid disrupting existing development if the travel way generally meets the street classification design requirements listed in *Table 9-2*.
Policy MOB-4	Support the creation of a transportation network that provides for efficient movement of people and goods while accounting for environmental effects.
Action Item MOB-4a	Prepare guidelines for the evaluation of vehicle miles travelled. The guidelines should include significance criteria for evaluating impacts, thresholds of applicability for discretionary projects, and guidance on analyzing transportation impacts.
Action Item MOB-4b	Identify a range of actions available for developments to mitigate transportation impacts, specifically targeted at reducing vehicle miles traveled.
Policy MOB-5	Encourage a Level of Service (LOS) "C" throughout the local circulation network. LOS “D” may be allowed during peak hours at intersections of major streets, at SR 99 interchanges, and along street segments where additional improvements are not feasible. LOS “D” may also be allowed along streets with the potential for a high level of pedestrian and bicyclist activity. LOS “E” may be permitted during peak hour use of certain road intersections and segments where pedestrian and bicycle activity is prioritized.
Policy MOB-6	Use Intelligent Transportation Systems (ITS) to improve the safety and performance of the circulation network, consistent with the Fresno County ITS Strategic Plan.
Policy MOB-7	Prioritize operational solutions over major structural improvements to existing roadways where feasible.
Policy MOB-8	Explore opportunities for management and maintenance of traffic control facilities to fall under the City’s jurisdiction.
Policy MOB-9	New development may be required to provide off-site pedestrian and/or bicycle facilities to address gaps in the active transportation network.
Policy MOB-10	Develop a multi-purpose recreational bikeway network and support facilities.
Action Item MOB-10a	Review and revise, as needed, the Zoning Ordinance to include provisions for short-term and long-term bicycle parking and storage facilities.

Policy MOB-11	Ensure street and road projects are adequately designed to accommodate safe and convenient pedestrian and bicyclist access.
Action Item MOB-11a	Review and revise, as needed, public works standards to include pedestrian and bicycle safety features where appropriate.
Action Item MOB-11b	Establish design standards to ensure the bikeway network is easily identifiable and consistent with standard signs and markings, as designated by the State of California Traffic Control Devices Committee and the State Bikeway Committee.
Policy MOB-12	Require traffic calming techniques in the design of new local streets where such techniques will manage traffic flow and improve safety for pedestrian and bicyclist users.
Policy MOB-13	Coordinate with Caltrans, Fresno COG, FCRTA, and other responsible agencies to identify the need for additional mobility infrastructure and/or services along major commuter travel corridors.
Policy MOB-14	Identify opportunities for a multi-modal transit hub within the City.
Policy MOB-15	Support the development of paratransit service programs.
Policy MOB-16	Support transit operator efforts to maximize return for short- and long-range transit needs.
Action Item MOB-16a	Actively participate in the development of short and long-range transit plans, including the Fresno County Long Range Transit Plan and transit plans prepared by the Fresno County Rural Transit Agency (FCRTA).
Policy MOB-17	Incorporate the potential for public transit service expansion throughout the City.
Action Item MOB-17a	Review and revise, as needed, public works standards to incorporate design features to accommodate future public transit stops.
Policy MOB-18	Improve route options and access for public transit City-wide, specifically west of SR 99.
Action Item MOB-18b	Ensure that pedestrian and bicycle facilities are provided along and/or near transit routes, whenever feasible, to improve access and connectivity.
Policy MOB-19	Designated truck routes for use by heavy commercial and industrial traffic shall include Golden State Boulevard, Manning Avenue, and Temperance Avenue, as shown in *Figure 9-2*.
Policy MOB-20	Encourage the efficient movement of goods.
Action Item MOB-20a	Identify economically feasible street and highway improvement and maintenance projects that will improve goods movement.
Action Item MOB-20b	Identify opportunities to support commercial and industrial access to existing rail facilities within the Planning Area.
Policy MOB-21	Facilitate goods movement and delivery through internal site design of commercial and industrial areas.
Policy MOB-22	Ensure truck access points and loading facilities are designed to reduce conflict with sensitive land uses.
Policy MOB-23	Coordinate with Caltrans in the design of capital improvement projects near SR 99.
Policy MOB-24	Continue to support Golden State Boulevard as a secondary route connecting the Kingsburg Selma Fowler corridor and providing access to the City of Fresno, Calwa, and Malaga.
Policy MOB-25	Coordinate local transportation planning with the Fresno COG Regional Transportation Plan (RTP), Fresno County Rural Transit Agency (FCRTA), and

	other agencies on relevant transportation plans to ensure eligibility for state and federal funding.
Policy MOB-26	Collaborate with Fresno County to integrate right-of-way and improvement standards for roads that cross jurisdictional boundaries. For development outside the City's boundaries, but within the SOI, City and County staff will cooperate and agree on reasonable design standards and negotiate logical transitions from City to County Standards. In general, for such development under County jurisdiction but within the Sphere of Influence, City Standards should apply if annexation would logically occur in the short to intermediate range.
Policy MOB-27	Provide for the logical, timely, and economically efficient extension of road infrastructure improvements.
Action Item MOB-27a	Annually review and revise the CIP to ensure roadway improvements are prioritized and scheduled for construction over at least a 5-year period.
Policy MOB-28	Seek all available means to finance improvements, including State and Federal grants.
Policy MOB-29	Use appropriate entitlement processes and financial tools to ensure new development contributes a fair share of the transportation improvements and/or costs to provide necessary improvements.
Action Item MOB-29a	Participate in the establishment of regional transportation mitigation fees and/or benefit districts to be assessed on new development. The fees shall cover a reasonable share of the costs of providing local and subregional transportation improvements needed for serving new development.
Policy MOB-30	Existing points of ingress and egress shall be consolidated whenever possible. Driveway consolidation for new development shall be consistent with City standards and implemented through access agreements along arterials.
Action Item MOB-30a	Review and revise, as necessary, City standards to establish criteria for site ingress and egress and driveway locations.
Policy MOB-31	Ingress and egress to shopping centers shall minimize left turn movements into and out of parking or loading areas.
Policy MOB-32	Review standards for traffic signalization and revise to reflect alternative ways, beyond the current warrant study, for the installation of traffic lights, stop signs, and alternative signalization methods.
Policy MOB-33	Require residential developments along arterials to back on to such streets with ornamental fencing, landscaping, and waiver of access, or to provide frontage roads with limited points of access to the street. "Open ended cul de sacs" to major streets are also required for pedestrian access.
Policy MOB-34	Limit access points and intersections of streets and highways based on the road's General Plan classification and function. Access points must be located a sufficient distance away from major intersections to allow for safe, efficient operation.
Action Item MOB-34a	The distance between commercial driveways on arterial streets should be not less than 400 feet. Where practical and desirable, commercial driveways should be located on adjacent collector streets rather than on arterial streets.
Action Item MOB-34b	Driveway access to major activity centers, including multifamily development, should be located no closer than 200 feet to the intersection of a collector or arterial street.

Policy CH-1	Implement an active transportation network that links residential uses with schools, shopping, entertainment, recreation, and employment centers.
Action Item CH-1a	Identify gaps in the existing pedestrian and bicycle network to inform capital improvements programming and grant funding opportunities.
Action Item CH-1b	Prioritize pedestrian and bicycle improvement projects that close gaps in the mobility network and those which link the east and west sides of the city.
Action Item CH-1c	Amend road design standards, as necessary, to include complete street design principles.
Action Item CH-1d	Develop and implement an Active Transportation Plan.
Action Item CH-1e	Pursue funding for the adoption of a Safe Routes to School Master Plan to assist in the planning and funding of bicycle and pedestrian infrastructure improvements along school routes.
Policy CH-2	Promote walking and bicycling and reduce vehicle miles traveled by allowing complementary land uses in close proximity to one another.
Action Item CH-2a	Review and revise the Zoning Ordinance, as needed, to include complementary land uses within zoning districts.
Policy CH-3	Consider pedestrian and bicyclist safety and comfort in the design and development of streets, parks, and public spaces.
Action Item CH-3a	Conduct a visual quality assessment of bicycle and pedestrian facilities to determine the efficacy of existing active transportation improvements and to help prioritize future improvements.
Action Item CH-3b	Require street lighting within the rights-of-way of all public streets.

4.18.5 Mitigation Measures

Mitigation measures are not required.

4.18.6 Cumulative Impacts

The Fresno COG [Travel Demand] ABM was used to estimate existing and horizon year average VMT per capita and VMT per employee for the TAZs that comprise the Fowler General Plan. The number of dwelling units and employment for the planning area were calculated at buildout and provided to Fresno COG. Fresno COG used the buildout numbers to run a population synthesizer to generate land use input files for running the activity-based model. These land use input files were then run through the activity-based model to develop model horizon year (2042) forecasts with the buildout of the planning area. Table 4-50 presents VMT per capita and VMT per employee findings for existing conditions in Fresno County and for the planning area at buildout in the horizon year. Based on the VMT Guidelines adopted by Fowler, a GP would have a significant impact if the VMT per capita and VMT per employee of the planning area exceeded the same metrics for existing conditions in all of Fresno County.

Table 4-50: VMT per Capita and VMT per Employee – Existing and Horizon Year

Trip Type	VMT per Capita	VMT per Employee
Fresno County (2019)	16.1	25.6
Fowler General Plan (2042)	12.3	16.7
Threshold	**14.0**	**22.3**
Significant Impact?	**No**	**No**

Source: Fresno COG Travel Demand Model, Kittelson & Associates, Inc. 2022.

As Table 4-50 shows, the projected VMT per capita and VMT per employee in the Plan Area are lower than existing conditions. Under the Fowler General Plan, VMT per capita is 3.8 lower, or 23% lower, while VMT per employee is 8.9 lower, or 34% lower. The decrease in VMT is the result of the proposed land use mix within the Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today.

Figure 4-22: Circulation Network

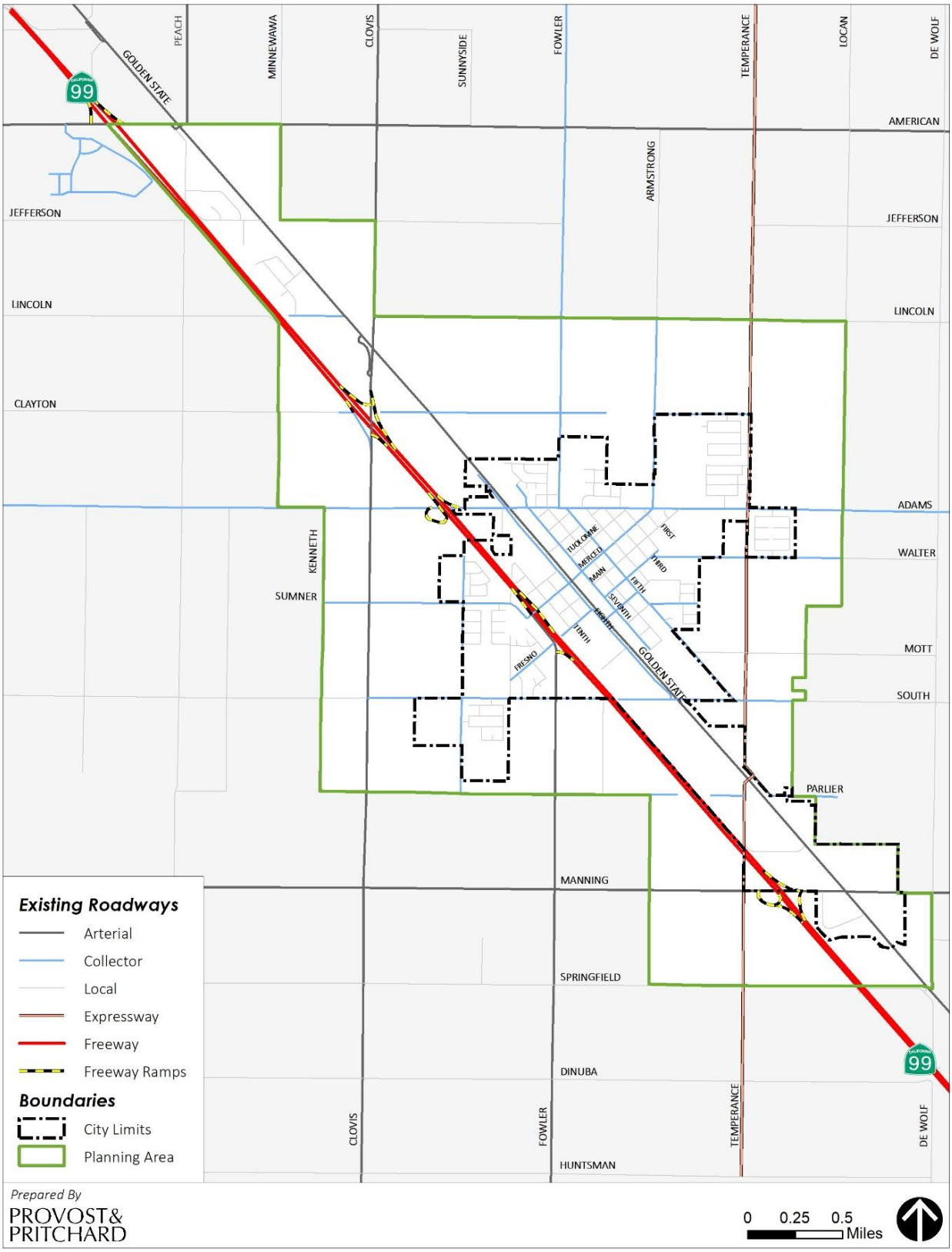
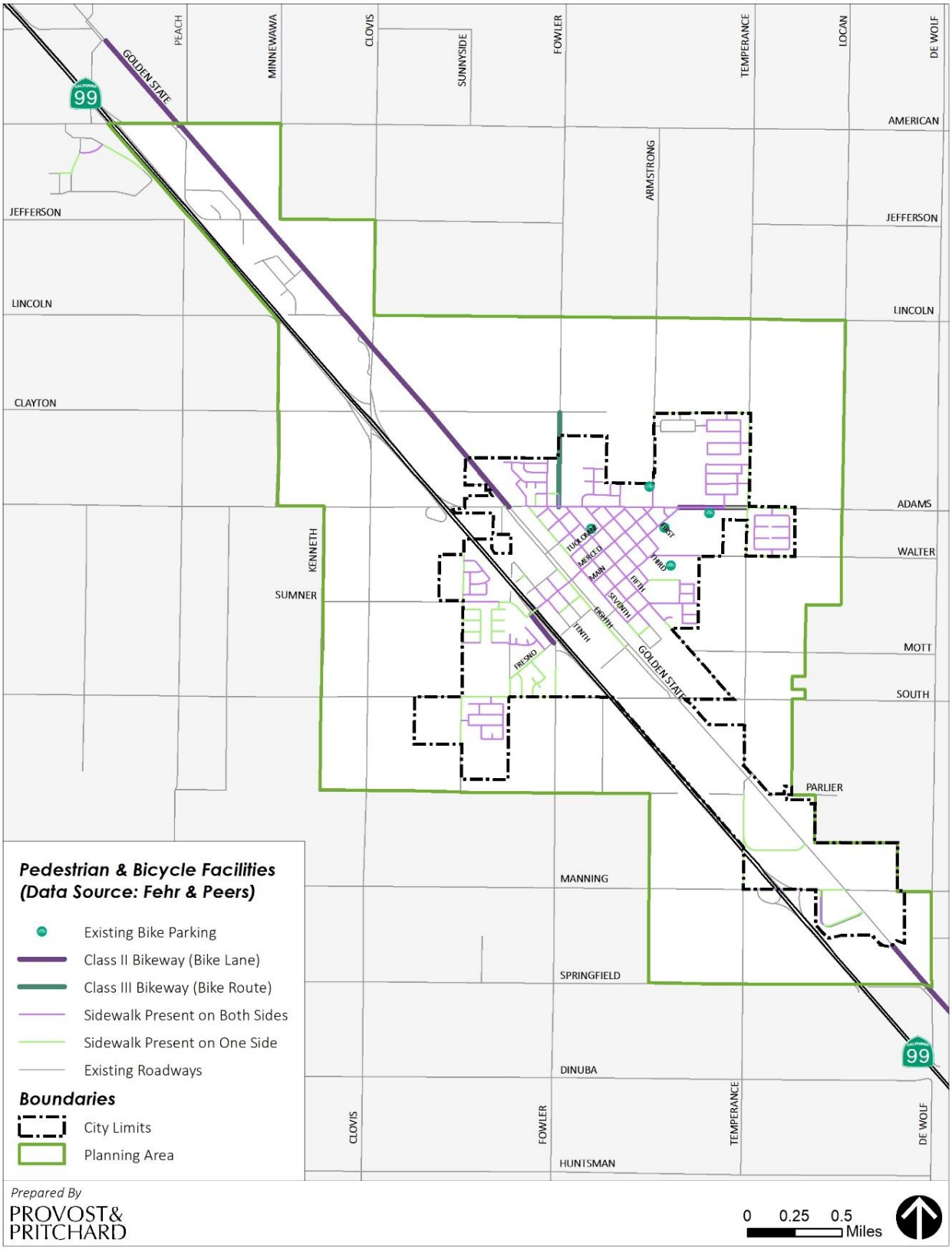


Figure 4-23: Existing Bicycle Facilities



4.19 Tribal Cultural Resources

This section evaluates impacts on tribal cultural resources, including evaluation of tribal cultural resources located within the planning area, as well as the procedures for the discovery of tribal cultural resources or human remains that may be of tribal descent, that could result from implementation of the Fowler 2040 GP.

4.19.1 Environmental Baseline

Ethnography

The San Joaquin Valley was historically occupied by the Penutian-speaking Yokuts.[140] The planning area is in a transitional zone between the Northern Valley and Southern Valley Yokuts.[141] 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.[142] 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.[143]

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.[144]

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 some 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.[145] 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.[146]

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

[140] (Kroeber 1976); (Wallace 1978); (Latta 1949)
[141] (Wallace 1978)
[142] (Kroeber 1976)
[143] (Wallace 1978)
[144] Ibid
[145] Ibid
[146] Ibid

visitors, and provided aid to the impoverished. In certain cases, settlements had two chiefs, one for each moiety, or internal division. Other political positions included the chief's messenger and the spokesman.[147]

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.[148]

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.[149]

As with other Native American Tribes in California, the Yokuts population was drastically reduced following the influx of Spanish explorers, missionaries, miners, ranchers, and other European immigrants to the San Joaquin Valley after 1700. During the gold rush, miners began to settle along major waterways such as the San Joaquin River and Kings River. The momentum of the gold rush could not be sustained, and miners began to pursue vocations in ranching and farming. The successful development of irrigation systems led to the agricultural boom as more tracts of land became suitable for crops displacing the Yokut people. The Yokuts were part of the balance of nature for thousands of years until the settlement of California spurred by the Gold Rush deprived them of their ancestral hunting and fishing grounds. Not only were they displaced from their lands, but they were often killed when they resisted. On top of that, they proved especially susceptible to diseases carried by white people. By 1970, the number of Yokuts in San Joaquin County had dwindled down to 363. Today nationally there are about 2,000 Yokuts enrolled in the federally recognized tribe.

4.19.2 Regulatory Setting

Federal

National Historic Preservation Act

As discussed in Section 4.6.2, the NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our cultural heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice."

State

California Register of Historical Resources

As discussed in Section 4.6.2, the CRHR is an inventory of significant architectural, archaeological, and historical resources in the State of California. The criteria for eligibility requirements can be found in Section 4.6.2.

California Environmental Quality Act

As discussed in Section 4.6.2, CEQA requires that public agencies assess the effects on historical resources of public or private projects that the agencies finance or approve. Historical resources are defined as buildings, sites, structures, objects, areas, places, records, or manuscripts that the lead agency determines

[147] Ibid
[148] Ibid
[149] Ibid

to have historical significance, including architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered.

Significant Historical Resources under CEQA Guidelines

In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories. See details of each category and criteria for meeting such in Section 4.6.2.

Health and Safety Code

The discovery of human remains is regulated according to HSC Section 7050.5. Discussion of HCS Section 7050.5 can be found in Section 4.6.2 above.

Government Code 65352.3-5: Local Government-Tribal Consultation.

GC Sections 65092, 65351, 65352, 65352.3, and 65352.4, formally known as SB 18, regulate the consultation with California Native American tribes having traditional lands located within the jurisdiction of applicable cities and counties. The intent of the underlying legislation was to provide all California Native American tribes that are on the contact list maintained by the Native American Heritage Commission, an opportunity to consult with specific local governments for the purpose of preserving and protecting their sacred places. Such consultations apply to the preparation, adoption and amendment of general plans.

Assembly Bill 52: Native American Historic Resource Protection Act

AB 52, codified at PRC Section 21080.3.1, et seq., sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a notice of preparation for a DEIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. AB 52 adds TCRs to the specific cultural resources protected under CEQA. Under AB 52, a TCR is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the CRHR, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

Native American Heritage Act

Also relevant to the evaluation and mitigation of impacts to cultural resources is the Native American Heritage Act of 1976 which established the NAHC and protects Native American religious values on state property (see PRC Section 5097.9).

Disposition of Human Remains

When an initial study identifies the existence, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native American groups or individuals as identified by the NAHC as provided in PRC Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains, and any items associated with Native American burials. Furthermore, HSC Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

California Native American Graves Protection and Repatriation Act of 2001

HSC Sections 8010-8011 establish a State repatriation policy intent that is consistent with and facilitates implementation of the California Native American Graves Protection and Repatriation Act (NAGPRA). NAGPRA strives to ensure that all California Indian human remains, and cultural items are treated with dignity and respect. It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also states the intent for the state to provide mechanisms for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

4.19.3 Methodology and Thresholds of Significance

According to the CEQA Guidelines Appendix G, the proposed project would have a significant impact related to recreation if it would:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
    - 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Native American Outreach

In accordance with AB 52, Fowler notified the Santa Rosa Rancheria Tachi Yokut Tribe and invited the Tribe to participate in consultation for the 2040 GP. The deadline for the Tribe to submit a request for consultation pursuant to AB 52 was September 23, 2022. Fowler did not receive any requests for consultation. No Tribal Cultural Resources have been identified within the planning area by a California Native American tribe.

4.19.4 Impacts

Threshold 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:

- **Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or**
- **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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

Less than Significant Impact. Effects on tribal cultural resources are only identifiable 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. Generally, if an area is sensitive to tribal cultural resources, new development in that area could impact tribal cultural resources during project construction phases involving ground disturbance. However, policies CDES-10, CDES-12, and CDES-13, outlined above in Section 4.6, would ensure that potential impacts related to historic resources are less than significant.

4.19.5 Mitigation Measures

Mitigation measures are not required.

4.19.6 Cumulative Impacts

Tribal Cultural Resources are regionally specific and determined by the local tribes. However, development in Fowler would increase under buildout of the Fowler 2040 GP by increasing mobility and growth. The increase in growth in previously undisturbed areas would contribute to regional impacts on tribal cultural resources. Tribal consultation, in accordance with AB 52 and/or SB 18 when applicable, would be required on a project-by-project basis to ensure protection of tribal cultural resources. However, tribal territory often crosses the boundaries of multiple jurisdictions within and outside of the region, and there could be individual less than significant impacts to tribal cultural resources that cumulatively would result in a significant impact. Therefore, the potential for cumulative impacts related to tribal cultural resources is potentially significant. However, implementation of the goals and policies listed under CDES-12 and CDES-13 above, would minimize potential impacts to tribal cultural resources as a result of development facilitated by the Fowler 2040 GP. Therefore, the Fowler 2040 GP would not result in a considerable contribution to cumulative impacts to tribal cultural resources.

4.20 Utilities and Service Systems

This section evaluates impacts to utilities and service systems, (1) water supply; (2) wastewater; (3) storm drain facilities; (4) solid waste, and (5) energy and natural gas, that could result from implementation of the Fowler 2040 GP.

Storm drain facilities are also analyzed in Section 4.11, Hydrology and Water Quality. While the Project's baseline is 2019, information after 2019 was used in the analysis of this section. The use of more recent information allows for a better representation of existing conditions in regard to utilities and service systems within the City.

4.20.1 Environmental Baseline

Water Supply Facilities

Fowler is served by six groundwater wells for its domestic water supply. Fowler also currently has one offline well which is not producing water. Fowler is equipped with a network of mains, pipelines, and laterals that help to distribute water throughout the service area. In 2020, Fowler had a water supply and demand total of 2,430-acre feet (AF) in 2020.[150] According to the 2021 Fowler Water Model Report, the City has approximately 1,800 water service connections.[151] Figure 4-24 shows the existing water system facilities within the City.

Fowler is located within the Fresno Sole Source Aquifer, one of 64 sole source aquifers in the country. A sole source aquifer is defined by the USEPA as an aquifer that provides more than 50 percent of the drinking water for its service area, and there are no reasonably available drinking water sources should the aquifer be contaminated.[152]

Fowler's location within the Fresno Sole Source Aquifer and the implementation of SGMA have spurred the City to participate in groundwater recharge efforts and to reduce the amount of groundwater pumped. CID provides water from the Kings River for groundwater recharge for recharge and irrigation to more than 6,000 growers within its 144,000-acre service area, which includes all land surrounding Fowler. In 2014, Fowler entered into an agreement with CID to fund groundwater recharge programs in order to sustain the Fresno Sole Source Aquifer. In 2019 a cooperative agreement for groundwater management between SKGSA and CID was signed, superseding the 2014 agreement between Fowler and CID. A portion of the CKGSA water is delivered to Fowler for use by the City. The remaining water used by the City is from groundwater pumping. As a result, supply and demand accounts for the same amount.

As is discussed under Section 4.11, Hydrology and Water Quality, Fowler is located within the SKGSA. The SKGSA serves to regulate the use of groundwater in order to achieve balanced levels and prevent overdraft within the San Joaquin Valley. The SKGSA has developed a long-term sustainability plan for groundwater within its service area; the GSP was adopted in 2018 and its provisions are accommodated within the Fowler 2040 GP.

[150] Water data provided by correspondence with City staff.
[151] (Ennis Consulting 2021)
[152] (USEPA 2021)

Wastewater Facilities

Along with the Cities of Selma and Kingsburg, Fowler is a member of the SKFCSD, which was formed in 1971 in order to provide sewer and wastewater treatment services to each of the three cities. The SKFCSD operates a wastewater treatment facility to the west of Kingsburg, which is connected to each member city through a network of pipelines and trunks. While the SKFCSD owns the wastewater treatment plant, each member city owns the collection system infrastructure within its city limits. SKFCSD is in charge of maintaining and operating the system, including parts of the system that are located within the member cities.

The 2016 SKFCSD Collection System Master Plan contains the existing wastewater collection system as well as the projected growth of the system through 2035 (See Table 4-52 and Table 4-53). The SKFCSD Master Plan assumes urban development would occur to the west of the existing city limits. In 2019 the wastewater treatment plant had a Peak Dry Weather Flow (PDWF) of 7.87 mgd and a Peak Wet Weather Flow (PWWF) of 15.91 mgd. PDWF and PWWF capacities at 2035 buildout of the planned improvements to the wastewater collection system are 38.85 mgd and 44.85 mgd, respectively.[153]

The 2016 SKFCSD Collection System Master Plan plans for a 2035 population of 77,000 people between the three member cities, with a constant growth rate of three percent. In 2021,[154] the SKFCSD facility had an average influent flow of 4.3516 mgd. In 2021, the three cities had a total population of 44,221,[155] equating to a per capita wastewater generation of approximately 0.00009841 mgd. The current wastewater facility is rated for a capacity of 8 mgd and expansion of the facility is planned for when the average flow reaches 6 mgd.[156]

Stormwater Facilities

Fowler does not currently have an adopted storm drainage master plan. Existing storm drainage facilities are shown on Table 4-54. Fowler assesses storm drainage infrastructure and capacity as development occurs. Individual development projects are required to construct storm drainage facilities as required by the development. The existing storm drainage system consists of a network of trunk lines and other pipelines that connect to stormwater outlets and stormwater basins within Fowler. The SKFCSD accounts for stormwater entering the wastewater system during PWWF periods and provides for stormwater inflow and discharge to occur at the wastewater treatment facility. The wastewater system has been designed in such a way that allows for overflow from the storm drainage system to enter the wastewater system.

Solid Waste Facilities

Solid waste collection in Fowler is provided by Waste Management, Inc. Fowler's solid waste program includes waste disposal collection, a regular recyclables pickup program, and a green waste pickup program. After removing recyclable materials at a Waste Management transfer facility outside of the city limits, Fowler's solid waste is transferred to the Kettleman Hills Nonhazardous Co-disposal Site located at 35251 Old Skyline Road in Kettleman City, approximately 52 miles southwest of Fowler. According to CalRecycle, the Kettleman Hills Waste Management Facility has an overall capacity of 15,600,000 cubic

[153] (Selma-Kingsburg-Fowler County Sanitation District 2016)
[154] SKFCSD provided wastewater generation information as of 2021. To provide consistency when discussing wastewater generation estimates, this EIR uses the 2021 United States Census Bureau population estimate.
[155] (United States Census Bureau 2022)
[156] (Selma-Kingsburg-Fowler County Santiation District 2022) 2021 data and projections provided via correspondence with SKFCSD staff.

yards. CalRecycle indicates that at the end of 2019, the facility had approximately 3,580,000 cubic yards of capacity remaining, or approximately 22.9 percent of the facilities planned capacity.[157]

Energy and Natural Gas

PG&E is the electricity provider for the City, while SoCalGas is the natural gas provider for Fowler. Both entities are regulated by the California Public Utilities Commission, an agency responsible for ensuring Californians have safe and reliable utilities.

4.20.2 Regulatory Setting

Federal

Clean Water Act

The primary goals of the 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 USEPA has delegated authority for water permitting to the SWRCB, which has nine regional boards.

Safe Drinking Water Act

The 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 Pollution Discharge Elimination System 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 or use of Sewage Sludge

Title 40 of the CFR Part 503 and standards established by the RWQCB regulate the disposal and use of sewage sludge.

[157] (CalRecycle 2019)

Title 40 of the Code of Federal Regulations

Title 40 of the CFR, Part 258 (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 is the governing law for all aspects of water management in California.

Safe Drinking Water Act (1976)

California enacted its own Safe Drinking Water Act in 1976. The Division of Drinking Water, a branch of the SWRCB, has been granted primary enforcement responsibility for the SDWA. Title 22 of the California Code of Regulations establishes authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than the federal standards.

Senate Bill 610

SB 610 (2002) amended the WC and GC 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 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

The Porter-Cologne Water Quality Control Act of 1969, which became Division 7 of the California Water Code (WC), authorized the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirement of the CWA Section 303, which states that water quality standards must be established for certain waters through the adoption of water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans within the regions, identifying water quality objectives, and instituting waste discharge requirements. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. Beneficial uses consist of all the various ways that water can be used for the benefit of people and wildlife. The Porter-Cologne Act was later amended to provide the authority delegated from the USEPA to issue NPDES permits regulating discharges to Waters of the United States.

Recycled Water Regulations

Within California, recycled water is regulated by the USEPA, the SWRCB, and RWQCB. 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 Division of Drinking Water, as a part of the SWRCB, 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, CCR).

The 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 SWRCB develops policies protecting human health and comments and advises on RWQCB permits.

Title 22 of the California Code of Regulations

The WC requires the SWRCB to establish water reclamation criteria. In 1975, the former California Department of Health Services 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 (CCR Title 24) 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 2022 California Green Building Code Standards became effective January 1, 2022. The building efficiency standards are enforced through the local building permit process.

The California Plumbing Code

The 2022 California Plumbing Code (Part 5, Title 24, CCR) was adopted as part of the 2022 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 will all applicable provisions of the current edition of the California Plumbing Code.

California Department of Resources Recycling and Recovery

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 (PRC 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 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.

Local

Selma-Kingsburg-Fowler County Sanitation District 2016 Collection System Master Plan Update

The 2016 SKFCSD Collection System Master Plan serves as an update to the SKFCSD 2006 Master Plan. The update was needed as a result of the change in growth projections between the three member jurisdictions. The 2016 Master Plan Update provides updated flow projections and an updated Capital Improvement Plan. In addition, the 2016 Master Plan Update provides a risk and prioritization analysis associated with the Capital Improvement Plan.

4.20.3 Methodology and Thresholds of Significance

According to the CEQA Guidelines Appendix G, the proposed Fowler 2040 GP would have a significant impact related to utilities and service systems if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Have insufficient water supplies available during normal, dry and multiple dry years;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- 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;
- Would not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.20.4 Impacts

Threshold 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?

Less than Significant Impact. Buildout of the Fowler 2040 GP would result in the need for the construction of new and expanded water, wastewater, storm water drainage, electric power, natural gas, and telecommunication facilities to serve the increased population and non-residential development that would occur. While future development of such facilities could have a potential environmental impact, a lack of project-specific details at this time would result in analysis that is speculative in nature. Future development would be evaluated at the time it is proposed and would comply with CEQA as applicable to ensure that potential environmental impacts are evaluated. Any future projects would be subject to compliance with all applicable federal, State, and local requirements, including those that would minimize potential environmental impacts. Future development projects would also be required to use the most recent efficiency standards intended to reduce environmental impacts on a project specific level. Implementation of the newest efficiency standards would limit any future impacts to energy, air quality, and GHGs. In addition, during construction of such infrastructure, contractors would be required to adhere to industry BMPs, minimizing potential impacts to a less than significant level. Therefore, impacts would be less than significant.

Threshold 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?

Less than Significant Impact. The City of Fowler had water usage of 2,430 AF in 2020 and a population of 6,706 people,[158] equating to a per capita water demand of approximately 0.36 AF. The City has planned for a two percent increase in water supplies through its water modeling effort, which aligns with

[158] (United States Census Bureau 2022)

historical growth trends within the City. Table 4-51 shows the projected water supply and demand through 2040, increasing at a rate of two percent per year.

Table 4-51: Water Supply and Demand[159]

Year	2020	2025	2030	2035	2040
Supplies (AF)	2,430	2,683	2,962	3,270	3,611
Demand (AF)	2,430	2,683	2,962	3,270	3,611
Difference	**0**	**0**	**0**	**0**	**0**

With a projected water supply of 3,611 AF, Fowler could accommodate a population of 10,030 people. At full buildout of the Fowler 2040 GP, Fowler would have a population of 48,131 people, which would require approximately 17,328 AF of water per year. The availability of water supplies would be a restricting factor on any future development. Fowler would be required to provide sufficient water supplies to serve any increase in population as the result of development. General Plan policies and federal and State regulations would ensure that water infrastructure is planned for to account for a growing population. Fowler 2040 GP policies as listed below include the development and implementation of a water system master plan, which would analyze future infrastructure needs and locations. This would include the location of facilities including wells, pipes, and storage facilities. In addition, the City would be required to complete an UWMP when it reaches 3,000 service connections or a yearly demand of 3,000 AF. The requirement to provide sufficient water supplies and related infrastructure that would accommodate development ensures that the City would have the quantity needed to serve the City's future development during normal, dry, and multiple dry years. In addition, the implementation of SGMA policies and recharge programs help to minimize the impact that groundwater pumping has on groundwater resources within the area.

Policy PF-16	Design and construct water system infrastructure as needed to meet current and future water demands and system requirements.
Action Item PF-16a	Prepare and maintain a water systems master plan to estimate future water demands, identify an adequate supply of water to meet future demands, and identify potential new water supplies.
Policy PF-17	Continue to establish development fees and user rates that are sufficient to operate, maintain, and upgrade (for current and future regulatory requirements) the City's water, wastewater, and stormwater infrastructure.
Policy PF-22	Support local efforts to implement the Sustainable Groundwater Management Act (SGMA). Coordinate with applicable Groundwater Sustainability Agencies (GSAs) to implement appropriate policies and programs identified in adopted Groundwater Sustainability Plans (GSPs).
Policy PF-23	Where appropriate, integrate identified actions and projects from the GSP into the City's Capital Improvement Program.

Compliance with State requirements, including development of an UWMP once applicable, and with implementation of Fowler 2040 GP policies PF-16, PF-17, PF-22, and PF-23, and action item PF-16a as outlined above, impacts to water supplies would be less than significant.

[159] Water data provided by correspondence with City staff.

Threshold 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?

Less than Significant Impact. Buildout of the Fowler 2040 GP would result in an increase in the amount of wastewater required to be treated by the SKFCSD wastewater treatment facility and may require expanded facilities. The SKFCSD Master Plan accounted for increased urbanized development occurring to the west of the City's existing city limits. In 2021, per capita wastewater generation within the SKFCSD service area was approximately 0.00009841 mgd, for a daily total of 4.3516 mgd.[160] Based on the Fowler's estimated 2021 population of 6,934 people and the full buildout projection under the Fowler 2040 GP resulting in a population of 48,131 people, the wastewater treatment facility would be required to accommodate 41,197 more residents of Fowler under full 2040 buildout of the GP.[161] Multiplying this average generation number by a new population of 41,197, the wastewater treatment plant would be required to accommodate approximately an additional 4.05 mgd. This does not account for the population growth of the other two participating jurisdictions, whose growth would also contribute to increase wastewater generation through 2040. As is discussed more thoroughly in Section 4.15, Population and Housing, historical growth trends of Fowler would predict a population growth of between two and three percent. A constant three percent growth rate through 2040 would result in a population of 11,883 people and a required accommodation of approximately 0.487 mgd of additional wastewater service by the SKFCSD wastewater facility. SKFCSD is anticipating growth that would result in the expansion of the wastewater facility. The existing facility has a rated capacity of 8 mgd and is planned for expansion once an average flow of 6 mgd is reached. Implementation of the policies listed below would lessen any potential impacts. Any future development would be required to be able to provide sufficient wastewater treatment serving future projects. As such, buildout of the Fowler 2040 GP would be limited by the available capacity of the SKFCSD facility. This limitation would ensure that impacts would remain at a less than significant level.

Policy PF-17	Continue to establish development fees and user rates that are sufficient to operate, maintain, and upgrade (for current and future regulatory requirements) the City's water, wastewater, and stormwater infrastructure.
Policy PF-18	Continue to cooperate with the Selma-Kingsburg-Fowler (SKF) County Sanitation District to design and construct wastewater system infrastructure as needed to safely convey, treat and recycle, and dispose of current and future wastewater flows and achieve future regulatory and system requirements.
Policy PF-19	Actively participate in the Selma-Kingsburg-Fowler (SKF) County Sanitation District wastewater master plan update proves to ensure it aligns with planned land uses and projected demands for the City of Fowler.

With implementation of 2040 Fowler GP policies PF-17, PF-18, and Policy PF-19, impacts to wastewater treatment would be less than significant.

[160] (Selma-Kingsburg-Fowler County Santiation District 2022) SKFCSD provided wastewater generation information as of 2021. To provide consistency when discussing wastewater generation estimates, this EIR uses the 2021 United States Census Bureau population estimate..
[161] (United States Census Bureau 2022)

Threshold 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?

Less than Significant Impact. Fowler is under contract with Waste Management to provide solid waste pickup and disposal. Waste generated by Fowler is sent to the Kettleman Hills Waste Management Facility, located approximately 52 miles southwest of Fowler. Solid waste is first sent to a Waste Management transfer facility to separate recyclable from the rest of the waste produced. The facility has a total capacity of 15,600,000 cubic yards with a remaining capacity of 3,580,000 cubic yards, or 22.9 percent. In 2019 Fowler generated 7,518.94 tons of solid waste, or 8,354.38 cubic yards.[162] This generation accounts for approximately 0.23 percent of the remaining capacity of the facility. In 2019, the population of Fowler was 6,605. On average, each resident of Fowler generated approximately 1.26 cubic yards of solid waste. At full buildout of the Fowler 2040 GP the City would contribute approximately 60,879 cubic yards of solid waste, or 12.70 percent of the facilities remaining capacity in 2019. Fowler's current contribution to the closure of the facility is not substantial, however, as buildout occurs and population increases, the impact the City has on the capacity of the facility would increase. In the event of the closure of the facility within the life of the Fowler 2040 GP, Waste Management would provide an alternative site to collect waste generated from Fowler. Fowler would be required to comply with all applicable solid waste reduction goals. In addition, policy PF-26 listed below would aid to reduce any potential impacts. Therefore, impacts would be less than significant.

Policy PF-26	Ensure solid waste pick-up and disposal facilities are sufficient to meet new development needs.

Threshold 5: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. The Project would be required to comply with federal, State, and local management and reduction statutes and regulations related to solid waste. During the buildout of the Fowler 2040 GP, solid waste reduction statutes and regulations may change. While the Fowler 2040 GP does not propose any specific development, each individual project as a result of the full buildout of the GP would be required to meet the applicable solid waste reduction statutes and regulations that are in place at the time of construction and operation. This is inclusive of solid waste reduction statutes and regulations at the federal, State, and local level. In addition, policy PF-25 listed below would aid to minimize any potential impacts. Therefore, impacts would be less than significant.

Policy PF-25	Facilitate activities that reduce waste production and/or encourage recycling or reuse of waste when possible to reduce the amount of solid waste sent to landfill in order to meet State targets.

4.20.5 Mitigation Measures

Mitigation measures are not required.

4.20.6 Cumulative Impacts

The full buildout and development under the Fowler 2040 GP would result in the construction, expansion, or use of utilities and service systems including water supply and storage infrastructure, wastewater

[162] (USEPA) Data gathered through discussions with City Staff

infrastructure, storm water infrastructure, solid waste facilities, natural gas, and energy facilities. As individual development projects are proposed, each project would be required to provide adequate access to all of these services. As a result, the availability of each of the services discussed is a limiting factor that ensures that significant impacts would not result from a lack of utilities and service systems available to residents of the City. Therefore, cumulative impacts would be considered less than significant.

Figure 4-24: Existing Water Supply Facilities

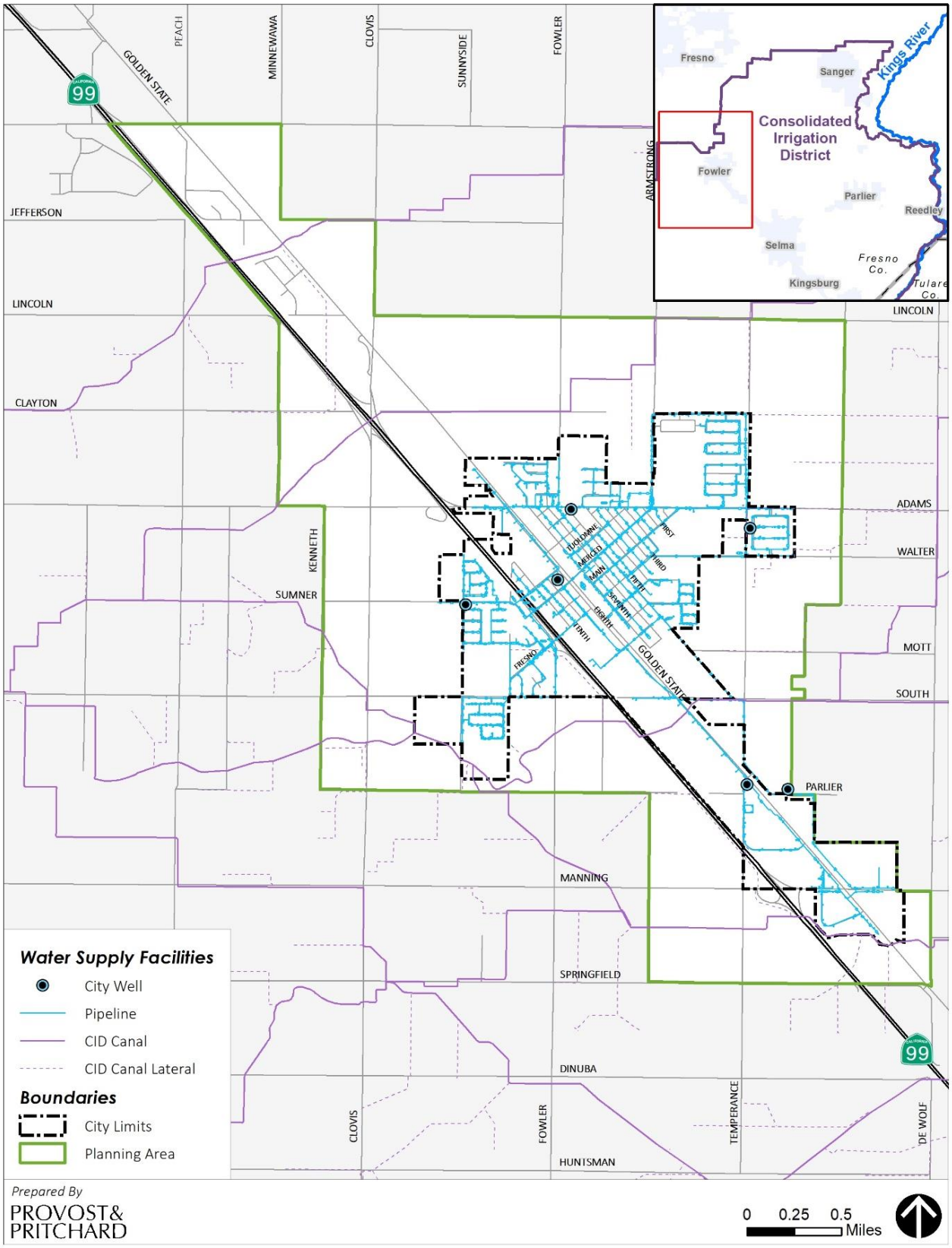


Table 4-52: Existing Wastewater System Infrastructure (SKFCSD 2016)

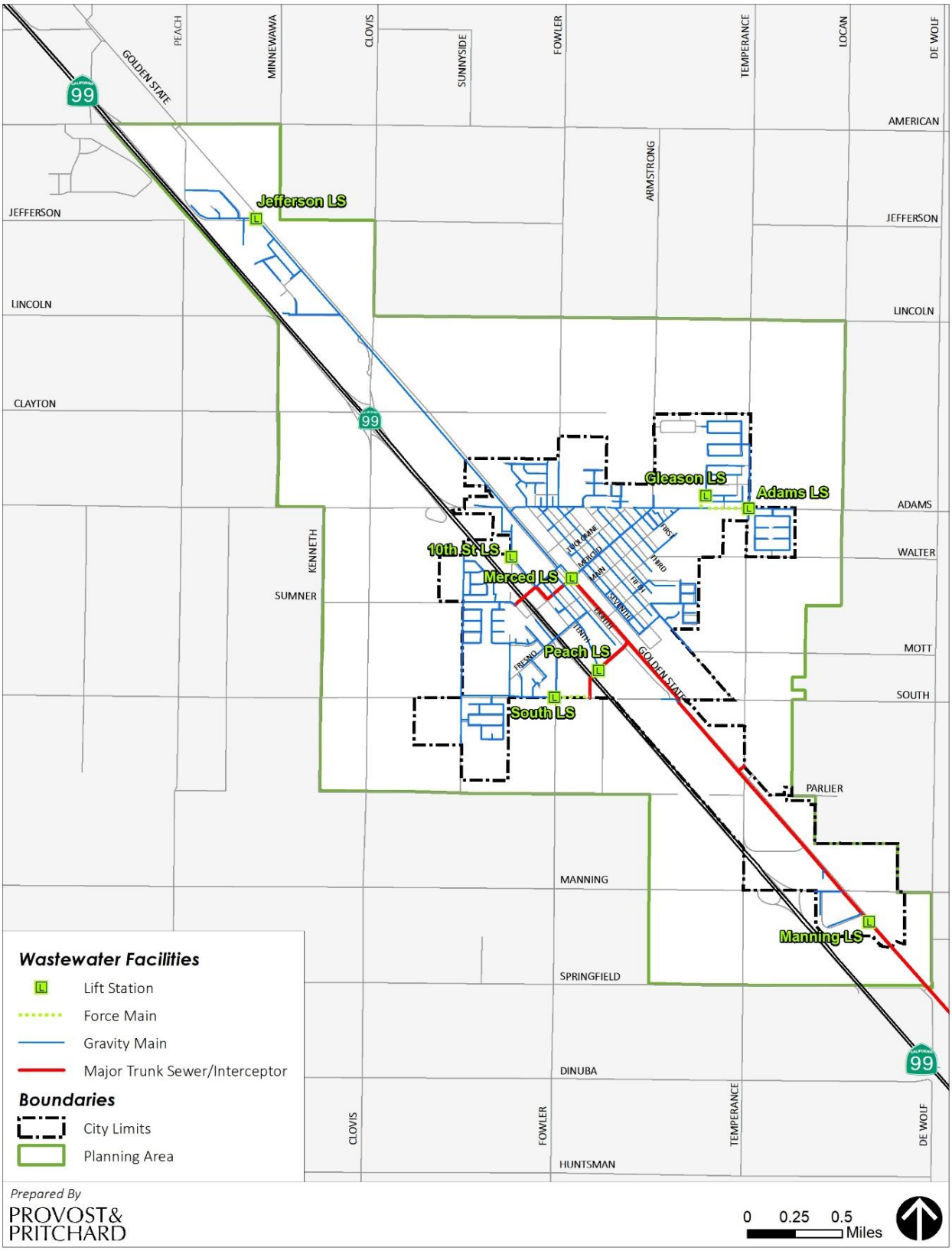


Table 4-53: Planned System Improvements (SKFCSD 2016)

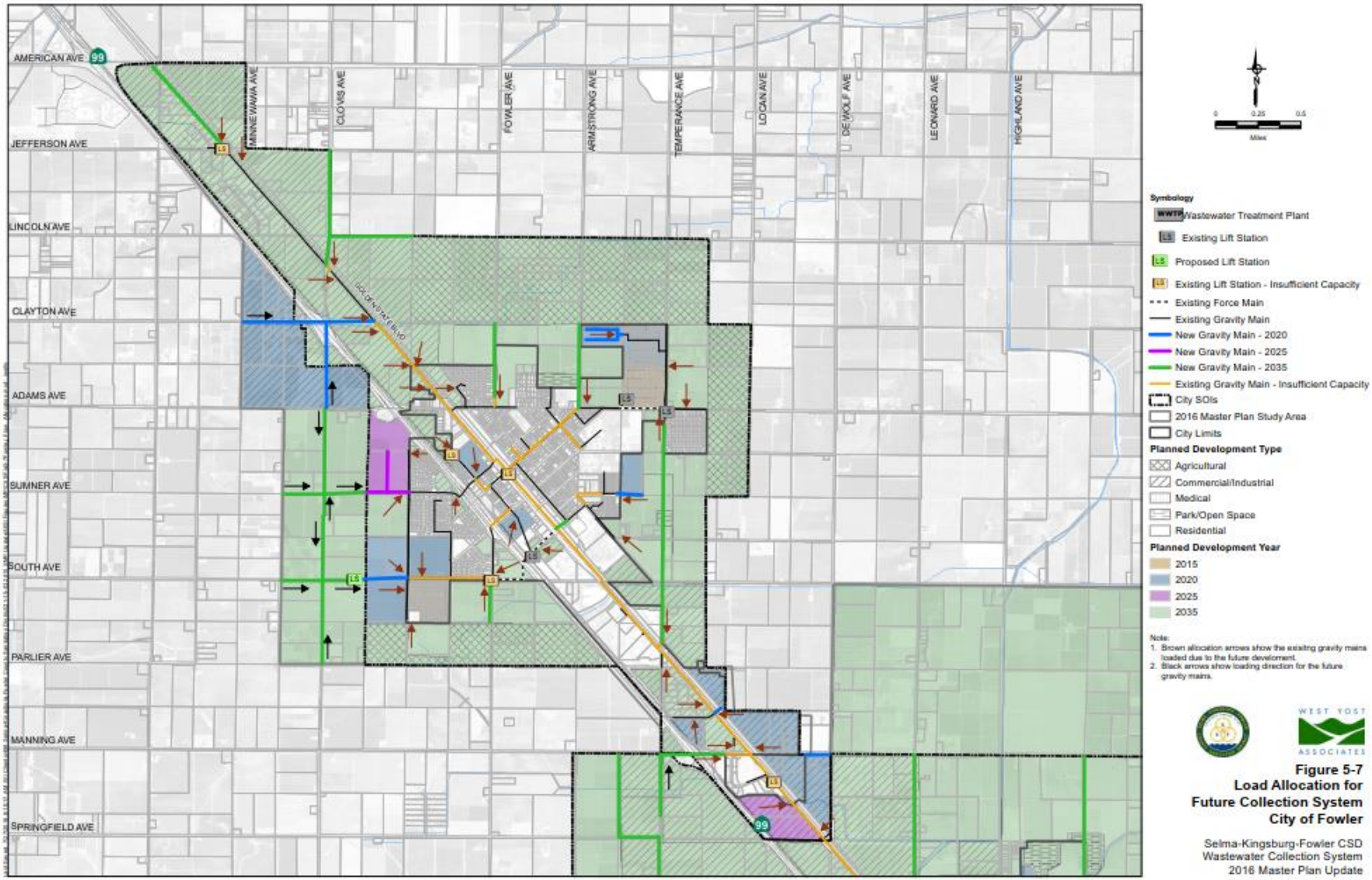
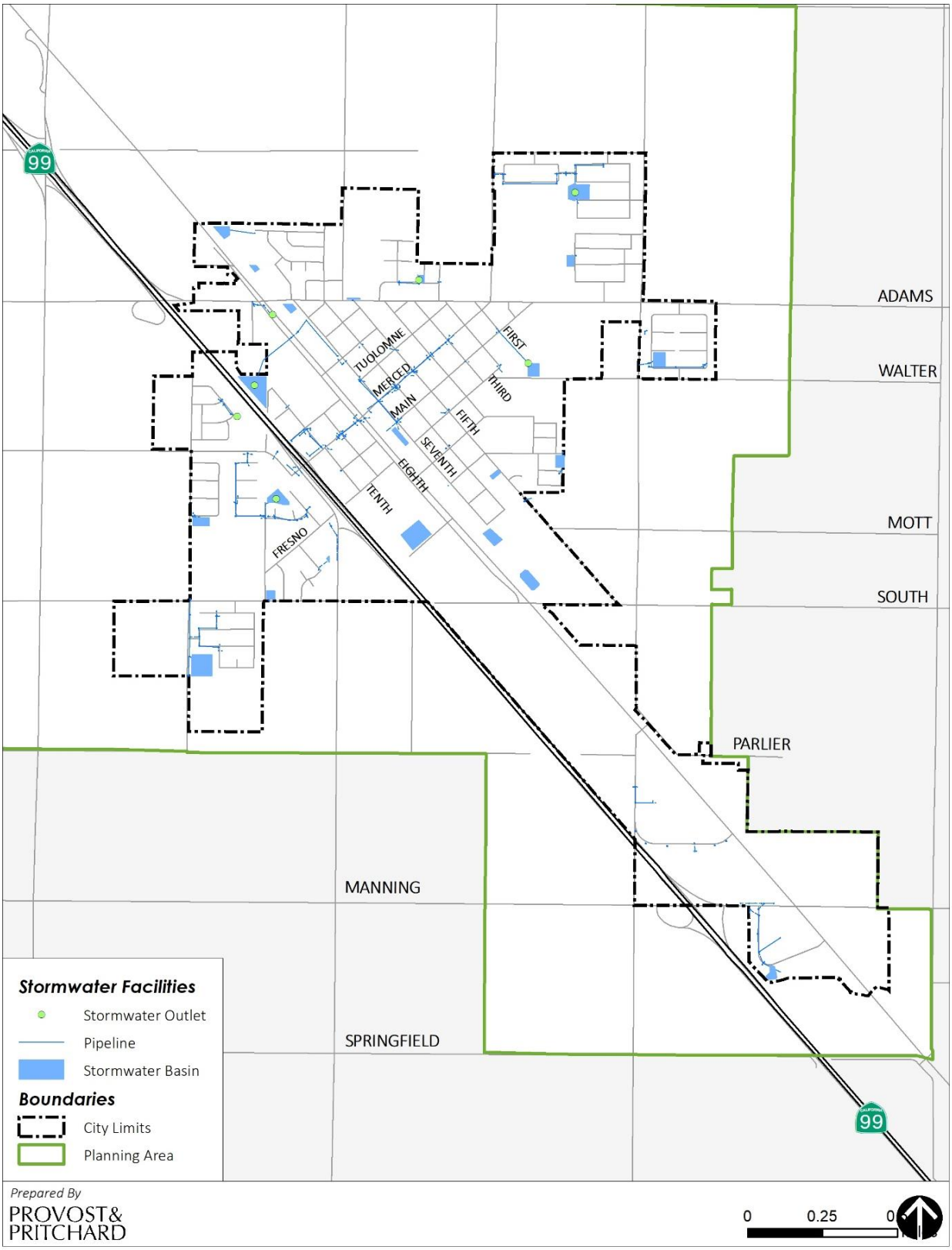


Table 4-54: Existing Stormwater System Infrastructure



4.21 Wildfire

This section evaluates the impacts related to wildfire, including the evaluation of emergency response plans, topography, future infrastructure, and ground instability resulting from runoff, that could result from implementation of the Fowler 2040 GP.

4.21.1 Environmental Baseline

Fire season in California usually begins in May and extends through November. Wildfires can be initiated by a natural occurrence (e.g., lightning) or by accident through human activity. Wildfire hazards are based on factors such as topography and climate conditions (e.g., winds, drought, extreme temperatures). Areas with a higher likelihood of wildfire occurrence are mapped and identified as fire hazard severity zones by the CAL FIRE in accordance with PRC Sections 4201-4204 and GC Section 51175-51189 (See Figure 4-25).[163] The nearest very high fire hazard severity zone to the planning area is approximately 26 miles to the northeast. Areas where the State has financial responsibility for wildland fire protection are known as State Responsibility Areas (SRA), while areas where local fire fighters are responsible for wildland fire protection are known as Local Responsibility Areas (LRA) (See Figure 4-25).[164] Fowler is designated as a LRA and is considered an area with a moderate risk for fire hazards. The nearest SRA to the City is located approximately 14 miles to the northeast. While the Project's environmental baseline is 2019, fire zone mapping and monitoring is subject to change year by year. As a result, the most recent data (2022) and regulations have been used, ensuring that the Project most accurately analyzes the fire risks associated with buildout of the Fowler 2040 GP.

The Fowler fire station is located at 220 E. Main Street across from City Hall and would ultimately house 11 personnel.[165] The Fresno County Fire Protection District considers Fowler and its population when evaluating its fleet size and equipment.[166] The entirety of the Fresno County Fire Protection District fleet and all resources are available to Fowler. This would include Type 1 engines, wildland engines, Type 3 engines, and Type 5 engines.

4.21.2 Regulatory Setting

Federal

Federal Emergency Management Agency

FEMA is an agency within the United States Department of Homeland Security, created via Executive Order 12127 on April 1, 1979 by President Carter. A second Executive Order 12148 signed on July 20, 1979 accorded the agency with the missions of emergency management and civil defense. In order to receive assistance through FEMA in the event of a disaster, a state's governor must declare a state of emergency and formally request a federal government response.

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 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, which includes California, can increase the amount of funding available

[163] (California Department of Forestry and Fire Protection 2022)
[164] Ibid.
[165] (City of Fowler 2021)
[166] (National Fire Protection Association 2022)

through the Hazard Mitigation Grant Program. The act has also established new requirements for local hazard mitigation plans.

National Fire Plan

The National Fire Plan was developed under Executive Order 11246 in August 2000, following a landmark wildland fire season. Its intent is to actively respond to severe wildland fires and their impacts to communities while ensuring sufficient firefighting capacity for the future. The plan addresses firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability

State

California Fire Plan

The Strategic California Fire Plan is the State's road map for reducing the risk of wildfire. 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.

Wildland-Urban Interface Building Standards

Title 24, Part 9 of the 2022 California Fire Code establishes standards and requirements for construction in relation to the prevention of wildfire. These codes include provisions for ignition-resistant construction standards in the wildland urban interface.

California Office of Emergency Service

Through the California Emergency Services Act of 1970, the California Office of Emergency Service provides the basis for local emergency preparedness. The Office of Emergency Services is responsible for preparing the California State Emergency Plan and for coordinating and supporting emergency services conducted by local governments. The responsibility for immediate response to an emergency, such as fires, landslides, earthquakes or riots, rests with local government agencies and segments of the private sector, with support services provided by other jurisdictions and/or State and federal agencies. In accordance with their normal operating procedures, the initial response to an emergency will be made by local Fire, Law Enforcement, Medical or Maintenance (Public Works) districts or departments.

California Fire and Building Code

The 2019 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 Master Emergency Services Plan

The Fresno County Master Emergency Services Plan (2017) analyzes potential hazards and risks to the County of Fresno, while setting an operational hierarchy detailing the level of responsibility for departments within the County. The plan assesses resource management, preparedness, emergency operations, and communications in the event of an emergency situation.

Fresno County Multi-Hazard Mitigation Plan

The purpose of a Local Hazard Mitigation Plan is to reduce or eliminate long-term risk to human life and property resulting from hazards. A Local Hazard Mitigation Plan recognizes risks before they occur, as well as identifies resources, information, and strategies for emergency response. Fresno County, with participation from 17 jurisdictions, is the lead agency on the Multi-Hazard Mitigation Plan. In 2018, the Fresno County Board of Supervisors adopted the Multi Hazard Mitigation Plan, which includes information that pertains to the City in the areas of health, infrastructure, housing, government, environment, and land use.

4.21.3 Methodology and Thresholds of Significance

According to the CEQA Guidelines Appendix G, the proposed Fowler 2040 GP would have a significant impact related to utilities and service systems if it would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan;
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire;
- 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;
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

4.21.4 Impacts

Threshold 1: Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The planning area is not located within or in the vicinity of a very high fire hazard severity zone, nor is it located within an SRA. While Fowler does not currently have an adopted emergency response plan or emergency evacuation plan, Fowler falls under the Fresno County Master Emergency Services Plan and the Fresno County Multi-Hazard Mitigation Plan. Future development as a result of the Fowler 2040 GP could result in roadwork and temporary road closures or impediments. Any work completed within an existing or future roadway would be required to be approved by the City Engineer prior to commencement of construction activities. As a result, evacuation routes would be properly maintained, and no conflict would occur with the Fresno County Master Emergency Services Plan and the Fresno County Multi-Hazard Mitigation Plan. Therefore, impacts would be less than significant.

Threshold 2: Would the Fowler 2040 GP, 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?

Less than Significant Impact. Fowler is not located within or in the vicinity of a very high fire hazard severity zone, nor is it located within an SRA. In addition, Fowler provides an urban and built-up setting that would present a low risk of wildfire due to environmental factors. Any vegetation within Fowler would be maintained to City standards. In addition, Fowler is surrounded by agricultural land that would be maintained to prevent unruly vegetation, helping to lower the wildfire risk in the vicinity. The

maintenance of vegetation both within Fowler and the land surrounding Fowler would slow the spread of any potential wildfire, allowing local firefighters to respond to prevent a widespread event. Due to the level of risk identified on Figure 4-25, wildfire is unlikely to occur. In addition, based on topography, should a wildfire occur, it is unlikely to be exacerbated by environmental factors.

Threshold 3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than Significant Impact. Fowler is not located within or in the vicinity of a very high fire hazard severity zone, nor is it located within an SRA. As Fowler develops, infrastructure would be required to be extended accordingly. Any future development would be required to be consistent with the current CBC during the time of development. Requirements within the CBC would ensure future development includes fire hydrants, fire sprinklers, fire extinguishers, and other fire safety measures within new development. Any future development would be reviewed by the Fire Department for approval. The development of future infrastructure within Fowler's planning area would be located on land that is unlikely to experience wildfire due to its distance from very high fire hazard severity zones. Therefore, impacts would be less than significant.

Threshold 4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than Significant Impact. Fowler is not located within or in the vicinity of a very high fire hazard severity zone, nor is it located within an SRA. Further, the planning area is not located on land that includes substantial slope at risk of landslide which would put the public at increased risk of wildfire due to post-fire slope instability. Some areas within Fowler are within a 100-year flood zone. This includes a portion of Fowler to the northwest and a portion of the planning area to the southeast. While flooding could impact drainage and vegetation that would reduce the spread of wildfire, the planning area is not within an area at an increased risk of wildfire.

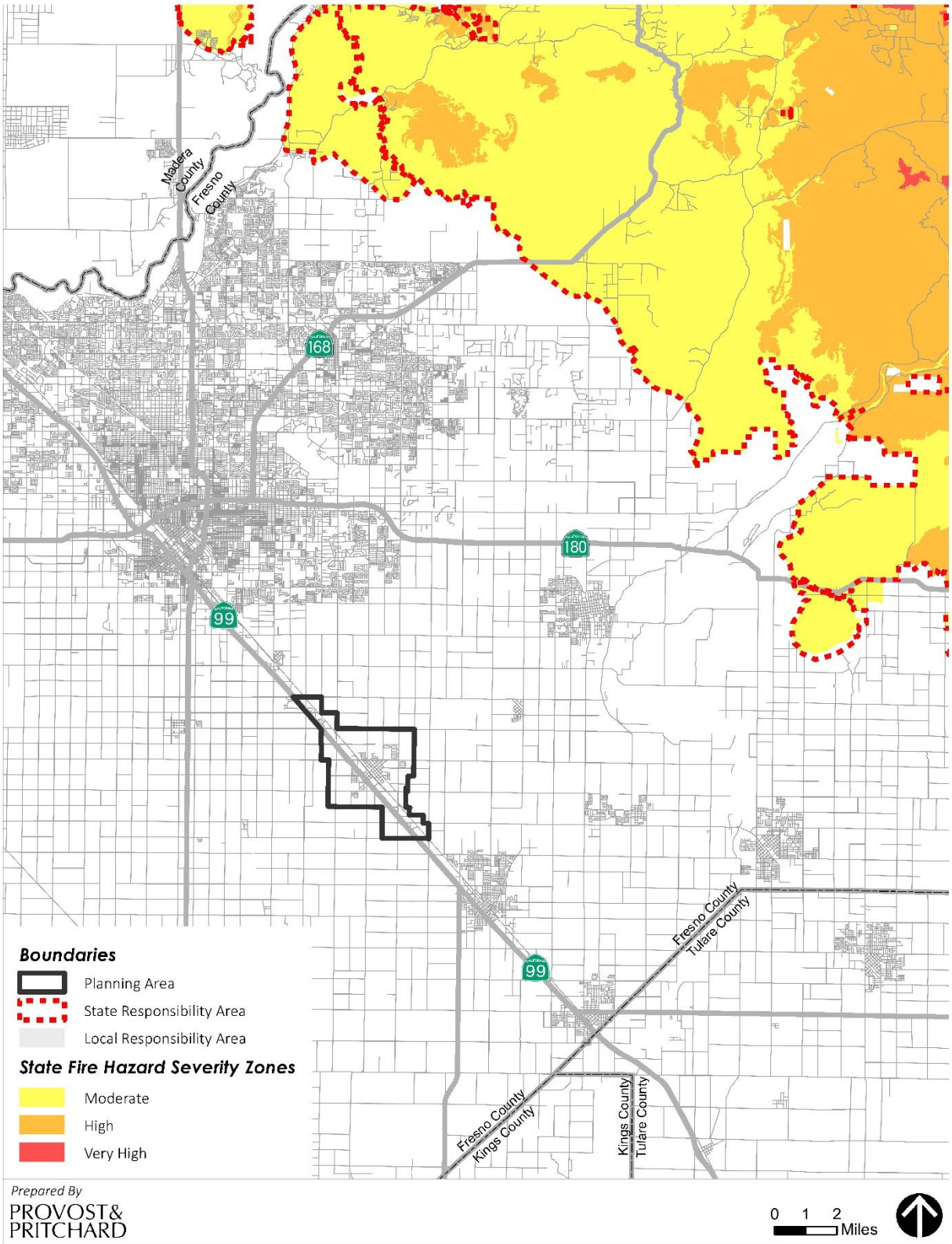
4.21.5 Mitigation Measures

Mitigation measures are not required.

4.21.6 Cumulative Impacts

As discussed above, Fowler is not in an area that is likely to experience wildfires. Each potential future project that would expand the urban boundary of Fowler would be required to meet all applicable standards and regulations governing wildfire prevention, including the use of the most up to date version of the CBC. In addition, future projects would be required to meet the requirements of Fowler's municipal code, which regulate safety and design standards within Fowler. Fowler also uses landscape maintenance districts, ensuring that vegetation within Fowler is well-kept, helping to prevent the spread of wildfire. These requirements would assure that significant impacts would not occur, and there would be no significant cumulative impact in regard to wildfire.

Figure 4-25: Very High Fire Hazard Severity Zones and State Responsibility Areas Map



4.22 Impacts Found Not to be Significant

CEQA Guidelines Section 15128 requires a DEIR to briefly describe any possible significant effects that were determined not to be significant and, therefore, were not discussed in detail. Chapter 4 of this DEIR discusses all potential impacts, regardless of their magnitude in all issue areas. This section summarizes the potential environmental impacts of the Fowler 2040 GP that clearly would not be significant.

- Forestry: Forestry resources do not occur in the planning area and, therefore, would not be affected by the land use changes in the Proposed Plan.
- Mineral Resources: There are no mineral resources identified in the planning area and, therefore, no potential impacts on this type of resource. It does not appear that there are any active oil wells in the vicinity of proposed new development or redevelopment.