4.4 TRANSPORTATION

4.4.1 INTRODUCTION

The Transportation chapter of the EIR discusses the existing transportation and circulation facilities within the project vicinity, as well as applicable policies and guidelines used to evaluate operation of such facilities. Where development of the proposed project would conflict with applicable policies or guidelines, mitigation measures are identified. The information contained within this chapter is primarily based on the Focused Traffic Study prepared for the proposed project by W-Trans (see Appendix G of this EIR),[1]as well as the City of Petaluma General Plan,[2] the associated City of Petaluma General Plan EIR,[3] the Environmental Background Report for the City of Petaluma General Plan 2045 Update,[4] and the City's Vehicle Miles Traveled Implementation Guidelines.[5]

At the beginning of 2019, updated California Environmental Quality Act (CEQA) Guidelines went into effect. The new Guidelines require CEQA lead agencies such as the City of Petaluma to transition from using "level of service" (LOS) to "Vehicle Miles Traveled" (VMT) as the metric for assessing transportation impacts under CEQA (see Section 15064.3). The State's requirement to transition from LOS to VMT is aimed at promoting infill development, public health through active transportation, and a reduction in greenhouse gas (GHG) emissions. Pursuant to the Guidelines, any project that did not initiate CEQA public review prior to July 1, 2020 must use VMT rather than LOS as the metric to analyze transportation impacts. LOS will still be used by the City for purposes of determining consistency with general plan and community plan goals and policies but is no longer used for determining significant impacts under CEQA. Pursuant to CEQA Guidelines Section 15064.3, impact significance in this chapter is based upon VMT. Consistency with General Plan goals and policies related to transportation, including adopted LOS policies, will be considered by the decision-makers as part of the project review process.

4.4.2 EXISTING ENVIRONMENTAL SETTING

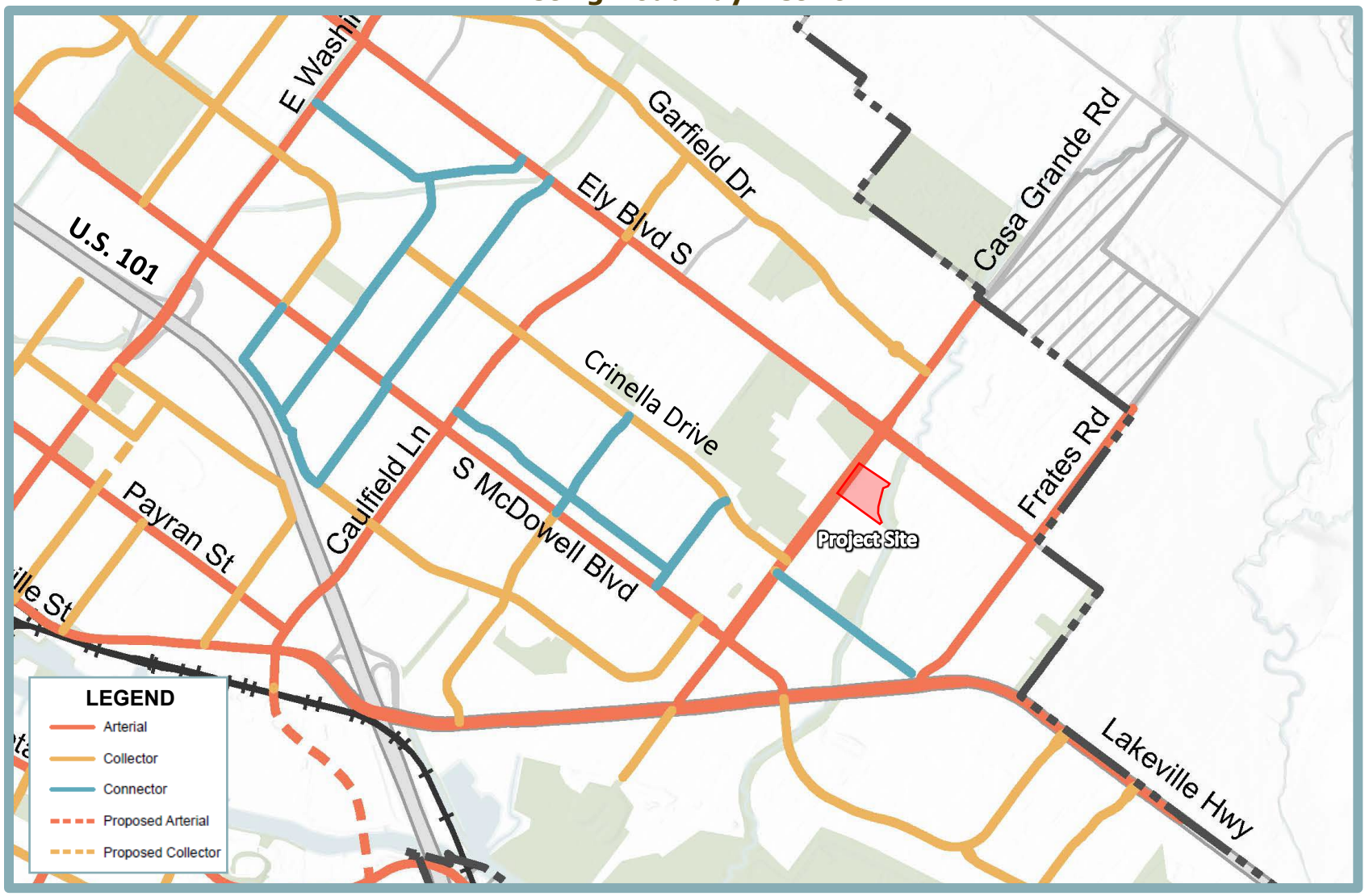
The section below describes the physical and operational characteristics of the existing transportation system within the study area, including the surrounding roadway network, transit, bicycle and pedestrian facilities.

Existing Roadways

The following sections provide a summary of the existing roadways within the project area, as depicted in Figure 4.4-1. The street network in the City of Petaluma does not consistently align with cardinal directions. Therefore, in City documents, roadways that run parallel to U.S. 101 are described as "north-south", and roadways that run perpendicular to U.S. 101 are described as "east-west".

1 W-Trans. *Focused Traffic Study for the Creekwood Residential Development.* May 22, 2024.
2 City of Petaluma. *City of Petaluma General Plan 2025.* Adopted May 19, 2008.
3 City of Petaluma. *City of Petaluma General Plan 2025 Environmental Impact Report.* February 2008.
4 City of Petaluma. *Environmental Background Report: Transportation*. September 2022.
5 City of Petaluma. *Senate Bill 743 Vehicle Miles Traveled Implementation Guidelines*. July 2021.

Figure 4.4-1
Existing Roadway Network



Source: Environmental Background Report for the City of Petaluma General Plan 2045 Update, 2022.

Casa Grande Road

Casa Grande Road, which is generally oriented east-west, is classified as a major arterial. Along the project site frontage, the road has two 12-foot travel lanes in each direction, with a two-way left-turn lane dividing the two directions, and a posted speed limit of 35 miles per hour (mph). According to the Environmental Background Report for the City's General Plan 2045 Update, the pavement quality along Casa Grande Road in the project vicinity is classified as very poor.

Ely Boulevard South

Ely Boulevard is a generally north-south arterial located north of the project site. Ely Boulevard intersects with Casa Grande Road north of the project site with a roundabout. The roadway has one travel lane in each direction, and a posted speed limit of 35 mph, which is reduced to 20 mph near the roundabout. According to the City's Environmental Background Report, the pavement quality along Ely Boulevard is classified as very good.

Crinella Drive

Crinella Drive is a north-south collector roadway that intersects with Casa Grande Road north of the project site. The roadway provides access to single-family residences, and has a posted speed limit of 25 mph. According to the City's Environmental Background Report, the pavement quality along Crinella Drive in the project vicinity is classified as very poor.

State Route 116

State Route (SR) 116, also called Lakeville Highway, is a major east west/connector providing access to U.S. 101 within the City of Petaluma. The route extends from SR 1 on the Pacific coast, through Petaluma, and splits into SR 121 in Big Bend.[6] In the project vicinity, SR 116 has two travel lanes in each direction, and a posted speed limit of 40 mph. According to the City's Environmental Background Report, the pavement quality along SR 116 in the project vicinity is classified as very poor.

U.S. 101

U.S. 101 is under the jurisdiction of Caltrans and the primary route between San Francisco and Marin and Sonoma Counties, providing regional access to the City of Petaluma. Access to Petaluma from U.S. 101 is provided by interchanges at SR 116, East Washington Street, and Petaluma Boulevard. In the project vicinity, U.S. 101 is a six-lane freeway that bifurcates the City.[7] In northwestern Petaluma, U.S. 101 has four lanes.

Pedestrian, Bicycle and Transit Facilities

The sections below describe the existing pedestrian, bicycle and transit facilities located within the vicinity of the project site.

Sidewalks and Paths

Continuous sidewalks exist along both sides of Casa Grande Road fronting the project. Marked crosswalks are available across Casa Grande Road at the intersection with Crinella Drive, south of the project site, and at the Ely Boulevard roundabout, north of the project site. In addition, paved

6 City of Petaluma. *Environmental Background Report: Transportation* [pg 13]. September 2022.
7 *Ibid.*

sidewalks exist along both sides of Ely Boulevard. Significant gaps in sidewalk continuity do not exist in the project vicinity.[8]

The Casa Grande Subdivision, located immediately south of the project site at 240 and 250 Casa Grande Road, was approved by the City of Petaluma in 2020. Off-site improvements have been constructed as part of the Casa Grande Subdivision, including a new pedestrian crossing on Casa Grande Road, near Casa Grande High School, with a raised median providing a pedestrian refuge and rapid rectangular flashing beacon warning lights, in addition to radar speed feedback signs.

Bicycle Facilities and Trails

Bicycle paths, bike lanes, bike routes, and separated bikeways are typical examples of bicycle transportation facilities, which are defined by the California Department of Transportation (Caltrans), as follows:

- **Bike paths (Class I)** – Paved trails that are separated from roadways. Such trails are also shared with pedestrians.
- **Bike lanes (Class II)** – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs.
- **Bike routes (Class III)** – Roadways designated for bicycle use by signs only; may or may not include additional pavement width for cyclists.
- **Separated Bikeway (Class IV)** – Separated bikeways, also referred to as cycle tracks or protected bikeways, are bikeways for the exclusive use of bicycles which are physically separated from vehicle traffic. Separated bikeways were adopted by Caltrans in 2015. Types of separation may include, but are not limited to, grade separation, flexible posts, physical barriers, or on-street parking.

Existing and planned bicycle facilities throughout the City, as of the 2008, are presented in Figure 4.4-2. Class II bicycle lanes currently exist in both directions along Casa Grande Road between South Ely Boulevard and South McDowell Boulevard. In addition, according to the Sonoma County Transportation Authority's (SCTA) Countywide Bicycle and Pedestrian Master Plan, the existing bicycle lanes on Casa Grande Road are planned to be extended northward from Ely Boulevard South to Adobe Road. In addition, a multi-use trail exists adjacent to the site along the opposite side of Adobe Creek (Creek) between Ely Boulevard and SR 116. Portions of the trail are paved, though a segment between Spyglass Road and Sartori Drive is an unpaved, informal path.

Transit System

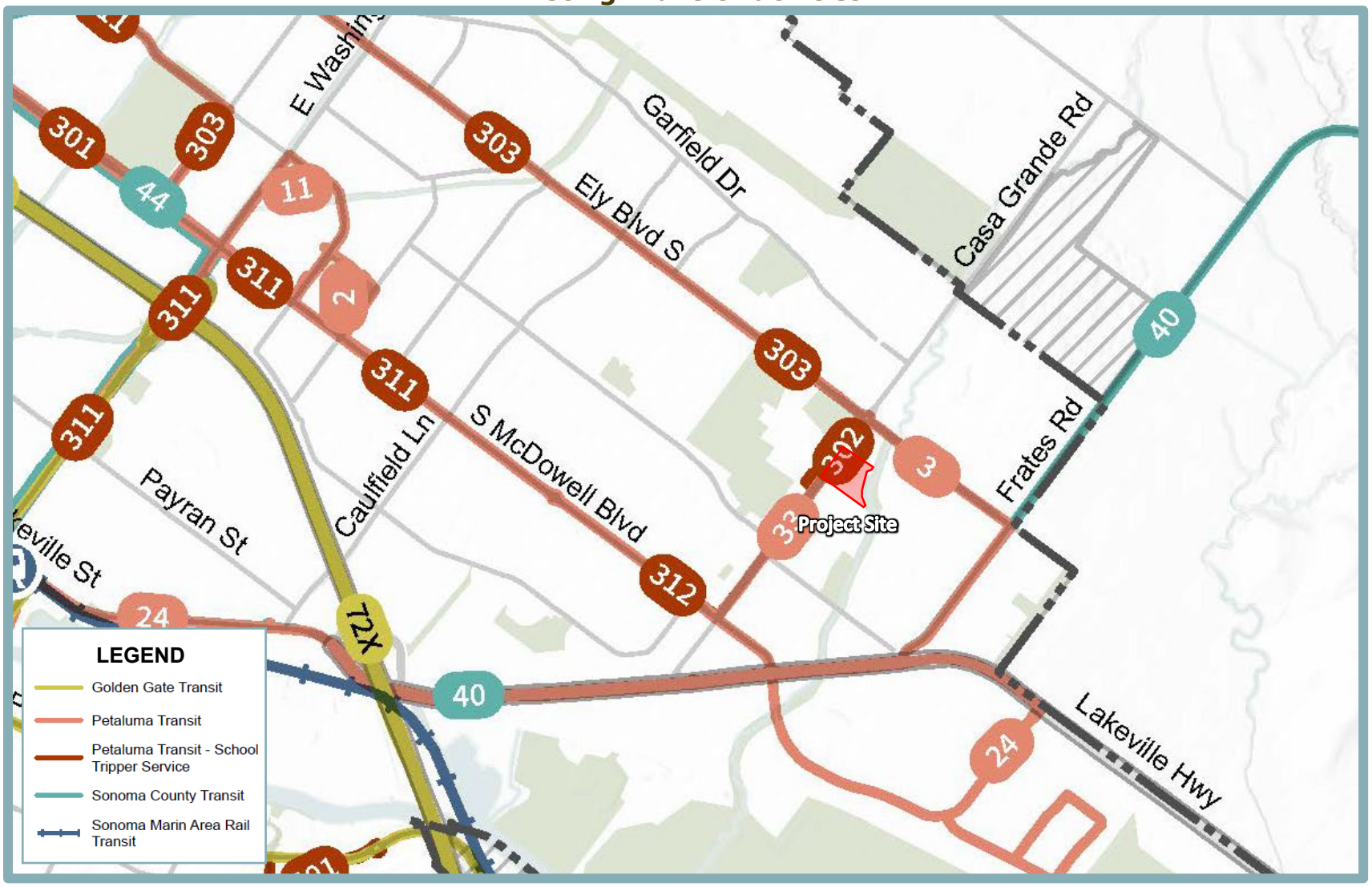
Petaluma Transit provides fixed route bus service in Petaluma (see Figure 4.4-3). Route 33 provides service to destinations throughout the east side of the City and includes stops near the project site on Casa Grande Road, between Sartori Drive and Crinella Drive. Route 33 provides service to the Eastside Transit Center where riders can connect to other routes, as well as major destinations including shopping centers, the Petaluma Senior Center, and Santa Rosa Junior College. Route 33 operates seven days a week with one-hour headways from 7:00 AM to 8:00 PM on weekdays, 8:00 AM to 8:00 PM on Saturdays, and 9:00 AM to 5:00 PM on Sundays. Two bicycles can be carried on Petaluma Transit buses. Bike rack space is a first come first served basis. Additional bicycles are allowed on Petaluma Transit buses at the discretion of the driver.

[8] City of Petaluma. *Draft City of Petaluma Active Transportation Plan – Sidewalk Gap Inventory.* Available at: https://cityofpetaluma.org/active-transportation-plan/. Accessed January 2023.

Figure 4.4-2
Existing Bicycle Facilities

Source: Environmental Background Report for the City of Petaluma General Plan 2045 Update, 2022.

Figure 4.4-3
Existing Transit Facilities



Source: Environmental Background Report for the City of Petaluma General Plan 2045 Update, 2022.

Route 302 (as well as Routes 301, 303, 311, 312, and 501) provide only limited AM and afternoon school trip service for schools in the City limits during the school year. A bus stop for Route 302 is located to the north of the project site along Casa Grande Road.

Dial-a-ride, also known as paratransit or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Petaluma Paratransit is designed to serve the needs of individuals with disabilities and includes all areas within 0.75-mile from an active Petaluma Transit route.

As part of the approved Casa Grande Subdivision project, two new bus shelters have been constructed at the Petaluma Transit bus stops on Casa Grande Road near the project site.

Vehicle Miles Traveled

Pursuant to CEQA Guidelines Section 15064.3, VMT is the primary metric used to identify transportation impacts under CEQA. VMT is a metric that accounts for the number of vehicle trips generated and the length or distance of those trips. VMT does not directly measure traffic operations; instead, VMT is a measure of transportation network use and efficiency, especially when expressed as a function of population (i.e., VMT per capita). VMT tends to increase as land use density decreases and travel becomes more reliant on the use of single-passenger vehicles.

According to W-Trans, and based on the SCTA's Sonoma County travel demand forecast model (SCTM19), the existing VMT setting in transportation analysis zone (TAZ) 341, in which the project site is located, is 19 VMT per capita. The Citywide home-based VMT per capita is reported as 17.8.

4.4.3 REGULATORY CONTEXT

Existing transportation policies, laws, and regulations that would apply to the proposed project are summarized below and provide a context for the impact discussion related to the project's consistency with the applicable regulatory conditions. Federal plans, policies, regulations, or laws related to transportation and circulation are not directly applicable to the proposed project. Rather, the analysis presented herein focuses on State and local regulations, which govern the regulatory environment related to transportation and circulation at the project level.

State Regulations

The following are the regulations pertinent to the proposed project at the State level, organized chronologically.

Senate Bill 743

In 2013, Senate Bill (SB) 743 was passed to amend Sections 65088.1 and 65088.4 of the Government Code, amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of the Public Resources Code (PRC), to add Section 21155.4 to the PRC, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of the PRC, to add and repeal Section 21168.6.6 of the PRC, and to repeal and add Section 21185 of the PRC, relating to environmental quality. In response to SB 743, the Office of Planning and Research (OPR) has updated the CEQA Guidelines to include new transportation-related evaluation metrics. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package along with an updated Technical Advisory related to Evaluating Transportation Impacts in CEQA. Full compliance with the Guidelines became effective July 2020. As a result of SB 743, and Section 15064.3 of the CEQA Guidelines, as discussed in further detail below, local jurisdictions

may no longer rely on vehicle LOS and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA, and instead a VMT metric should be evaluated.

Technical Advisory on Evaluating Transportation Impacts in CEQA

In December of 2018, OPR published the Technical Advisory on Evaluation Transportation Impacts in CEQA (Technical Advisory), which is a guidance document to provide advice and recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Technical Advisory is intended to be a resource for the public to use at their discretion, and OPR does not enforce any part of the recommendations contained therein. The Technical Advisory includes recommendations regarding methodology, screening thresholds, and recommended thresholds per land use type.

Vehicle Miles Traveled-Focused Transportation Impact Study Guide

In May of 2020, Caltrans adopted the Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG) to provide direction to lead agencies regarding compliance with SB 743. The TISG replaces the Caltrans' 2002 Guide for the Preparation of Traffic Impact Studies and is for use with local land use projects, not for transportation projects on the State Highway System. The objectives of the TISG are to provide:[9]

a) Guidance in determining when a lead agency for a land use project or plan should analyze possible impacts to the State Highway System, including its users.
b) An update to the Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002) that is consistent with SB 743 and the CEQA Guidelines adopted on December 28, 2018.
c) Guidance for Caltrans land use review that supports state land use goals, state planning priorities, and GHG emission reduction goals.
d) Statewide consistency in identifying land use projects' possible transportation impacts to the State Highway System, and to identify potential non-capacity increasing mitigation measures.
e) Recommendations for early coordination during the planning phase of a land use project to reduce the time, cost, and/or frequency of preparing a Transportation Impact Study or other indicated analysis.

Caltrans has jurisdiction over State highways. Therefore, Caltrans controls all construction, modification, and maintenance of State highways, and any improvements to such roadways require Caltrans approval.

Local Regulations

Local rules and regulations applicable to the proposed project are discussed below.

City of Petaluma General Plan

The following goals and policies from the Petaluma General Plan are applicable to the proposed project:

Goal 5-G-1 To improve Petaluma's mobility system to increase efficiency for all modes of travel.

[9] California Department of Transportation. *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*. May 20, 2020.

Policy 5-P-1 Develop an interconnected mobility system that allows travel on multiple routes by multiple modes.

A. Develop a network that categorizes streets according to function and type, considering the surrounding land use context.
B. Develop a network for off-street paths and routes according to function and type, considering the intensity of use and purpose.
C. Review and update the City's Street Design Standards to be consistent with street function and typology.
D. Explore the redesign of existing streets to potentially reduce the width and/or number of travel lanes, improve the multimodal function of intersections and street segments, and introduce amenities such as wider sidewalks, special paving treatments, bus priority treatments, landscaped medians, and street trees within parking lanes.
E. Evaluate the feasibility of road diets on streets with projected excess capacity at buildout (see Section 5.3 [of the General Plan]).

Policy 5-P-2 Ensure the identified mobility system is provided in a timely manner to meet the needs of the community by updating the City's transportation impact fee program to insure that necessary citywide improvements are funded.

A. Transportation impact fees will be determined based on each project's fair share of the aggregate costs of roadway improvements identified within the Mobility Element and EIR.
B. The fee program is intended to ensure that new developments pay its proportionate share of traffic infrastructure improvements to mitigate direct traffic impacts from new development.
C. Some portion(s) of the identified mobility system improvements will be constructed as part of project related frontage improvements.
D. Allocation of mitigation funds shall be designated to the capital improvement project for which it was exacted.
E. Transportation impact fees will be routinely updated to reflect project timing and costs.

Policy 5-P-4 New development and/or major expansion or change of use may require construction of off-site mobility improvements to complete appropriate links in the network necessary for connecting the proposed development with existing neighborhoods and land uses.

Policy 5-P-5 Consider impacts on overall mobility and travel by multiple travel modes when evaluating transportation impacts.

Policy 5-P-6 Ensure new streets are connected into the existing street system and encourage a grid-based network of streets.

Policy 5-P-7 Where aesthetic, safety, and emergency access can be addressed, allow narrower streets in residential development to create a pedestrian scaled street environment.

Policy 5-P-8 The priority of mobility is the movement of people within the community including the preservation of quality of life and community character.

A. Develop formal transportation impact analysis guidelines that consider multi-modal impacts of new developments.
B. Develop and adopt multi-modal level of service (LOS) standards that examine all modes and vary the standards by facility type to imply a preference to selected modes based upon the context (including street type and location).
C. LOS analysis data shall utilize the peak hour (60 minutes) rather than the peak period (15 minutes) for determining intersection LOS.

Goal 5-G-2 Promote the safe movement of people and goods through Petaluma's streets.

Policy 5-P-9 Ensure safety improvements are undertaken in response to the changing travel environment.

A. Establish a program to annually collect and evaluate traffic collision data at the top collision locations for automobiles, bicycles, and pedestrians in Petaluma, and design countermeasures where needed.
B. Explore the development of a citywide Intelligent Transportation Systems (ITS) plan to maximize the efficiency of the transportation system through advanced technologies, such as adaptive signal controls, real-time transit information, and real-time parking availability.
C. Designate official truck routes to ensure truck traffic minimizes its impact on residential neighborhoods and avoids mixed use and main streets, where possible, and enforce truck parking restrictions.

Goal 5-G-4 Use transportation demand management (TDM) tools on a citywide basis to encourage and create incentives for the use of alternate travel modes.

Goal 5-G-5 Create and maintain a safe, comprehensive, and integrated bicycle and pedestrian system throughout Petaluma that encourages bicycling and walking and is accessible to all.

Policy 5-P-15 Implement the bikeway system as outlined in the Bicycle and Pedestrian Plan, and expand and improve the bikeway system wherever the opportunity arises.

A. Fund and implement the Bicycle Plan and complete gaps in the bikeway network through new development, redevelopment and the Capital Improvements Program.
B. Develop and update guidelines and standards for the design of bicycle facilities.
C. Design and maintain bikeways at or above local, state, and federal standards in order to maximize safety for bicyclists (e.g. width).
D. Develop and implement a uniform bicycle signage program to enhance safety and ease of travel for all who use the city transportation network.
E. Identify loop detectors along bikeways with stencils where (a) the outline of the loop is not identifiable on the surface of the roadway, or (b) where it is unclear which of the identifiable loops will activate the signal.
F. Preserve the Highway 101 pedestrian/bicycle over-crossing south of East Washington Street interchange.
G. Continue to outfit local transit busses with bike racks; and encourage regional transit providers to provide bike racks as well.

Policy 5-P-16 If Class II bike lanes are not possible on streets designated as such on the Bicycle Facilities Map, those streets shall become enhanced Class III bike routes using such markings as edge striping, shared lane markings, and signs.

Policy 5-P-17 The City shall discourage using sidewalks as designated bicycle routes.

Policy 5-P-18 The City shall require Class II bike lanes on all new arterial and collector streets.

Policy 5-P-19 All new and redesigned streets shall be bicycle and pedestrian friendly in design.

Policy 5-P-20 Ensure that new development provides connections to and does not interfere with existing and proposed bicycle facilities.

Policy 5-P-22 Preserve and enhance pedestrian connectivity in existing neighborhoods and require a well connected pedestrian network linking new and existing developments to adjacent land uses.

A. Improve the pedestrian experience through streetscape enhancements, focusing improvements where there is the greatest need, and by orienting development toward the street.
B. Improve street crossings and complete gaps in the sidewalk system through development review and capital improvement projects.

C. Allocate funds and/or identify funding sources (including the potential formation of assessment districts) for pedestrian and streetscape improvements in existing neighborhoods.
D. Create a pedestrian priority program emphasizing pedestrian circulation needs and safe street crossings.
E. Conduct an inventory of key pedestrian facilities and routes to identify missing or deficient links, pedestrian crossings or intersections, and focusing initially on pedestrian priority areas.
F. Establish a prioritization and funding mechanism for completing gaps in the sidewalk system, identifying locations for improving street crossings, and installing curb ramps to meet ADA specifications.
G. Improve the integration of pedestrian projects into the Capital Improvement Program and consider opportunities to construct pedestrian improvements concurrently with other roadway improvements.
H. Develop guidelines and standards for the design of pedestrian facilities and establish pedestrian-friendly residential and commercial design guidelines.
I. Review and update the City's street design standards to address pedestrian-friendly street designs such as maximum lane widths, maximum curb radii, detached sidewalks, dual left turn lanes at intersections, pedestrian refuge islands, and curb ramp standards.
J. Collaborate with the Santa Rosa Junior College to identify measures that enhance pedestrian circulation to and within the Petaluma Campus.
K. Establish a Pedestrian Safety Program that provides pedestrian educational materials and a regularly updated pedestrian safety report.
L. Conduct regular maintenance of pedestrian related facilities.

Policy 5-P-23 Require the provision of pedestrian site access for all new development.

Policy 5-P-24 Give priority to the pedestrian network and streetscape amenities near schools, transit, shopping, and mixed use corridors emphasized in the General Plan.

Policy 5-P-25 Establish a network of multi-use trails to facilitate safe and direct off-street bicycle and pedestrian travel. At the minimum, Class I standards shall be applied unless otherwise specified.

A. Review the status of ownership and use of railroad rights-of-way, creek maintenance rights-of-way, dedicated public or utility easements in favor of the city, and other public lands and seek to include new bicycle and pedestrian routes by working with all appropriate agencies.

B. Fully implement the non-motorized components of the Petaluma River Access and Enhancement Plan.
C. Support the implementation of a continuous SMART bicycle/pedestrian path along the NWPRR corridor and integrate it with the citywide bicycle network.
D. Study, seek funding for, construct and maintain a "Petaluma Ring Trail," a connected system of multi-use trails in the Urban Separator, or otherwise approximately parallel with (if not immediately adjacent to) the Urban Growth Boundary. The Petaluma Ring Trail shall form a continuous, unbroken path around the city.
E. Build new river (upstream of navigable waters) and creek crossings for bicycles and pedestrians to provide greater connectivity and more efficient cross-town routes.

Policy 5-P-26 Require all new development and those requiring new city entitlements with "frontage" along creeks and the river to permit through travel adjacent to creeks and the river with access points from parallel corridors spaced at minimum intervals of 500–1,000 feet.

Policy 5-P-27 Locate connections to Class I facilities from parallel routes along the parcel line of adjoining properties to provide separation from parking lots and buildings; design connections as Class I facilities.

Policy 5-P-28 Allow bicyclists and pedestrians use of all emergency access routes required of existing and new developments.

A. Design new emergency access routes to accommodate bicycle and pedestrian use.

Policy 5-P-30 Require all new development abutting any public trail to provide access to the trail.

Petaluma Bicycle and Pedestrian Master Plan

The Petaluma Bicycle and Pedestrian Master Plan (BPMP), adopted in 2008, identifies goals, policies, and programs related to bicycle and pedestrian mobility; documents the existing Citywide conditions for bicycle, pedestrian, and multi-use trail facilities; and proposes new facilities, specific improvements, and programmatic recommendations to support the goals established in the BPMP.

It is noted that the City of Petaluma is in the process of updating the BPMP in parallel with the City's General Plan Update.

Petaluma Vehicle Miles Traveled Implementation Guidelines

In July 2021, the City of Petaluma adopted the Senate Bill 743 Vehicle Miles Traveled Implementation Guidelines, which established methods for calculating VMT, VMT thresholds,

screening criteria, and mitigation options.[10] The guidelines recommend use of the SCTA VMT model for VMT analyses, and offer screening opportunities for projects that attract fewer than 110 vehicle trips per day, are located in low-VMT areas, are located within 0.5-mile of an existing major transit stop, or include 100 percent affordable housing. For residential projects, such as the proposed project, a project would result in a significant impact and require mitigation if project total home-based VMT per resident exceeds 16.8 percent below the citywide average.

Consideration by the Association of Bay Area Governments (ABAG) has also been given to developing screening criteria for infill projects. For example, a memorandum was prepared for ABAG by Fehr and Peers to address common challenges heard during the Metropolitan Transportation Commission's (MTC) VMT Policy Adoption Technical Assistance (SB 743) program by helping lead agencies with limited high-quality transit service or low-VMT areas determine an appropriate VMT analysis approach for infill housing sites. For the memo, the minimum density threshold of 15 dwelling units per acre is used when referring to qualifying infill housing; although, lead agencies have the authority to determine a locally appropriate definition of infill housing, including the threshold for the proximity to amenities and services and the density levels that would qualify.[11]

Sonoma County Transportation Authority

The SCTA is the Congestion Management Agency for Sonoma County. SCTA produces long range documents and assists local jurisdictions in local specific plans, including Priority Development Area plans for transit-oriented and walkable communities. SCTA also maintains a Countywide Bicycle and Pedestrian Master Plan. In addition, the SCTA developed and maintains the countywide travel model used to estimate future year traffic volumes and calculate VMT in a manner consistent with SB 743 throughout the County.

Plan Bay Area 2050

The Plan Bay Area 2050 is the 30-year Bay Area regional growth plan adopted by the Metropolitan Transportation Commission (MTC) and ABAG. The plan includes a total of 35 strategies targeting improved housing, transportation, and equity. The Plan Bay Area 2050 serves as the Bay Area's Regional Transportation Plan (RTP), as required by federal regulations, and the Sustainable Communities Strategy (SCS), as required by State statute.

4.4.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology utilized to analyze and determine the proposed project's potential impacts related to transportation and circulation.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the proposed project would be considered to result in a significant adverse impact on the environment in relation to transportation and circulation if the project would result in any of the following:

- 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, subdivision (b);

[10] City of Petaluma. *Senate Bill 743 Vehicle Miles Traveled Implementation Guidelines*. July 2021.
[11] Fehr and Peers. *SB 743 Policy Adoption Technical Assistance Program: Establishing an Infill and Affordable Housing Screen*.

- Substantially increase hazards to vehicle safety 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.

Vehicle Miles Traveled Standard of Significance

As noted above, per the City of Petaluma's Vehicle Miles Traveled Implementation Guidelines, a residential project would result in a significant impact and require mitigation if project total home-based VMT per resident exceeds 16.8 percent below the citywide average. The current citywide home-based VMT per capita, as reported by the SCTM19 travel demand model, is 17.8 for the City of Petaluma, which translates to a significance threshold of 14.8 VMT per capita.

Method of Analysis

The analysis methodology provided in the Focused Traffic Study (see Appendix G of this EIR) prepared for the proposed project by W-Trans is discussed below.

Project Trip Generation

The trip generation for the proposed project was calculated using trip generation rates published in the 11th Edition Trip Generation Manual prepared by the Institute of Transportation Engineers. The applicable land use for the proposed single-family units and the residence to be demolished is category 210 (Single Family Detached Housing), and the applicable rate for the proposed townhome units is category 215 (Single Family Dwellings [Attached]). Application of the foregoing trip generation rates yields a net total of 494 daily trips with 36 trips expected in the AM peak hour and 46 trips generated during the PM peak hour. Table 4.4-1 identifies the trip generation for the proposed project.

Table 4.4-1
Project Trip Generation

Land Use	Units	Trip Generation									
		Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Single Family (Detached)	35	9.43	330	0.70	25	6	19	0.94	33	21	12
Single Family (Attached)	24	7.20	173	0.48	12	3	9	0.57	14	8	6
Homes to be Demolished	-1	9.43	-9	0.70	-1	0	-1	0.94	-1	-1	0
Total		**--**	**494**	**--**	**36**	**9**	**27**	**--**	**46**	**28**	**18**

Source: W-Trans, 2022.

Project Vehicle Miles Traveled

As part of the Focused Traffic Study, W-Trans estimated per capita VMT associated with the proposed project using the SCTA's SCTM19 travel demand model. The model divides the County into over 800 TAZs and incorporates land use, demographic, socioeconomic, and transportation network data to estimate travel across different areas inside and outside of Sonoma County.[12]

[12] Sonoma County Transportation Authority. *Sonoma County Travel Model Update Validation Report*. December 2019.

The project site is located within TAZ 341 of the SCTM19 model, which has a baseline VMT per capita of 19.0 miles. In order to meet the applicable threshold of significance of 14.8 VMT per capita, a 22.0 percent reduction in VMT per capita would be required. To determine project-specific VMT, W-Trans applied adjustments to account for the project density, provision of on-site inclusionary housing, and improvements to pedestrian circulation through implementation of the bridge connection. When considering the "raw" percent reduction in VMT associated with each of the aforementioned adjustments separately based on the California Air Pollution Control Officers Association (CAPCOA) guidance and adding those raw percentages together, the proposed project would result in a total percent reduction in VMT per capita of 16.1. The raw percent reduction associated with each project feature adjustment is detailed below. However, according to methodology within the CAPCOA guidance, the total percent reduction was reduced to 15.7 percent to reflect the diminishing effects of multiple VMT reduction measures, which correlates to a VMT per capita of 16.0.

Density Adjustment

The project's VMT per capita was first adjusted to account for residential density using methodology contained in the CAPCOA's Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (Handbook). For the purposes of this methodology, the density of the project site is calculated by dividing the proposed 59 units by the 4.07-acre developable site size, which excludes streets, open space, and undevelopable land. The resulting 14.5 units per acre density was determined to correspond to a 13.1 percent reduction in per capita VMT.

Inclusionary Housing Adjustment

The VMT generated per resident at a residential development is also influenced by the quantity of on-site inclusionary housing. The methodology included in the CAPCOA Handbook was used to determine the VMT reductions associated with provision of on-site affordable housing. The proposed project would include five low-income units, which was determined to result in a 2.4 percent reduction in the project's per-capita VMT.

Adobe Creek Pedestrian-Bicycle Bridge Adjustment

Improving pedestrian connectivity both on- and off-site has been shown to reduce the amount of VMT generated per person. The proposed project would include construction of a new pedestrian/bicycle bridge over the Creek, connecting to the Creek path on the south side of the Creek. A pathway connection would also be constructed between the project's public street and the new bridge. Based on the methodology included in the CAPCOA Handbook, the reduction to the project's per capita VMT that would be attributable to the proposed Creek bridge is 0.6 percent.

Project-Specific Impacts and Mitigation Measures

The proposed project impacts on the transportation system are evaluated in this section based on the thresholds of significance and methodology described above. Each impact is followed by recommended mitigation to reduce the identified impacts, if needed. In the case of traffic operations, specifically intersection and roadway level of service, such an analysis is not required pursuant to CEQA Guidelines Section 15064.3(a) because congestion and intersection operations no longer constitute a transportation impact under CEQA.

4.4-1 Conflict with a program, plan, ordinance, or policy, except LOS, addressing the circulation system during construction activities. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction activities associated with the proposed project would require use of construction equipment, including bulldozers and other heavy machinery, as well as building materials delivery, and construction worker commutes. The transport of heavy construction equipment to the site, haul truck trips, and construction worker commutes could affect the local roadway network. Additionally, Casa Grande High School is located adjacent to the project site, across Casa Grande Road. Substantial motor vehicle, pedestrian, bicycle, and school bus traffic is expected in the project vicinity during school start and end times. The addition of construction equipment and heavy truck traffic in an area with concentrated pedestrian and bicycle traffic could result in safety concerns.

Any truck traffic to the site would follow designated truck routes, and project construction would likely stage any large vehicles (i.e., earth-moving equipment, cranes, etc.) on the site prior to beginning site work and remove such vehicles at project completion. Deliveries of building material (lumber, concrete, asphalt, etc.) would also normally occur outside of the traditional business commute time periods. However, the proposed project is anticipated to require approximately 19 months to complete construction activities, and detailed information related to the construction schedule during site development or a construction management plan is not currently available. In addition, given the allowable construction hours established for the purposes of noise control (Petaluma IZO Section 21.040), construction workers could arrive during the morning peak hour and leave during the evening peak hours of the traditional business commute time periods. Furthermore, while the City does not have a plan, policy, or ordinance related to traffic during school arrival/departure hours, departing construction traffic has the potential to occur within similar time periods when students are leaving Casa Grande High School. As a result, construction activities could include disruptions to the transportation network near the project site, including related to school traffic.

Without proper planning of construction activities, construction traffic could interfere with existing roadway operations during the construction phase, which could result in a risk to public safety. Therefore, project traffic related to construction activities could result in a ***significant*** impact. In order to address the potentially significant impact, Mitigation Measure 4.4-1 shall be required, which necessitates preparation and implementation of a construction management plan to control for traffic during project construction. With implementation of Mitigation Measure 4.4-1, the potential impact would be reduced to a less-than-significant level.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

4.4-1 Prior to issuance of grading and building permits, a construction management plan shall be prepared by the applicant for review and approval by the City of Petaluma Public Works and Utilities Department. The plan shall include, but not necessarily be limited to, the following items:

a. Comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, including school peak times, detour signs if required, lane closure procedures if required, sidewalk closure procedures if required, cones for drivers, and designated construction access routes.
b. Evaluation of the need to provide flaggers or temporary traffic control at key intersections along the truck route(s).
c. Notification procedures for adjacent property owners, Casa Grande High School, and public safety personnel regarding schedules when major deliveries, detours, and lane closures would occur.
d. Location of construction staging areas for materials, equipment, and vehicles if there is insufficient staging area within the work zone of the proposed project.
e. Identification of truck routes for movement of construction vehicles that would minimize impacts on vehicular and pedestrian traffic, circulation and safety; provision for monitoring surface streets used for truck movement so that any damage and debris attributable to the proposed project's construction trucks can be identified and corrected by the proposed project applicant.
f. A process for responding to and tracking complaints pertaining to construction activity, including identification of an on-site complaint manager.
g. Documentation of road pavement conditions for all routes that would be used by construction vehicles both before and after proposed project construction. Roads found to have been damaged by construction vehicles shall be repaired to the level at which they existed prior to construction of the proposed project.

4.4-2 Conflict with a program, plan, ordinance, or policy, except LOS, addressing the circulation system, including transit, roadway bicycle, and pedestrian facilities, during operations. Based on the analysis below, the impact is *less than significant*.

The following discussion evaluates whether the proposed project would result in impacts to existing or planned pedestrian facilities, bicycle facilities, or transit facilities and services within the project area.

Pedestrian and Bicycle System

The proposed project would introduce pedestrians and bicyclists who elect to walk between the project site and nearby destinations, including Casa Grande High School. As presented in Table 1 of the Petaluma BPMP, 3.5 percent of commuters in the City either bicycle or walk to work (0.9 percent bicycle and 2.6 percent walk).[13] If four percent of the project's daily trips are conservatively assumed to be made on foot or bicycle, then approximately 20 additional daily pedestrians/cyclists might be added to the area circulation system.

Continuous sidewalks currently exist along both sides of Casa Grande Road fronting the project. In addition, as presented in Figure 4.4-2, a Class II bike lane currently exists along Casa Grande Road, and a planned Class I bike lane extends along the Creek. As part of the proposed project, four-foot-wide sidewalks would be provided along private portions of the internal roadway. The portion of the street that fronts the Remainder area would not include a sidewalk. Additionally, five-foot-wide sidewalks would be constructed within the project site, along a dedicated public pedestrian easement, to connect the public sidewalk along Casa Grande Road to the proposed off-site public multi-use pathway and bridge connection over the Creek (see Figure 3-4 in the Project Description chapter of this EIR). The multi-use pathway would be 10 feet in width and installed along the project site's eastern boundary, west of the Creek, with a connection east of the Creek tying into the existing/planned multi-use pathway as identified in the City's Bike and Pedestrian Master Plan. The pedestrian bridge would connect the proposed multi-use pathway along the west side of the Creek to the existing/planned path along Spyglass Road on the east side of the Creek. The bridge would be 90 feet in length, eight feet in width, and composed of steel framing, as well as wood decking for the walking surface. Safety rails standing a minimum of 4.5 feet in height would line each side of the bridge. Based on the above, the proposed project would include several pedestrian and bicycle improvements that would facilitate multi-modal travel in the project vicinity. Additionally, implementation of the project would not inhibit construction of any of the planned improvements identified in Figure 4.4-2.

The project could also result in school-age residents who may wish to walk or bike to Casa Grande High School. As part of the Casa Grande Subdivision to the south, a new pedestrian crossing has been installed on Casa Grande Road, near Casa Grande High School, with a raised median providing a pedestrian refuge and rapid rectangular flashing beacon warning lights, in addition to radar speed feedback signs. The crossing is immediately west of the Casa Grande High School campus and the project site. The foregoing improvement was recommended as part of the Safe Routes to School program engineering evaluation completed for the campus and, accordingly, would provide safe pedestrian/cyclist access between the project site and high school and between the project site and existing transit stops. Additionally, the proposed project would include mounting hardware for a minimum of two bicycles in the garages of each proposed unit, which would satisfy the City's requirement for on-site bicycle parking.

Overall, the proposed project would not physically disrupt an existing pedestrian or bicycle facility nor interfere with the implementation of a planned pedestrian or bicycle facility. Therefore, impacts from the project due to a conflict with pedestrian and bicycle facilities would be less than significant.

[13] City of Petaluma. *City of Petaluma Bicycle and Pedestrian Plan* [pg. 25]. May 2008.

Transit System

Petaluma Transit currently provides transit service in the project area, as presented in Figure 4.4-3, and would be available to serve residents of the proposed project. The nearest transit stop to the project site serves both Routes 311 and 312, and is located on the north side of Casa Grande Road, approximately 350 feet from the project site boundary.

The Casa Grande Subdivision has recently completed bus stop improvements, including a new transit shelter, at the existing bus stop on Casa Grande Road, which further supports the transit facilities accessible to the proposed project. According to W-Trans, the existing transit service is acceptable to accommodate project-generated transit trips. Overall, the proposed project would not adversely affect transit service and facilities and impacts would be less than significant.

Conclusion

Based on the above, the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation (i.e., bus turnouts, bicycle lanes, bicycle racks, public transit, pedestrian facilities, etc.). Thus, the project would result in a ***less-than-significant*** impact to pedestrian, bicycle, and transit facilities.

Mitigation Measure(s)

None required.

4.4-3 Result in VMT which exceeds an applicable threshold of significance, except as provided in CEQA Guidelines Section 15064.3, subdivision (b). Based on the analysis below, the impact is *significant and unavoidable*.

Table 4.4-2 summarizes the results of the VMT analysis prepared for the proposed project. The methodology used to determine the project-specific VMT, including the VMT reductions associated with project density and the provision of inclusionary housing and the bridge connection over the Creek, are discussed in detail in the Method of Analysis section of this chapter.

As discussed previously, residential projects that generate VMT per capita at 16.8 percent less than the Citywide average VMT may be considered to have a less-than-significant VMT impact. Therefore, the VMT threshold applied to the proposed project is 16.8 percent less than 17.8, or 14.8 VMT per capita.

Table 4.4-2
Citywide VMT Analysis Summary

VMT Metric	Baseline VMT	Threshold of Significance	Project VMT	Significant?
Residential VMT per Capita	17.8	14.8	16.0	**YES**

Source: W-Trans, 2022.

As shown in the table, according to the Focused Traffic Study prepared for the proposed project, the VMT per capita for the proposed project would be 16.0, which is based on the 15.7 percent reduction in VMT per capita afforded to the project because of the project's density, inclusion of affordable housing, and pedestrian circulation improvements (as adjusted through CAPCOA guidance). However, the project's 16.0 VMT per capita exceeds the applicable threshold of significance of 14.8 VMT per capita.

It should be noted that upon completion, the proposed bridge connection over the Creek and path connections provided by the proposed project would establish a new connection between Casa Grande High School and the neighborhoods to the southeast, substantially shortening the walking and biking distances to the high school for many students. The connection would also make use of the enhanced pedestrian crossing on Casa Grande Road, which was recently completed as part of the Casa Grande Subdivision. In addition to improving non-auto access to the high school, the new bridge and pathways would improve non-auto linkages among neighborhoods. As a result, the project's effective VMT per capita would be slightly reduced to 15.8 through the areawide VMT benefits associated with the proposed project's construction of the bridge connection over the Creek, which would be directly credited to the project.

However, given that the per-capita VMT associated with the proposed project would not achieve the applicable VMT reduction goal, the proposed project could conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and a ***significant*** impact could occur.

Notwithstanding the above conclusion, it is important to note that ABAG/MTC has prepared a technical assistance memo related to VMT, and among its recommendations is establishing an Infill Housing Screen, whereby qualifying projects having at least 15 dwelling units per acre, could be considered to have a less-than-significant VMT impact due to its environmental benefits. On this point, OPR's Technical Advisory cites the court case Covina Residents for Responsible Development v. City of Covina:[14]

> "As one appellate court recently explained: "During the last 10 years, the Legislature has charted a course of long-term sustainability based on denser infill development, reduced reliance on individual vehicles and improved mass transit, all with the goal of reducing greenhouse gas emissions. Section 21099 is part of that strategy . . . ." (*Covina Residents for Responsible Development v. City of Covina* (2018) 21 Cal.App.5th 712, 729.)"

While the City of Petaluma has not adopted such a screening criterion, and the project density (14.5 du/ac) is slightly below the recommended minimum (15 du/ac), it is reasonable to infer that development of 59 dwelling units on the Creekwood infill site would result in environmental benefits as compared to developing these units in another, non-infill location in the City.

[14] Association of Bay Area Governments, Metropolitan Transportation Commission. *SB 743 Policy Adoption Technical Assistance Program, Establishing an Infill and Affordable Housing Screen*. April 2024.

Mitigation Measure(s)

The CAPCOA Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA 2021) presents the latest state guidance for quantifying VMT reductions. The proposed project would need to reduce project-generated VMT by approximately 6.8 percent under existing-plus-project conditions to reduce the project's VMT impact to a less-than-significant level.

As described previously, the proposed project already implements several CAPCOA strategies through its design. These include Density (T-1), Inclusionary Housing (T-4), and Pedestrian Network Improvements (T-18). Additional CAPCOA strategies were considered given that they are appropriate for residential land use, but were determined to be infeasible or provide minimal benefit in terms of VMT reduction.[15] These strategies are as follows:

- T-25 Increase Transit Service Frequency
- T-22-B Implement Electric Bikeshare Program;
- T-9 Implement Subsidized or Discounted Transit Program; and
- T-46 Improve Transit Access, Safety, and Comfort.

While additional feasible strategies (beyond the proposed density and multi-use bridge connection) for reducing project-generated VMT do not exist, the proposed density and bridge connection are proven, effective measures at reducing VMT for people living, working, and visiting areas of Petaluma with higher density and mixes of uses within a convenient walk, bike, or transit trip, due to the location and characteristics of the proposed project and project site. Therefore, the proposed project could help the City and State meet GHG goals by contributing to measures consistent with VMT-reduction strategies elsewhere in the City. VMT-reduction concepts can also include VMT impact fees, a VMT mitigation exchange, and a VMT mitigation bank. As part of the City of Petaluma's General Plan Update, the City is developing a mitigation program that would address the transportation system impacts of discretionary projects, including those for which feasible mitigation measure for VMT impacts is not available.

Due to the relatively recent shift in CEQA Guidelines to evaluating transportation impacts through VMT, the above-listed VMT-reduction concepts (e.g., VMT mitigation exchange, mitigation bank) require further consideration to resolve uncertainties and/or fill in information gaps, such as outside agency approval requirements, the timing necessary to implement such measures, the lack of design or plans in place, and the lack of a citywide administration plan to oversee the collection of VMT fees and the implementation and monitoring of VMT reductions. Therefore, the potential impact would remain *significant and unavoidable*.

[15] As an example, TDM measure T-25 (Increase Transit Service Frequency) would require providing funding for expanding transit service frequency along Casa Grande Road. Route 33 along Casa Grande Road currently operates seven days a week with one-hour headways from 7:00 AM to 8:00 PM on weekdays, 8:00 AM to 8:00 PM on Saturdays, and 9:00 AM to 5:00 PM on Sundays. However, the City of Petaluma does not have plans to increase transit frequency to the project site.

4.4-4 Substantially increase hazards to vehicle safety 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. Based on the analysis below, the impact is *less than significant*.

The proposed project would not include any new sharp curves or dangerous intersections and would not be located in the vicinity of any such roadway features. In addition, the design of the on-site driveway loop would not involve any features that would increase traffic hazards at the site. The internal roadway and any frontage improvements would be designed consistent with applicable City standards, including those set forth in Title 11, Vehicle and Traffic, of the Municipal Code, which will be confirmed during improvement plan review. Furthermore, the proposed project would not introduce incompatible uses, such as farm equipment or heavy-duty truck traffic, to area roadways during operations. Potential impacts related to project construction traffic are discussed under Impact 4.4-1, above.

As part of the Focused Traffic Study prepared for the project, sight distances along Casa Grande Road from the proposed driveways were evaluated based on the sight distance criteria established in the Caltrans' Highway Design Manual, 6th Edition. Based on a design speed of 35 mph along Casa Grande Road, the minimum stopping sight distance required is 250 feet. Field measurements indicate that sight distance along Casa Grande Road is adequate in both directions, with over 300 feet to the north and approximately 500 feet to the south. It is noted that vegetation in the center median along Casa Grande Road directly north of the proposed driveway slightly hinders sight lines. However, the landscaping does not completely block vision of oncoming traffic and drivers can see between each shrub as they travel toward the proposed roadway. In addition, a 488-square-foot portion of the property, designated as Parcel A on the Vesting Tentative Parcel Map, along the Casa Grande Road frontage, would be dedicated to the City of Petaluma for street right-of-way, which could accommodate future roadway improvements. Overall, sight distance based on the posted speed limit is adequate in both directions at the driveway locations on Casa Grande Road, and a hazard to vehicle safety would not occur.

Several factors determine whether a project has sufficient access for emergency vehicles, including the following:

1. Number of access points (both public and emergency access only);
2. Width of access points; and
3. Width of internal roadways.

The project site would have two primary vehicle access points from Casa Grande Road, and the driveways would be at least 20 feet wide. The foregoing roadway widths would be able to adequately accommodate emergency vehicles. Because the proposed project would have two access points, and both access points and the internal roadway would be sufficient width to accommodate emergency vehicles, the proposed project would not result in inadequate emergency access.

Conclusion

Based on the above, the proposed project would not substantially increase hazards to vehicle safety 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, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

For further detail related to the cumulative setting of the proposed project, refer to Chapter 5, Statutorily Required Sections, of this EIR.

It should be noted that increased traffic volumes on local roadway facilities under cumulative conditions would not substantially alter performance related to bicycle facilities, pedestrian facilities, transit facilities and services, and emergency vehicle access. Rather, impacts to such facilities under Cumulative Plus Project conditions would be similar to those discussed above under Impacts 4.4-2, 4.4-4, and 4.4-5. In addition, construction activities associated with the project would be complete prior to the cumulative analysis year. Therefore, such topics are not discussed further in the cumulative analysis presented herein.

Similarly, the VMT impact analysis included under Impact 4.4-3 would also apply to Cumulative Plus Project conditions. The VMT significance threshold compares project-generated VMT per resident to that of existing local and regional development. The VMT comparison is useful because the comparison provides information regarding how the project aligns with long-term environmental goals related to VMT established based on existing development levels. Use of VMT significance thresholds based on existing development levels is recommended in OPR's Technical Advisory. The Technical Advisory indicates that VMT efficiency metrics, such as VMT per resident, may not be appropriate for CEQA cumulative analysis because they employ a denominator. Instead, the Technical Advisory recommends that an impact finding from an efficiency-based project-specific VMT analysis (i.e., Existing Plus Project conditions) would imply an identical impact finding for a cumulative VMT analysis.[16] An example provided by OPR explains that a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Furthermore, as noted in the City's VMT Implementation Guidelines, a cumulative scenario VMT analysis is not required for all projects, but may be required at the City's discretion.[17] In the case of the proposed project, the City has determined that a separate cumulative analysis of VMT is not required in this section as the conclusion would remain identical to that presented under Impact 4.4-3. Therefore, the proposed project would result in a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

[16] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA* [pg. 6]. December 2018.
[17] City of Petaluma. *Senate Bill 743 Vehicle Miles Traveled Implementation Guidelines* [pg. 5]. July 2021.