

Appendix TRA

Transportation Analysis

Plan Orinda -CEQA Transportation Analysis

Prepared for:
City of Orinda

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WC20-3712

FEHR  PEERS

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1. Introduction

This chapter includes a description of the physical and regulatory transportation setting for Plan Orinda and a description of transportation impacts with respect to all modes of travel: vehicular, bicycle, pedestrian, and transit.

Plan Orinda includes the Downtown Precise Plan (DPP) sites and the Housing Element (HE) sites. The DPP will assist decision-makers with information needed to make informed choices affecting the long-range social, economic, and physical growth of Orinda's downtown. The Housing Element sites were identified for the Regional Housing Needs Assessment (RHNA) allocation mandated by the State of California to meet housing needs for people at all income levels. The HE sites are outside the DPP area. The environmental analysis includes three alternatives. Alternative 1 analyzes the "No Project" alternative. Alternative 2 analyzes one of the identified housing sites on Moraga Way (HE-4) along with two parking lots owned by Caltrans adjacent to the Orinda Bay Area Rapid Transit (BART) station. This alternative would include all the DPP sites identified for future housing. Alternative 3 analyzes all the identified Housing Element Sites (HE-1 through HE-5) along with two parking lots adjacent to the Orinda BART station.

The Notice of Preparation (NOP) for the EIR was circulated on January 4, 2022 and amended on January 25, 2022 to extend the scoping comment period to February 24, 2022 for a total of 51 days. A scoping meeting was held on January 20, 2022. The California Department of Transportation (Caltrans) submitted a comment letter that identified items it requested to be addressed in the Transportation Impact Study prepared for the proposed project, including analysis consistent with California Government Code Section 65088-65089.10 Congestion Management and consistent with Contra Costa Transportation Authority's Congestion Management Plan (CMP). This analysis is being conducted separate from the CEQA document, as congestion is no longer a CEQA impact criteria (refer to section 1.3.1 for more information.) The Caltrans letter also encourages a sufficient allocation of fair share contributions toward multimodal and regional transit improvements to fully mitigate cumulative impacts to regional transportation and increase sustainable mode shares throughout the City.

1.1 Environmental Setting

1.1.1 Roadway Network

The roadway network serving Plan Orinda planning areas is shown in **Figure 1.1-1**. Key roadways are described below.

1.1.1.1 State Highways

State Route 24 (SR 24) is an east-west California Scenic Highway that serves the eastern San Francisco Bay Area. This freeway connects the Interstate 580/Interstate 980 interchange in Oakland to the Interstate



680 junction in Walnut Creek, crossing under the Berkeley Hills via the Caldecott Tunnel. SR 24 is a major transportation facility linking the project area to the broader East Bay region.

1.1.1.2 Arterials, Collectors, and Local Roadways

As described in the City of Orinda's General Plan Land Use and Circulation Chapter, arterials are major streets carrying the traffic of local and collector streets to and from freeways and other major streets with controlled intersections, and generally providing direct access to properties. Collectors are streets for traffic moving between arterial and local streets, generally providing direct access to properties. Local streets provide direct access to properties and are often designed to discourage through traffic. Key arterials and collectors in the City, as described in the *City of Orinda General Plan* (May 20, 1987) are described below. Public roadways in Orinda not included below are designated as local roads.

1.1.1.2.1 North-South Roadways

- **Camino Pablo** is a two- to four-lane principal arterial extending southeast across Orinda from Bear Creek Road to just south of the SR 24 interchange. At its northwestern end, the roadway continues as San Pablo Dam Road and to the southeastern end it continues as Moraga Way. The roadway connects Orinda to adjacent communities east of the Berkeley-Oakland hills and provides access from small residential communities and public open space within the East Bay Regional Park District to Downtown Orinda and SR 24.
- **Moraga Way** is a two- to four-lane principal arterial extending southeast from SR 24 to the Orinda border at the intersection with Ivy Drive. As noted above, the roadway's northwestern end connects to Camino Pablo. The roadway connects Orinda to the Town of Moraga and provides access from small residential communities and public open space within the East Bay Regional Park District to Downtown Orinda and SR 24.
- **Orinda Way** is a two-lane minor arterial extending southeast from Camino Pablo to Santa Maria Way where it becomes a local road extending 200 feet to its terminus northwest of the SR 24 on-ramp. The roadway connects adjacent residential areas and traffic from Camino Pablo to Downtown Orinda and local amenities including Orinda Community Park and Orinda Library.
- **California Shakespeare Theater Way/Wilder Road** is an unmarked two-lane local road extending southeast from the California Shakespeare Theater Bruns Amphitheater across the SR 24 interchange where it becomes Wilder Road and continues southeast to its terminus at the edge of the Wilder development. This roadway connects the California Shakespeare Theater and Wilder housing development to SR 24.
- **Rheem Boulevard** is a two-lane minor arterial that extends from Glorietta Boulevard to the Orinda city limits in the south. This roadway connects the city of Orinda with the town of Moraga.
- **St. Stephens Drive** is a two-lane minor arterial extending from Hidden Valley Road to Via Las Cruces. This roadway connects residential neighborhoods in northeast Orinda to SR 24.
- **Honey Hill Road** is a two-lane collector extending from Miner Road in the north to Charles Hill Road in the south. The roadway provides a connection between northern residential areas and SR 24 via El Nido Ranch Road and St. Stephens Drive.



- **Ivy Drive** is a two-lane collector and School Route that connects the residential neighborhood surrounding Orinda Intermediate School to the principal arterial, Moraga Way.
- **Valley View Drive** serves as a two-lane collector extending from Don Gabriel in the south to Moraga Way in the north. Valley View Drive serves as a connection for the surrounding residential areas.
- **Hall Drive** is a two-lane collector connecting the Alice neighborhood from Moraga Way to Donald Drive.

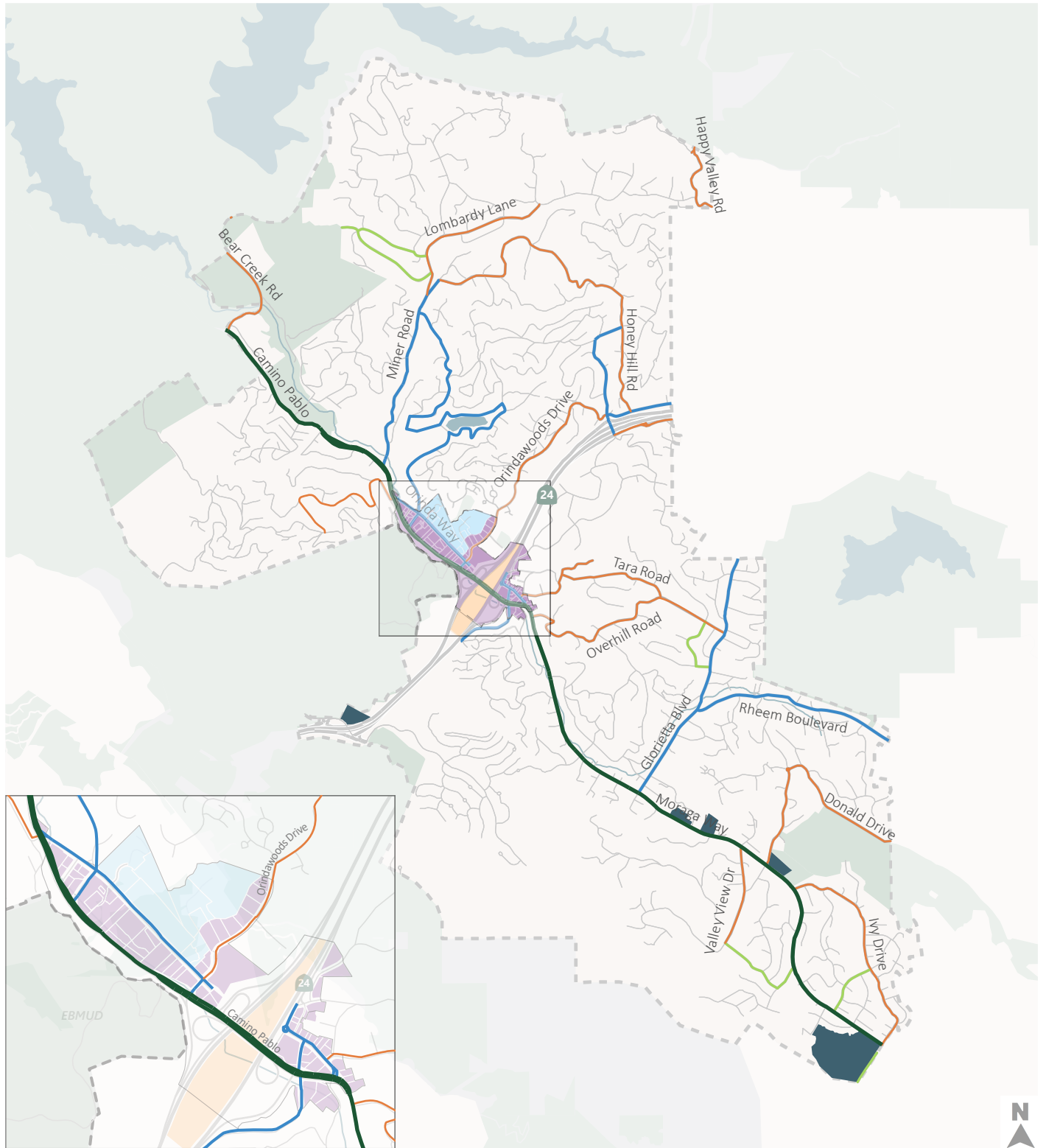
1.1.1.2.2 East-West Roadways

- **Bear Creek Road** is a two-lane collector extending from San Pablo Dam Road/Camino Pablo northeast along Orinda's northern city limit. The road connects Wildcat Canyon Road, the East Bay Regional Park District, and San Pablo Dam Road/Camino Pablo to Briones Regional Park and rural communities in northeastern Orinda.
- **Miner Road** is a two-lane minor arterial extending northeast from Camino Pablo to Lombardy Lane. This roadway connects residential neighborhoods in northern Orinda to the Sleepy Hollow neighborhood and Orinda Country Club.
- **El Toyonal** is a two-lane collector extending from Vista del Orinda in the west to Camino Pablo in the east. This roadway serves as a connection between a principal arterial, Camino Pablo, and the City of Berkeley to the west.
- **Camino Sobrante** is two-lane minor arterial between Camino Pablo and El Ribero. This roadway is a key connection between downtown and residential neighborhoods.
- **Santa Maria Way** is a two to four-lane minor arterial between Camino Pablo and Orinda Way. Santa Maria way is considered a collector between Orinda Way and Altarinda Drive. This roadway serves the Downtown Precise Plan area and connects the downtown area to residential neighborhoods north of SR 24.
- **Altarinda Drive** is a two-lane collector extending from Orinda Woods Drive in the west to El Nido Ranch Road in the east. This roadway serves as a connection between Downtown Orinda, residential neighborhoods, and SR 24 via St. Stephens Drive.
- **Orinda Woods Drive** is a two-lane collector extending from Altarinda Road in the west to East Altarinda Drive in the east. This roadway serves as a connection with residential areas north of SR 24 and Downtown Orinda.
- **Via Las Cruces** is a two-lane minor arterial between St. Stephens Drive and Honey Hill Road. This roadway serves as a connection to SR 24 via St. Stephens Drive and residential neighborhoods.
- **El Nido Rach Road** is a two-lane minor arterial between East Altarinda Drive to the city limit in the east. This roadway parallels SR 24 and is a connection to the city of Lafayette to the east.
- **Brookwood Road** is a two-lane minor arterial paralleling the south side of SR 24, from Spring Road in the west to Moraga Way. This roadway connects the local Knickerbocker residential neighborhood to Downtown Orinda and SR 24.



- **Bryant Way** is a two-lane minor arterial extending from Moraga Way, northeast to Davis Road. This roadway connects downtown commercial land uses to the SR 24 eastbound on-ramp and roads leading to east Orinda residential neighborhoods.
- **Southwood Drive** is a two-lane collector providing connection between Downtown Orinda and the residential neighborhoods in east Orinda. This roadway extends from Moraga Way in the west to Tara Road in the east.
- **Overhill Road** is a two-lane collector extending from Moraga Way in the west to Glorietta Boulevard in the east. This roadway connects Downtown Orinda to the residential neighborhoods of Monterey Terrace and Northwood-Tara.
- **Glorietta Boulevard** is a two-lane minor arterial extending from Moraga Way to the city limit in the east. Glorietta Boulevard serves as a connection to a principal arterial, residential areas, and the city of Lafayette to the east.





Source: City of Orinda General Plan, 1987

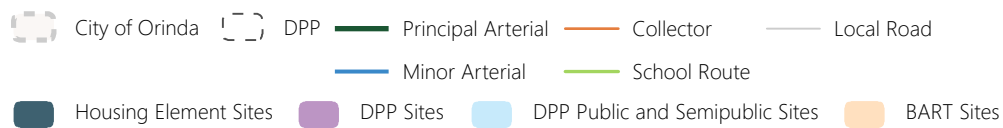


Figure 1.1-1

Roadway Network

1.1.2 Bicycle and Pedestrian Facilities

1.1.2.1 Bicycle Facilities

Bicycle planning and design typically relies on guidelines and design standards established by the California Department of Transportation (Caltrans) in the *Highway Design Manual* (Chapter 1000: Bikeway Planning and Design). The *Highway Design Manual* provides four distinct types of bikeway facilities, as described below.

Class I Bikeways (Shared-Use Paths) provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians, with vehicle and pedestrian crossflow minimized. In general, bike paths serve corridors where on-street facilities are not feasible or where sufficient right-of-way exists to allow them to be constructed.

Class II Bikeways (Bicycle Lanes) are dedicated lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are typically at least five feet wide. Adjacent vehicle parking and vehicle/pedestrian crossflow are permitted. Class II buffered bike lanes provide greater separation from an adjacent traffic lane and/or between the bike lane and on-street parking. This separation is created with chevron or diagonal striping.

Class III Bikeways (Bicycle Routes) are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bike right-of-way or lane striping. Bike routes serve either to a) provide a connection to other bicycle facilities where dedicated facilities are infeasible, or b) designate preferred routes through high-demand corridors.

Class IV Bikeways (cycle tracks or "separated" bikeways) provide a right-of-way designated exclusively for bicycle travel within a roadway and are protected from other vehicle traffic by physical barriers including, but not limited to, grade separation, flexible posts, inflexible vertical barriers such as raised curbs, or parked cars.

Existing bicycle facilities are shown on **Figure 1.1-2**, based on the *City of Orinda Bicycle, Trails and Walkways Master Plan* (2011).

1.1.2.2 City of Orinda Existing Bicycle Facilities

- **Lamorinda Trail Loop:** The Loop consists of on-street and off-street facilities that connect the cities of Lafayette, Moraga, and Orinda and includes the Lafayette-Moraga Regional Trail Segment in Lafayette and Moraga, and the St. Stephen's Trail in Orinda.
- **St. Stephen's Trail:** St. Stephen's Trail is a one-mile paved bicycle and pedestrian facility that runs parallel to SR 24 from downtown Orinda to the St. Stephen's Driver overcrossing. This trail provides BART access for residents in the eastern part of the City.
- **Camino Pablo Trail:** The Camino Pablo Trail runs along the east side of Camino Pablo for approximately one mile.



- **Orinda Oaks Trails:** Orinda Oaks Park contains several unpaved trails open to hikers and equestrians. These trails include the Descanso Trail, the main trail, and nature trails. Donald Drive provides access to the park and is closed to all automobile traffic, with the exception of residential traffic.
- **De Laveaga Trail:** This unpaved trail is located on East Bay Municipal Utilities District land and connects downtown Orinda to the Skyline Trail. This trail is not under Orinda's jurisdiction, but provides access to regional trails that run throughout the East Bay hills.
- **Glorietta Boulevard Trail:** The City has striped a wide shoulder on the east side of Glorietta Boulevard for pedestrian and bicycle use. The trail provides access to Moraga Way and Glorietta Elementary school.

The *Bicycle, Trails and Walkways Master Plan* identifies the following recommended bicycle facility improvements within or adjacent to the DPP sites and the Housing Element sites.

1.1.2.2.1 City of Orinda Bicycle Trails and Walkways Master Plan Projects:

- **Camino Pablo Bikeway Improvements:** Restripe northbound bike lane between Orinda Way and Miner Road, providing bike pockets at intersections and widening bike lane to five feet where possible.
- **Camino Pablo / BART Undercrossing (Orinda Gateway Improvements):** Stripe Class II bike lanes on Camino Pablo from Brookwood Road to Santa Maria Way addressing SR 24 on- and off-ramp conflict zones.
- **Ivy Drive Bicycle Route:** Signed bicycle route with sharrows (shared use pavement arrows) on Ivy Drive from Miramonte HS to Moraga Way and the entire length east of Moraga Way. Consider speed feedback signs on both directions of Ivy Drive between Coral and Arroyo Drives. Conduct targeted speed enforcement to determine most effective sign installation location. Any improvements should consider existing signage and reducing sign clutter on Ivy Drive.

ConnectOrinda is a long-range plan with some of its main objectives being to connect the two sides of downtown for all users and supporting future pedestrian access along San Pablo Creek. Recommended near-term projects are included below.

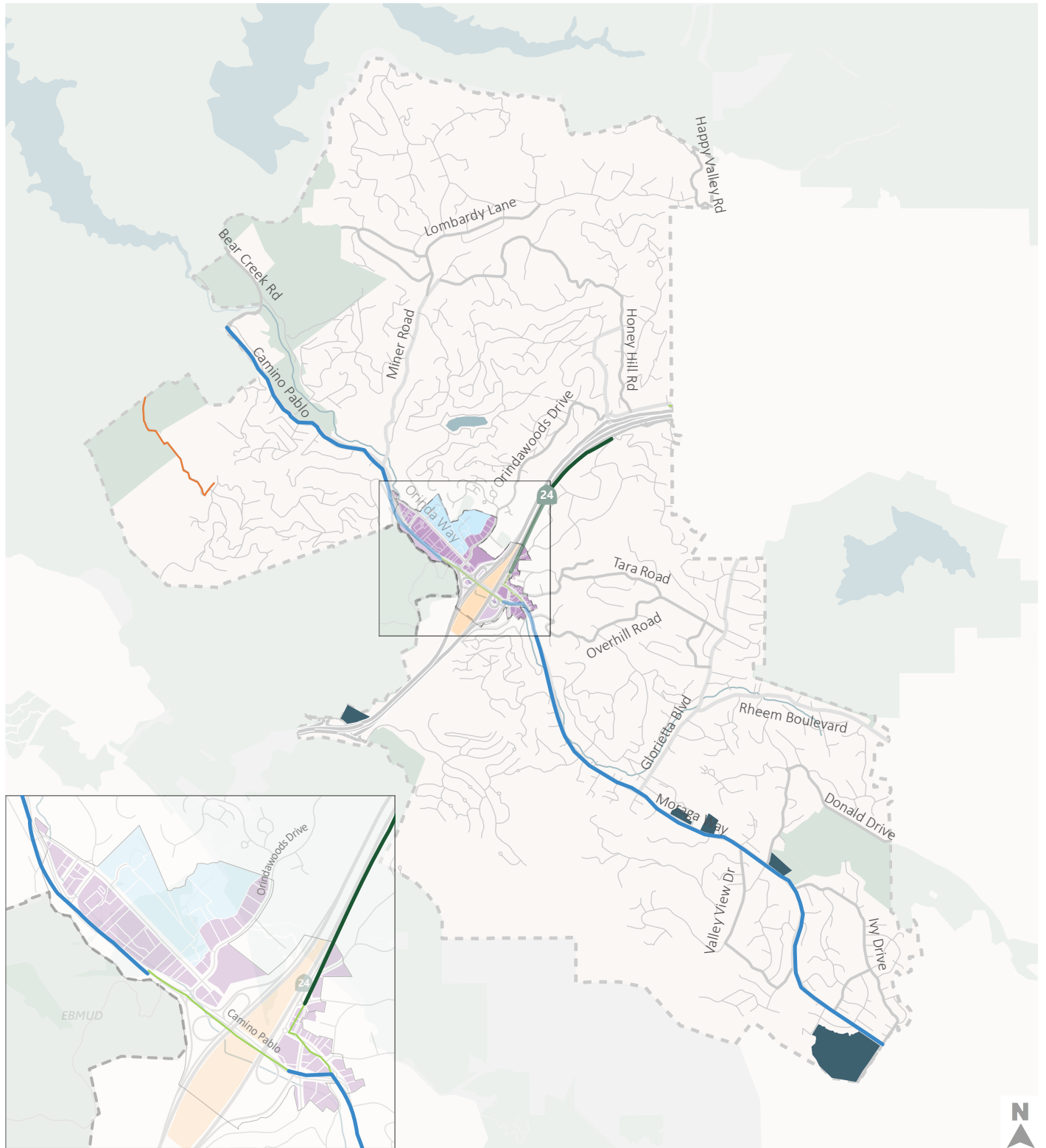
1.1.2.2.2 ConnectOrinda Projects:

- **Connect Village & BART in the Near-Term:** Beautify and enhance the safety of existing sidewalks, pathways, and bridges to improve pedestrian and cyclist access between the Village District and the BART station area. This route includes three pedestrian bridges (over Camino Pablo, the BART driveway, and the westbound freeway ramps) and the undulating sidewalk along Camino Pablo and the westbound on-ramp.
- **Connect Theatre District & BART in Near-Term:** Beautify and enhance the safety of existing pathways and pedestrian bridges to improve pedestrian and cyclist access between the Theatre District and BART station. This project covers the route from between the base of the new Theatre



District ramp/stairway and the BART entrance, including the pedestrian undercrossing beneath the freeway and BART tracks, and the pedestrian bridge to BART over Camino Pablo.





Source: City of Orinda Bicycle, Trail and Walkways Master Plan, 2011

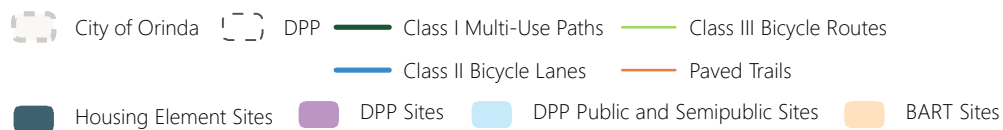


Figure 1.1-2

Existing and Proposed Bicycle Facilities

1.1.3 Pedestrian Facilities

The *City of Orinda Bicycle, Trails and Walkways Master Plan (2011)* and *ConnectOrinda: Bringing Together Downtown Orinda (2019)* identifies several streets within or adjacent to the project area for improvements. Improvements are categorized as proposed walkways, trails, and intersection improvements designed to improve recreational, utilitarian, and school access.

Many of Orinda's roadways are narrow and constrained by topography, making sidewalk improvements challenging to implement. In some cases, alternate treatments may be appropriate including clearing roadside vegetation, constructing a decomposed granite or compacted earth path along the roadway, installing pedestrian warning signage and striping, or widening and restriping the roadway to provide a wide shoulder on one side. The *Bicycle, Trails and Walkways Master Plan* provides four different design treatments for walkways: concrete or asphalt sidewalks, signage and striping, decomposed granite paths, and/or roadside vegetation clearing.

The following projects are located within or near the Plan Orinda, Alternative 2 or Alternative 3 Sites.

1.1.3.1.1 City of Orinda Bicycle Trails and Walkways Master Plan Projects:

- **Camino Sobrante Sidewalk:** Construct a sidewalk on Camino Sobrante from Orinda Way to Lake Cascade.
- **Irwin Way Sidewalk:** Construct sidewalk from Orinda Way to Orinda Senior Village.
- **Village Grove – Siesta Valley Trail:** Work with EBMUD to explore the construction of a trail from the Gateway Boulevard/SR 24 ramp to the Laveaga Trail.
- **San Pablo Creek Trail:** Construct dirt/gravel path along San Pablo Creek in Orinda Village (downtown area) from Santa Maria Way to Camino Sobrante.
- **BART Path Access Ramp and Lighting Improvements:** Construct an ADA compliant ramp accessing the BART pedestrian undercrossing from Bryant Way. Install brighter, vandal-proof lighting along BART path, particularly under the BART and SR 24 overpasses.
- **Village Mid-Block Connection:** Construct ADA ramp to Rite Aid parking lot. Work with merchants to provide clear pedestrian path across parking lot (e.g., striping a ladder crosswalk).
- **Brookwood Road Walkway:** Clear vegetation to provide a walkable shoulder on the north side of Brookwood Road where needed. Construct a decomposed granite path on the north side of Brookwood Road where shoulder does not exist.
- **Southwood Road Walkway:** Construct a decomposed granite path on one side of Southwood Road from Tara Road to Moraga Way.
- **Davis Road Walkway:** Clear vegetation to provide a walkable shoulder from Southwood Drive and Vashell Way.
- **Camino Encinas Walkway:** Clear vegetation to provide a walkable shoulder along entire length.
- **Valley View Drive Walkway:** Construct decomposed granite path from Don Gabriel Way to Moraga Way.



- **Woodland Road Walkway:** Clear vegetation to provide a walkable shoulder from Valley View Drive to Moraga Way.
- **Ivy Drive Sidewalk:** Construct sidewalk on one side of Ivy Drive for entire length. Consider replacing one side of on-street parking with the sidewalk.

In addition to the ConnectOrinda projects described above, the following pedestrian-oriented improvements are included in the ConnectOrinda plan:

1.1.3.1.2 ConnectOrinda Projects:

- **Plan for Creek Access:** Allow the Orinda community to reach, walk along, and experience San Pablo Creek. San Pablo Creek is a hidden gem in downtown Orinda that flows year-round above ground through parts of the Village District, but elsewhere travels through culverts below parking lots and roadways. Where it runs above ground, the creek is hidden behind buildings and is in the shadow of noisy Camino Pablo.
- **Create Part-Time Pedestrian Alley at Vashell Way:** Enhance Theatre District activity through transformation of an underutilized alley space—approximately the first 100 feet of Vashell Way, off Moraga Way.

1.1.4 Public Transportation

Orinda is served primarily by two transportation agencies that provide local and regional transit service to the City of Orinda: Bay Area Rapid Transit (BART) and County Connection.

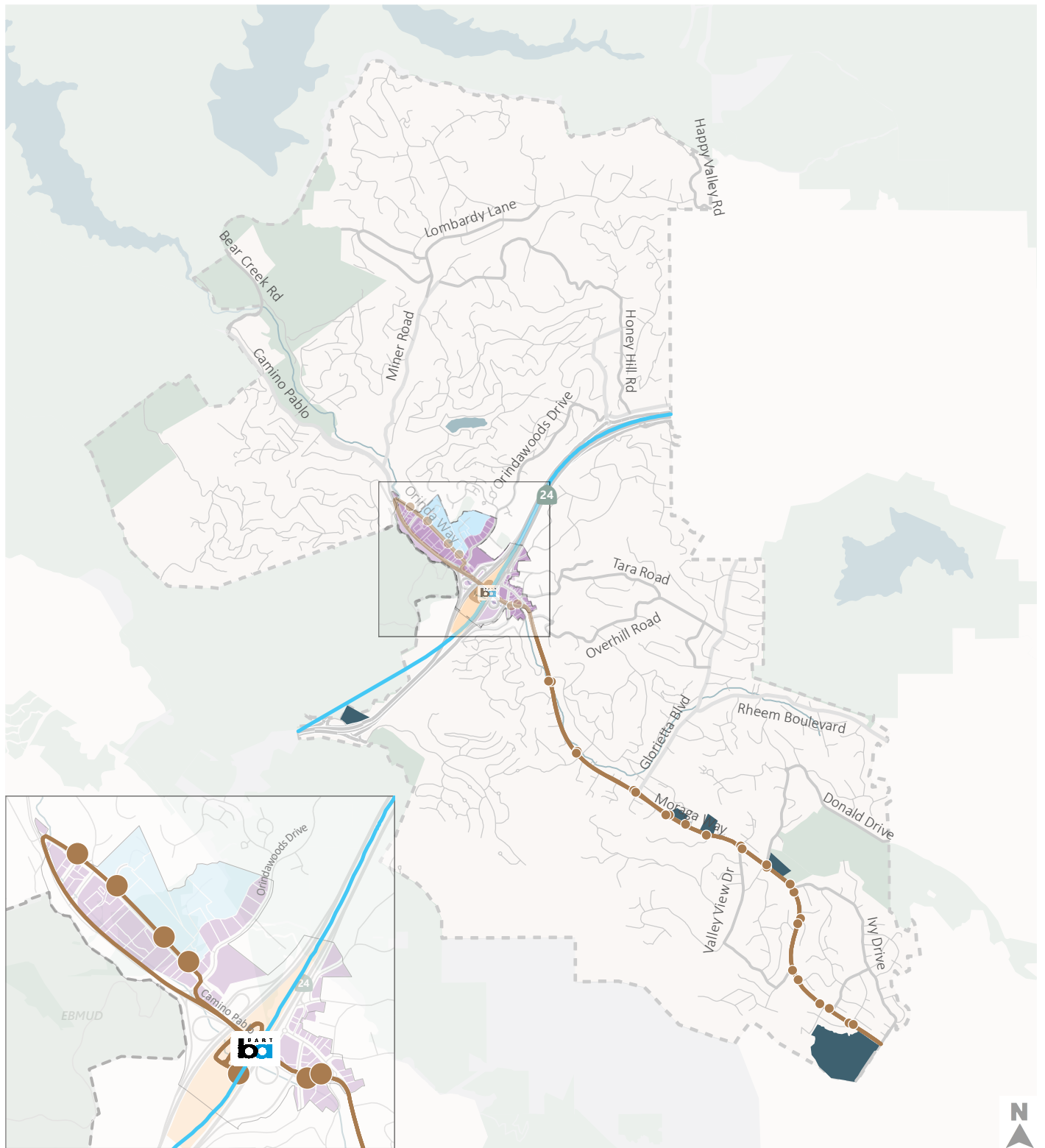
The Orinda BART station is on the Yellow Line connecting Antioch with San Francisco Airport-Millbrae. Weekday and Saturday headways are 15 minutes, while headways extend to 30 minutes on Sundays. Weekday service in Orinda starts at 5:00 AM with a last stop time at 1:00 AM. Saturday service starts at 6:15 AM with a last stop time at 1:00 AM. Sunday service starts at 7:30 AM with a last stop time at 1:00 AM. The station can be accessed from the eastern side of Camino Pablo via a pedestrian path extending north and south of SR 24 into Downtown Orinda. This station also hosts connecting bus service provided by County Connection.

County Connection provides one fixed local route as described below. All County Connection buses are wheelchair accessible and equipped with bike racks.

- **Route 6 - Lafayette BART/Orinda BART:** This route runs between Lafayette and Orinda Bart stations with main stop locations at regular intervals along Moraga Road, St. Mary's Road and Moraga Way. This route also includes select trips in Downtown Orinda with stops on Camino Pablo and Orinda Way. Weekday headways are 30 minutes, expanding to one hour and 15 minutes on the weekends. Weekday service begins in Orinda at 6:00 AM with a last stop time at 8:00 PM. On weekends, service begins in Orinda at 9:15 AM with a last stop time at 5:30 PM.

Figure 1.1-3 shows the existing transit routes in the study area.





Source: General Transit Feed Specification (GTFS) data, 2021

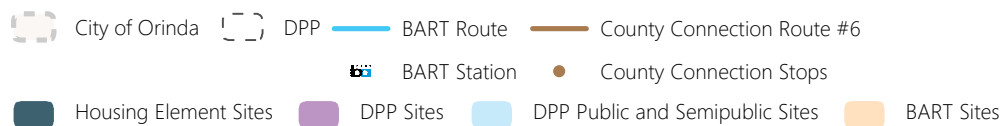


Figure 1.1-3

Transit Routes

1.2 Regulatory Setting

1.2.1 Federal

No federal plans, policies, regulations, or laws related to transportation and circulation are applicable to the project.

1.2.2 State

1.2.2.1 Assembly Bill 1358

Assembly Bill 1358, also known as the California Complete Streets Act of 2008, requires cities and counties to include "Complete Streets" policies in their general plans. These policies address the safe accommodation of all users including bicyclists, pedestrians, motorists, public transit vehicles and riders, children, the elderly, and the disabled. These policies can apply to new streets as well as the redesign of corridors.

The City of Orinda does not currently have an adopted Complete Streets policy.

1.2.2.2 Senate Bill 375

Senate Bill (SB) 375 provides guidance regarding curbing emissions from cars and light trucks. There are four major components to SB 375. First, SB 375 requires regional greenhouse gas emission targets. These targets must be updated every 8 years in conjunction with the revision schedule of the housing and transportation elements of local general plans. Second, Metropolitan Planning Organizations are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. Third, SB 375 requires housing elements and transportation plans to be synchronized on 8-year schedules. Finally, Metropolitan Planning Organizations must use transportation and air emissions modeling techniques that are consistent with the guidelines prepared by the California Transportation Commission.

1.2.2.3 Senate Bill 743

Passed in 2013, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. The change is being made by replacing level of service (LOS) with vehicle miles traveled (VMT). This shift in transportation impact focus is intended to better align transportation impact analysis and mitigation outcomes with the state's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through development of multimodal transportation networks. Level of service or other delay metrics may still be used to evaluate the impact of projects on drivers as part of land use entitlement review and impact fee programs.

In December 2018, the Natural Resources Agency finalized updates to Section 15064.3 of the CEQA Guidelines, including the incorporation of SB 743 modifications. The Guidelines' changes were approved by the Office of Administrative Law and as of July 1, 2020 are now in effect statewide.



To aid lead agencies with SB 743 implementation, the Governor's Office of Planning and Research (OPR) produced the *Technical Advisory on Evaluating Transportation Impacts in CEQA* that provides guidance about the variety of implementation questions they face with respect to shifting to a VMT metric. Key guidance from this document includes the following:

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per rate" basis.
- OPR recommends that a per capita or per employee VMT that is 15% below that of existing development may be a reasonable threshold. In other words, an office project that generates VMT per employee that is more than 85% of the regional VMT per employee could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the state's emissions goals.
- OPR recommends that where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.
- Lead agencies have the discretion to set or apply their own significance thresholds.

1.2.2.4 Caltrans Construction and Safety Requirements

Caltrans issued the VMT-Focused Transportation Impact Study Guide (TISG) in May 2020, laying the groundwork by which Caltrans will review and assess VMT impacts of land development projects. The TISG generally aligns with the guidance in the OPR *Technical Advisory*.

Caltrans also issued the Transportation Analysis Framework (TAF) in September 2020, which details methodology for calculating induced travel demand for capacity increasing transportation projects on the State Highway System. Caltrans also issued the Transportation Analysis Under CEQA (TAC) guidance in September 2020 which describes significance determinations for capacity increasing projects on the State Highway System. It is noted that the Housing Element Update does not propose any changes to the Caltrans owned and operated network.

Caltrans also issued Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioner Guidance in December 2020, describing the methods with which Caltrans will assess the safety impacts of projects on the Caltrans owned and operated network. This guidance states that Caltrans will provide its safety assessment to lead agencies for inclusion in environmental documents.

Finally, Caltrans has adopted procedures to oversee construction activities on and around its facilities. The Caltrans Construction Manual (Caltrans, 2020) describes best practices for construction activities, including personnel and equipment safety requirements, temporary traffic control, signage, and other requirements



aimed at reducing construction-related hazards while constructing projects safely and efficiently. Any work proposed on Caltrans facilities would be required to abide by these requirements.

1.2.3 Regional

1.2.3.1 Plan Bay Area

Plan Bay Area 2050 is a long-range integrated transportation and land-use/housing strategy for the San Francisco Bay Area. On October 21, 2021, the Association of Bay Area Governments (ABAG) Executive Board and the Metropolitan Transportation Commission (MTC) jointly approved the plan. Plan Bay Area 2050 connects the elements of housing, the economy, transportation, and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. In the short-term, the plan's Implementation Plan identifies more than 80 specific actions for MTC, ABAG, and partner organizations to take over the next five years to make headway on each of the 35 strategies. Plan Bay Area is the nine-county region's long-range plan designed to meet the requirements of California's landmark 2008 Senate Bill 375, described above. However, during the time of this analysis, the CCTA Model reflects data included in Plan Bay Area 2040, and this model is currently the best available tool for VMT analysis.

1.2.3.2 Contra Costa County Congestion Management Program

The Contra Costa Transportation Authority (CCTA) is Contra Costa County's designated Congestion Management Agency (CMA). It is responsible for implementing programs to ensure traffic levels remain manageable. Orinda serves on the Southwest Area Transportation Committee (SWAT) that includes Contra Costa County, the Towns of Danville and Moraga, and the cities of Lafayette and San Ramon.

As the CMA, CCTA is in charge of coordinating land use, air quality, and transportation planning among local jurisdictions. A Congestion Management Program (CMP) was created to spend the funds allocated to these projects, known as Measure J. This measure is a one-half cent countywide sales tax used for transportation improvements within the County. The revenue must be spent on projects and programs included in the CCTA Transportation Expenditure Plan (Expenditure Plan). The Expenditure Plan designates 18% of the annual sales tax revenue as "return-to-source" funds. The City's eligibility for these funds is contingent on compliance with the City's Growth Management Program (GMP), reflected in the Growth Management section of the General Plan.

1.2.3.3 Contra Costa Countywide Transportation Plan

As a member of CCTA, the City of Orinda is active in the development of the Countywide Transportation Plan (CTP), intended to carry out the following countywide transportation goals:

- Enhance the movement of people and goods on highways and arterial roads;
- Manage the impacts of growth to sustain Contra Costa's economy and preserve its environment;
- Provide and expand safe, convenient, and affordable alternatives to the single-occupant vehicle; and



- Maintain the transportation system.

The CTP incorporates five sub-regional Action Plans for Routes of Regional Significance (Action Plans). This is one of the primary vehicles for implementing the Measure J Growth Management Program's goal of reducing the cumulative impacts of growth. The Action Plans also fulfill a key requirement of CCTA's Congestion Management Program. This is a state-mandated program for evaluating the impact of land use decisions on the regional transportation system and establishing performance measures. Each Action Plan contains these components:

- Long-range assumptions about future land uses based on local general plans and travel demand based on household and job growth.
- Multimodal transportation objectives that can be measured and timed.
- Specific actions to be implemented by each jurisdiction.
- A process for consultation on environmental documents.
- A procedure for reviewing the impacts of local General Plan amendments that could affect the transportation objectives.
- A schedule for reviewing and updating the Action Plans.

The City of Orinda is included in the Lamorinda Action Plan. The Action Plan includes both regional actions and actions for specific routes. There are two routes in the study area identified as a Route of Regional Significance:

- State Route 24
- Camino Pablo
- BART

The Action Plan also includes interjurisdiction routes. These routes do not warrant designation as Routes of Regional Significance, but would benefit from the multi-jurisdictional planning process envisioned in Measure J. The intent is to be able to monitor the performance of these routes and work cooperatively to specify projects and programs intended to increase the safety and reliability of the routes while increasing multimodal mobility within Lamorinda. There is one route identified as an Interjurisdictional Route in Orinda:

- Moraga Way – From Moraga Road on the south end to Bryant Way on the north end

1.2.3.4 CCTA VMT Guidance for Member Agencies

The CCTA has developed guidance for member jurisdictions to use in developing their own VMT analysis methods, metrics, and thresholds of significance. The CCTA's *Growth Management Program Implementation Guide* (Revised February 17, 2021), Appendix F (CCTA Recommended Methodology) describes the recommendations. A flow chart describing the recommended methodology is included in the Technical Appendix. The City of Orinda has chosen to follow the CCTA guidance. More detail on the



VMT analysis methodology, metrics, and thresholds of significance are provided in Section 4.14.3, Methodology and Assumptions.

1.2.4 Local

1.2.4.1 Orinda General Plan

The *Orinda General Plan* (1987) is a comprehensive long-range general plan for the physical development of the City of Orinda. The General Plan contains the current City of Orinda Housing Element, which was adopted in 2015. The various elements within the General Plan include goals and policies for the physical development of the City. The goals and policies from the current General Plan that are relevant to this transportation impact analysis are listed below.

1.2.4.1.1 Guiding Policies:

- A. Permit new development only when adequate transportation systems and parking are provided.
- B. Design roadways to compliment semi-rural character following natural contours and maintaining natural topography and vegetation close to road edges, where such can be done without compromising safety.
- C. Strive to retain the existing peak hour level of service (LOS) of "C" or better at those intersections where it now prevails and improve the LOS at all other intersections.
- D. Develop plans to efficiently manage the existing inventory of parking spaces in and adjacent to the business district.
- E. Expand pedestrian and bicycle paths to provide a safe alternative to auto use, particularly to provide safe paths near schools and in other locations where they are heavily used for circulation.
- F. Make traffic control decisions to benefit locals and discourage through traffic.
- G. It is the goal of the City of Orinda to preserve and retain, in the most natural condition possible, scenic vehicular entryways, routes, and corridors in the community.
- H. Establish routes for through traffic which minimize impacts on Orinda residents and downtown shopping areas.
- I. Sidewalks, streetlights, curbs, gutters, and parking areas, when constructed in the public right-of-way, are the adjacent property owner's responsibility for construction, maintenance, and replacement.

1.2.4.1.2 Implementing Policies:

- A. Consider requiring transportation management system measures that may include carpooling, vanpooling, shuttle buses, or staggered work hours to reduce traffic impacts where appropriate.
- B. Establish a transportation system improvement fee to be paid as a condition of approval of all development projects based on travel and parking demand generated by the project and its location.



- C. Discourage new intersections and driveways on arterial roads where access can be provided from another street or by combining driveways.
- D. Widen the eastbound SR 24 off-ramp at Brookwood Road to four lanes.
- E. Improve Camino Pablo as a two-lane arterial between Bear Creek and Miner Road by realigning where necessary to enhance traffic flow and safety, signaling appropriate intersections, separating vehicular and pedestrian traffic, improving intersections with left turn lanes where feasible, and by coordinating a limitation on truck use with the County based upon load size.
- F. Reconnect El Toyonal Road as an additional access to serve the upper El Toyonal area. First priority, however, consistent with Land Use Policy (2.1.2(H)) is the connection of El Toyonal along a direct route to Camino Pablo. The cooperation of property owners and the commitment of funds by Contra Costa County for this connection should be actively pursued by the City. A traffic impact fee ordinance pertaining to all new development of property served by El Toyonal or its tributaries should be enacted by the City. Funds should be used for re-establishing vehicular access to the north end of El Toyonal Road. If no major subdivisions occur, then the funds should be directed to reconnecting, improving, and maintaining El Toyonal Road.
- G. Voluntary dedication of private streets will be considered for acceptance by the City on a case-by-case basis when streets and drainage systems are improved to City standards and present no expense to the City upon dedication.
- H. Adopt standards for pavement width and other design features of roads in residential areas that are consistent with the semi-rural character of Orinda, utilizing progressively higher standards consistent with intensity of use and public safety. Street lighting should not normally be required except where necessary for safety purposes.
- I. Adopt standards for roadways in commercial, office, and multi-family areas that are consistent with traffic and onsite parking demand, and generally include curb, gutter, sidewalks, and street lighting.
- J. Adopt new private road standards which would be the same as those for new public roads.
- K. Develop on-site parking standards for single-family zoning districts which require 1) a minimum of four onsite parking spaces, and 2) a percentage of covered parking. Also consider standards providing for shared parking in the multi-tenant commercial developments.
- L. Develop traffic control measures to discourage freeway bypass traffic on Orinda roads.
- M. Do not make roadway improvements at the expense of established bicycle and pedestrian paths, except in the interest of public safety.
- N. Support bus transit, vanpools, and carpool service to reduce peak-hour traffic volumes.
- O. Although analysis of General Plan buildout traffic conditions indicates it is unlikely, the one-hour CO, NO_x, and SO_x standards could be exceeded as a result of gridlock



on City streets. The City shall assess the potential for this condition and institute appropriate traffic control and land-use control measures to avoid its occurrence.

- P. The following routes are designated Scenic Corridors on the General Plan: 1) Moraga Way from its intersection with Camino Pablo south to the city limits; 2) Camino Pablo from its intersection with Santa Maria Way north to the city limits; 3) SR 24, designated as a California Scenic Highway within Orinda city limits.
- Q. Special care shall be taken to provide a well-landscaped and open feeling along Scenic Corridors, especially at the entrance to the City, utilizing such techniques as generous landscaped setbacks and open-space acquisition, where appropriate.
- R. Any proposed development or subdivision along a Scenic Corridor or Scenic Highway shall be designed to blend with and permit the natural environment to be maintained as the dominant visual element. It shall not lessen the scenic value of existing visual elements.
- S. Where structures are permitted, they shall be designed to blend with and permit the natural environment to be maintained as the dominant visual element.
- T. Because SR 24 is a freeway that bisects Orinda, it merits special consideration to maintain its integrity as a California Scenic Highway as it passes through Orinda.
- U. Further study should be given to the vehicular access route through Dalewood Drive and Sundown Terrace to Happy Valley Road. Two primary options should be considered, including 1) Maintenance of the existing Dalewood Drive and Sundown Terrace street alignments; and 2) Extension of Dalewood Drive to Sundown Terrace through Dalewood Park with a public street connection and a dead-end cul-de-sac at the end of Sundown Terrace near Happy Valley Road.
- V. Develop an ordinance for regulating heavy truck traffic and for designating truck routes, with Camino Pablo given first priority for such regulation.



1.3 Environmental Impacts and Mitigation Measures

This section describes the analysis techniques, assumptions, and results used to identify potential significant impacts of the proposed project on the transportation system. Transportation/traffic impacts are described and assessed, and mitigation measures are recommended for impacts identified as significant or potentially significant.

1.3.1 Traffic Impact Assessment under CEQA

State law has changed with respect to how transportation-related impacts may be addressed under CEQA. Traditionally, lead agencies used level of service (LOS) to assess the significance of such impacts, with greater levels of congestion considered to be more significant than lesser levels. Mitigation measures typically took the form of capacity-increasing improvements, which often had their own environmental impacts (e.g., to biological and cultural resources). Depending on circumstances, and an agency's tolerance for congestion (i.e., as reflected in its general plan), LOS D, E, or F often represented significant environmental effects. In 2013, however, the Legislature passed legislation with the intention of ultimately doing away with LOS in most instances as a basis for environmental analysis under CEQA. Enacted as part of Senate Bill 743 (2013), PRC section 21099, subdivision (b)(1), directed the Governor's Office of Policy and Research (OPR) to prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed CEQA Guidelines addressing "criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the criteria, [OPR] shall recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. The office may also establish criteria for models used to analyze transportation impacts to ensure the models are accurate, reliable, and consistent with the intent of this section."

CEQA Guidelines section 21099(b)(2) further provides that "[u]pon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, *shall not be considered a significant impact on the environment* pursuant to [CEQA], except in locations specifically identified in the guidelines, if any." (Italics added.)

Pursuant to SB 743, the Natural Resources Agency promulgated CEQA Guidelines section 15064.3 in late 2018. It became effective in early 2019. Subdivision (a) of that section provides that "[g]enerally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) [regarding roadway capacity], a project's effect on automobile delay shall not constitute a significant environmental impact."



1.3.2 Significance Thresholds

The significance criteria used to evaluate Plan Orinda, Alternative 2 and Alternative 3 impacts on transportation under CEQA are based on Appendix G of the State CEQA Guidelines, as well as VMT thresholds of significance recommended by the CCTA.

The following describes the significance criteria used to identify impacts on the transportation network for the proposed project. A significant impact would occur if implementation of Plan Orinda, Alternative 2 or Alternative 3 would

- Conflict with an applicable program, plan, ordinance, or policy establishing measures of effectiveness for the performance of addressing the circulation system including transit, bicycle, and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). For the purposes of this evaluation, this impact would be significant, if the implementation of Plan Orinda, Alternative 2, or Alternative 3 would generate home-based VMT per resident within the planning areas that is higher than 85% of the countywide average home-based VMT per resident.
- Result in designs for on-site circulation, access, and parking areas that fail to meet City or industry standard design guidelines.
- Result in inadequate emergency access to development sites.

1.3.3 Methodology and Assumptions

The VMT analysis methodology utilizes the procedures described in the CCTA's *Growth Management Program Implementation Guide* (Revised February 17, 2021), Appendix F. The procedures are summarized below.

1.3.3.1 Project Screening

There are five screening criteria that can be applied to screen projects out of conducting project-level VMT analysis.

1. **CEQA Exemption.** Any project that is exempt from CEQA is not required to conduct a VMT analysis.
2. **Small Projects.** Small projects can be presumed to cause a less-than-significant VMT impact. Small projects are defined as having 10,000 square feet or less of non-residential space or 20 residential units or less, or otherwise generating less than 836 VMT per day.
3. **Local-Serving Uses.** Projects that consist of local-serving uses can generally be presumed to have a less-than-significant impact absent substantial evidence to the contrary, since these types of projects will primarily draw users and customers from a relatively small geographic area that will lead to short-distance trips and trips that are linked to other destinations.
4. **Projects Located in Transit Priority Areas (TPAs).** Projects located within a TPA can be presumed to have a less-than-significant impact absent substantial evidence to the contrary. This exemption would not apply if the project met any of the following criteria:



- Has a Floor Area Ratio (FAR) of less than 0.75;
 - Includes more parking for use by residents, customers, or employees than required by the lead agency (if the agency allows but does not require the project to supply a certain amount of parking);
 - Is inconsistent with the applicable Sustainable Communities Strategy (SCS) (as determined by the lead agency, with input from the Metropolitan Transportation Commission (MTC)); or
 - Results in a net reduction in multi-family housing units.
5. **Projects Located in Low VMT Areas.** Residential and employment-generating projects located within a low VMT-generating area can be presumed to have a less-than-significant impact absent substantial evidence to the contrary. For residential projects, a low VMT area is defined as an area with existing home-based VMT per resident that is 85% or less of the existing countywide average.

As will be discussed below under Impact 1.4-2, Plan Orinda, Alternative 2, and Alternative 3 does not meet these five potential screening approaches and thus requires a full VMT assessment.

1.3.3.2 Projects Requiring VMT Analysis

A project not excluded from VMT analysis through the screening process described above is subject to a VMT analysis to determine if it has a significant VMT impact. The analysis scenarios and significance assessment are described below.

1.3.3.2.1 Analysis Scenarios and Significance Test

The following scenarios are addressed in the VMT analysis. Note that, while the CCTA guidance recommends that project-level impacts be evaluated against baseline conditions, for this analysis the home-based VMT per resident of Plan Orinda, Alternative 2, and Alternative 3 are evaluated under both baseline (2020) and future (2040) conditions, because the build-out period is expected to be several years. In addition to the project-level evaluation in both baseline and future conditions, a cumulative assessment of the project's effect on total VMT rates countywide is presented.

- *Baseline (2020) Conditions:* The most current version of the baseline (2020) CCTA model is used to determine the baseline home-based VMT per resident for the traffic analysis zones (TAZs) comprising of the Plan Orinda, Alternative 2, and Alternative 3 planning areas, as well as to determine the countywide average VMT per resident and the 85% of countywide average VMT per resident.
- *Baseline (2020) Plus Project Conditions:* The proposed land use(s) – in this case, the proposed additional housing units within Plan Orinda, Alternative 2, and Alternative 3 planning areas – are added to the 2020 model for the relevant TAZs comprising the planning areas, and a full 2020 Plus Project model run is performed. This is done separately for Plan Orinda, Alternative 2, and Alternative 3.



- *Baseline Plus Project Significance Assessment:* The 2020 Plus Project home-based VMT per resident for the relevant TAZs comprising of the Plan Orinda, Alternative 2, and Alternative 3 planning areas is compared to the 2020 Baseline countywide home-based VMT per resident, for the Plan Orinda, Alternative 2, and Alternative 3 Sites. If the home-based VMT per resident for the TAZs in the project or two alternatives is higher than 85% of the countywide average home-based VMT per resident, the impact is significant.
- *2040 No Project Conditions:* The most current version of the Year 2040 CCTA model is adjusted to reflect only the housing growth within Orinda that is approved but not yet constructed, and is run to determine the 2040 No Project home-based VMT per resident for the traffic analysis zones (TAZs) comprising the Plan Orinda planning areas.¹
- *2040 Plus Project Conditions:* The proposed land use(s) – in this case, the proposed additional housing units within the Plan Orinda, Alternative 2, and Alternative 3 planning areas – are added to the 2040 No Project model for the relevant TAZs comprising the planning areas, and a full 2040 Plus Project model run is performed. This is done separately for the Plan Orinda, Alternative 2, and Alternative 3 Sites.
- *2040 Plus Project Significance Assessment:* The 2040 Plus Project home-based VMT per resident for the relevant TAZs comprising of the Plan Orinda, Alternative 2, and Alternative 3 planning areas are compared to the 2020 countywide home-based VMT per resident, for the Plan Orinda, Alternative 2, and Alternative 3 Sites. If the home-based VMT per resident for the TAZs comprising the Plan Orinda, Alternative 2, or Alternative 3 planning areas is higher than 85% of the countywide average home-based VMT per resident, the impact is significant.
- *Cumulative Analysis and Significance Assessment (Project's Effect on Total Countywide VMT):* The total Countywide VMT per service population (defined as VMT generated by all trip types divided by all residents and employees) is compared for the 2040 Plus Project condition against the 2040 No Project condition. If the project or alternatives causes total countywide VMT per service population to increase, this would constitute a significant impact. This is done separately for the Plan Orinda, Alternative 2, and Alternative 3 Sites.²

¹ Note that the travel demand model based on Plan Bay Area 2050 was not yet available for use in this analysis.

² Note that the cumulative analysis is only required by the CCTA Guidance if the project-level impact is found to be significant. While this is not the case for the Plan Orinda, Alternative 2, or Alternative 3 scenarios, the cumulative analysis is provided for information. Note also that it may be appropriate to re-distribute the project and two alternative housing units to other areas within the County for the 2040 No Project case, as the HE itself does not affect market choices about where new development may occur, and therefore the development potential represented by the HE may occur elsewhere under the 2040 No Project case. However, for this analysis, the HE units were not re-distributed to other sites throughout the County for the 2040 No Project case.



1.4 Impacts and Mitigation Measures

Impact 1.4-1: Plan Orinda, Alternative 2, and Alternative 3 would not conflict with an applicable program, plan, ordinance, or policy addressing the circulation system, including transit, roadway bicycle, and pedestrian facilities. (*Less than Significant Impact*)

Plan Orinda, Alternative 2, and Alternative 3

Implementation of Plan Orinda, Alternative 2, or Alternative 3 would be subject to the implementation of General Plan policies applicable to transit, bicycle, and pedestrian facilities and service. Additionally, development projects under Plan Orinda, Alternative 2, and Alternative 3 would be subject to all applicable City guidelines, standards, and specifications related to transit, bicycle, or pedestrian facilities.

Specifically, any modifications or new transit, bicycle, and pedestrian facilities would be subject to and designed in accordance with all applicable General Plan Guiding and Implementing policies. In particular, General Plan Guiding Policy E calls for pedestrian and bicycle paths to provide a safe alternative to auto use, particularly to provide safe paths near schools and in other locations where they are heavily used for circulation. Policy F encourages the prioritization of making traffic control decisions to benefit locals and discourage through traffic. Policy G calls for the City of Orinda to preserve and retain, in the most natural condition possible, scenic vehicular entryways, routes and corridors in the community. Policy H encourages the establishment of routes for through traffic which minimize impacts on Orinda residents and downtown shopping areas. Policy I calls for sidewalks, streetlights, curbs, gutters, and parking areas, when constructed in the public right-of-way, are the adjacent property owner's responsibility for construction, maintenance, and replacement.

In regard to Implementing Policies, Policy A calls for the consideration of requiring transportation management system measures that may include carpooling, vanpooling, shuttle buses, or staggered work hours to reduce traffic impacts where appropriate. Policy B encourages the establishment of a transportation system improvement fee to be paid as a condition of approval of all development projects based on travel and parking demand generated by the project and its location. Policy E calls for improvements to Camino Pablo as a two-lane arterial between Bear Creek and Miner Road by realigning where necessary to enhance traffic flow and safety, signaling appropriate intersections, separating vehicular and pedestrian traffic, improving intersections with left turn lanes where feasible, and by coordinating a limitation on truck use with the County based upon load size. Policy H encourages the adoption of standards for pavement width and other design features of roads in residential areas that are consistent with the semi-rural character of Orinda, utilizing progressively higher standards consistent with intensity of use and public safety. Street lighting should not normally be required except where necessary for safety purposes. Policy I encourages the adoption of standards for roadways in commercial, office and multi-family areas that are consistent with traffic and onsite parking demand, and generally include curb, gutter, sidewalks, and street lighting. Policy M calls for prohibiting roadway improvements at the expense of established bicycle and pedestrian paths, except in the interest of public safety. Policy N calls for the support of bus transit, vanpools, and carpool service to reduce peak-hour traffic volumes.



Because implementation of Plan Orinda, Alternative 2, or Alternative 3 would be subject to all applicable City guidelines, standards, and specifications, the proposed project and two alternatives would not conflict with adopted policies, plans, or programs for transit, bicycle, or pedestrian facilities. Therefore, Plan Orinda, Alternative 2, and Alternative 3 would result in a **less-than-significant impact** to transit, bicycle, and pedestrian facilities.

Mitigation Measure: None required.

Impact 1.4-2: The project would generate home-based VMT per resident that is greater than 85% of the countywide average home-based VMT per resident. (*Significant and Unavoidable Impact, with Mitigation*)

Screening Analysis

The potential to screen the full Plan Orinda, Alternative 2, and Alternative 2, or a portion of the project and two alternatives, from a full VMT analysis was considered, as described below. The five key screening criteria are addressed. For the reasons given, it was determined that a full VMT analysis should be conducted for Plan Orinda, Alternative 2, and Alternative 3.

1. **CEQA Exemption.** The project is not otherwise exempt from CEQA, so this criterion does not apply.
2. **Small Projects.** While it is possible that certain housing developments built under Plan Orinda, Alternative 2, or Alternative 3 would be 20 or fewer units, this screening test would need to be applied as a part of individual project review, and does not apply to the program as a whole.
3. **Local-Serving Uses.** This screening criteria is intended to apply to commercial uses, and is not relevant to residential project types.
4. **Projects Located in Transit Priority Areas (TPAs).** The half-mile surrounding the Orinda BART station qualifies as a TPA. The half-mile boundary, which takes into account travel distance based on the circulation network (as opposed to “as the crow flies”) is shown in **Figure 1.4-4**. Portions of Planning Areas 1, 2, 3, 4, 7, 8, and 13 fall within this boundary, and housing units within the associated TAZs that are largely within the boundary³ could be presumed to have a less-than-significant impact absent substantial evidence to the contrary. This exemption would not apply if a specific development project met any of the following criteria:
 - Have a Floor Area Ratio (FAR) of less than 0.75;
 - Include more parking for use by residents than required by the City of Orinda;
 - Is inconsistent with the Plan Bay Area 2050⁴ (the applicable Sustainable Communities Strategy for Bay Area jurisdictions); or

³ TAZs 20322, 20318, and 20633.

⁴ As discussed elsewhere, Plan Bay Area 2050 was adopted in late 2021 and the regional and county transportation models that incorporate projections from Plan Bay Area 2040 will not be updated for several years. For this reason, both Plan Bay Area 2050 and Plan Bay Area 2040 are relevant to the EIR’s analysis.



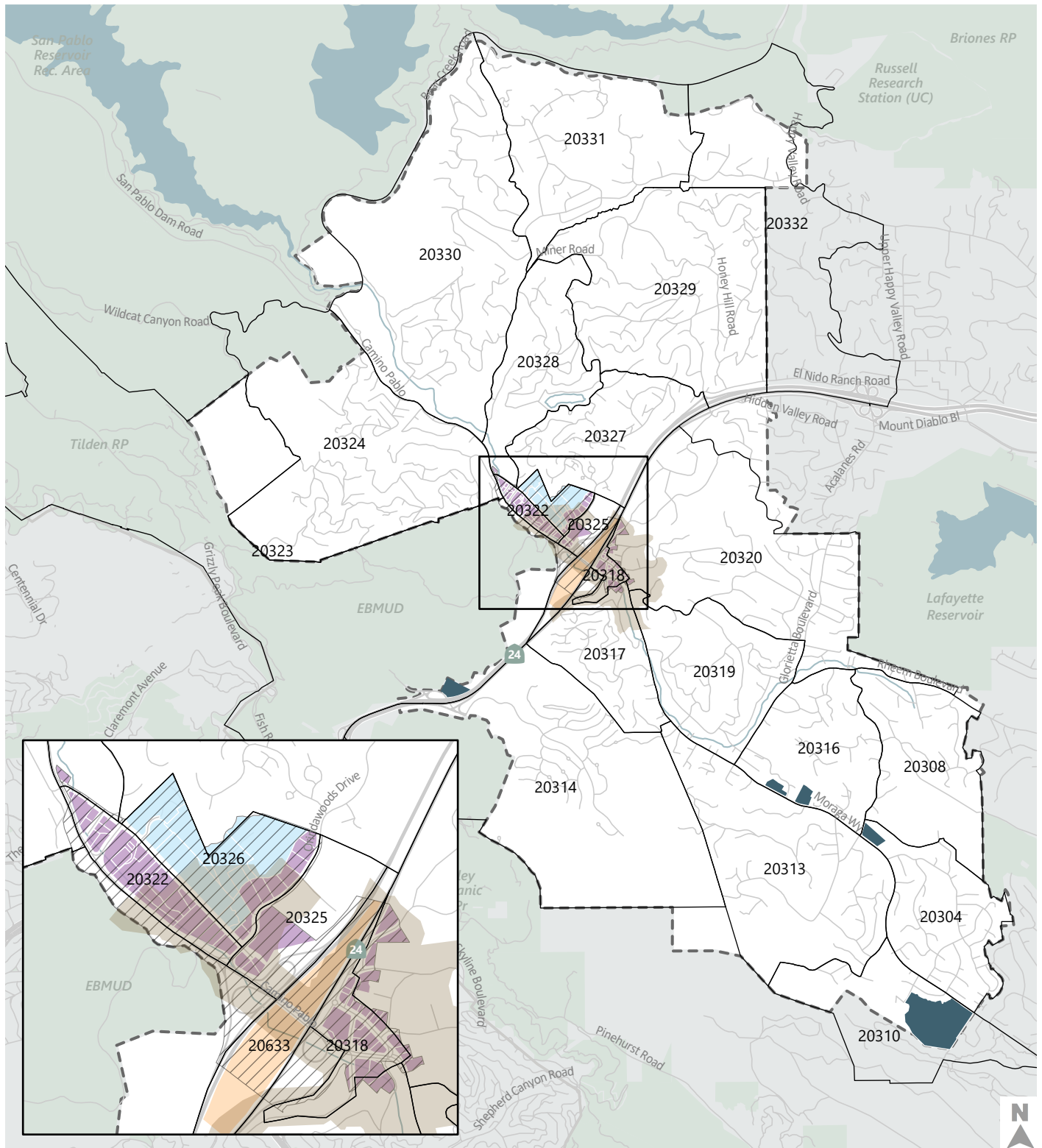
- Results in a net reduction in multi-family housing units.

While housing developments built under Plan Orinda, Alternative 2, or Alternative 3 would be expected to be consistent with Plan Bay Area 2050, and would be extremely unlikely to result in a net reduction in multi-family units on the individual development sites, the first two criteria cannot be ascertained until development projects are proposed. In addition, because the TPA only extends to a portion of the DPP, Housing Element, and BART planning areas, the City has elected to undertake a VMT analysis for Plan Orinda, Alternative 2, and Alternative 3 as a whole. It should be noted however, that individual projects that are proposed within the TPA following adoption of the HE may be screened out, requiring no VMT analysis, and would in that case be assumed to have no significant impact on VMT.

5. **Projects Located in Low VMT Areas.** Screening based on location within a low-VMT area would be based on the VMT maps prepared by CCTA at the traffic analysis zone (TAZ) level, using the Contra Costa Countywide Travel Demand Model results. Certain TAZs meet the criteria of low-VMT generating characteristics,⁵ and housing projects within these TAZs could be presumed to have a less than significant impact with respect to VMT. However, TAZ-based screening was not chosen for this analysis, because the City is considering Plan Orinda, Alternative 2, and Alternative 3 as a whole, and project-specific details not available at the program level evaluation may be relevant to the VMT assessment of individual development proposals.

⁵ TAZs 20304 and 20310.





Source: Contra Costa Transportation Authority - Travel Demand Model

- Orinda Boundary
- TAZ
- Transit Priority Area (TPA)
- DPP Boundary
- Housing Element Sites
- DPP Sites
- DPP Public and Semipublic Sites
- BART Sites

Figure 1.1-4

Downtown Precise Plan, Housing Element, and BART Sites

1.4.1 VMT Analysis

1.4.1.1 Modeling Procedure

The Contra Costa Countywide Travel Demand Model (CCTA Model) was used to generate VMT estimates for Plan Orinda, Alternative 2, and Alternative 3. The CCTA Model allows analysts to forecast regional travel behavior as a function of local land use development decisions, transportation network infrastructure planning, and land use and network policies. The CCTA Model reflects data included in Plan Bay Area 2040, the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) that was recently replaced with adoption of Plan Bay Area 2050 by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). CCTA has prepared a memorandum documenting the CCTA Model's consistency with Plan Bay Area 2040, and the model is currently the best available tool for analysis of VMT impacts.

Residential projects are evaluated based on the home-based VMT per resident VMT metric. Home-based VMT is defined as all home-based automobile vehicle trips traced back to the residence of the trip-maker. Non-home-based trips are excluded. This VMT includes the entire length of the trip. This home-based VMT is then divided by the number of residents to calculate home-based VMT per resident.

This calculation is done in the CCTA model via the production and attraction trip matrices to be able to attribute automobile vehicle trips to the residence of the trip-maker. The calculations are done to include all trips, including trips that leave the travel model area (the nine-county Bay Area). VMT for trips that leave the travel model area is adjusted to account for the part of the trip that occurs outside of the travel model area.

1.4.1.1.1 Plan Orinda, Alternative 2, and Alternative 3

Plan Orinda + Alternative 2 and 3 Land Use

Table 1.4-1 shows the housing units associated with the No Project case, Plan Orinda, Alternative 2, and Alternative 3. The No Project case includes housing units that are approved but not yet constructed or are in the City's development review process. Approved and under-review development would produce 52 multi-family housing units. Plan Orinda includes five Housing Element Sites and DPP Housing Element Sites that would provide for 2,383 multi-family units within the associated planning areas (refer to the Project Description and Alternatives chapters for more information on the Plan Orinda, Alternative 2, and Alternative 3 Planning Area locations). Alternative 2 includes one Housing Element Site (HE-4), BART Sites, and DPP Sites that would provide for 2,940 multi-family units. Alternative 3 includes five Housing Element Sites, the BART Sites, but no DPP Sites, and would provide for 1,854 multi-family units. Plan Orinda, Alternative 2, and Alternative 3 totals are inclusive of the approved and under-review developments.



Table 1.4-1: Plan Orinda, Alternative 2, and Alternative 3 Land Use

TAZ ¹	Land Use ²	Housing Units				
		Existing No Project	Cumulative No Project	Plan Orinda	Alternative 2	Alternative 3
20316	MF	3	3	83	0	83
20304	MF	12	12	41	0	41
20310	MF	16	16	234	234	234
20323	MF	0	0	408	0	408
20326	MF	19	74	264	264	0
20328	MF	3	3	10	10	0
20322	MF	6	6	636	636	0
20325	MF	7	7	187	187	0
20318	MF	3	3	521	521	0
20633	MF	2	2	0	1088	1,089
Total Multi-Family		71	126	2,383	2,940	1,854

NOTES: Project alternative values are project-only units.

1. MF=multi-family housing

2. TAZ=Contra Costa Countywide Travel Demand Model traffic analysis zone

1.4.2 VMT Results

1.4.2.1 Project Analysis

The Contra Costa Countywide Travel Demand Model was adjusted to reflect the relevant housing unit numbers for the No Project, Plan Orinda, Alternative 2, and Alternative 3 for 2020 and 2040 conditions, and the resulting VMT metrics were reported. **Table 1.4-2** presents the results for the 2020 Plus Project cases, and **Table 1.4-3** presents the results for the 2040 Plus Project cases.



Table 1.4-2: VMT Summary: 2020 With Project

VMT Area	Home-Based VMT/Resident							
	2020 Base	2020 + Plan Orinda	2020 + Alternative 2	2020 + Alternative 3	2020 Base	2020 + Plan Orinda	2020 + Alternative 2	2020 + Alternative 3
Countywide Average	19,965,854	20,070,678	20,085,282	20,053,066	17.3	17.3	17.3	17.3
Citywide Average	282,986	342,809	378,261	328,662	16.3	15.4	15.1	15.8
85% of 2020 Countywide Average	---	---	---	---	14.7	14.7	14.7	14.7
Project Area	56,759	149,273	130,705	117,785	14.6	14.2	13.3	14.4
Project <85% of Countywide Average?	---	---	---	---	---	Yes	Yes	Yes

SOURCE: Contra Costa Countywide Travel Demand Model; Fehr & Peers, May 2022.

Table 1.4-3: VMT Summary: 2040 With Project

VMT Area	Home-Based VMT					Home-Based VMT/Resident				
	2020 Base	2040 No Project	2040 + Plan Orinda	2040 + Alternative 2	2040 + Alternative 3	2020 Base	2040 No Project	2040 + Plan Orinda	2040 + Alt 2	2040 + Alt 3
Countywide Average	19,965,854	22,210,046	22,303,358	22,315,636	22,219,506	17.3	16.0	16.0	16.0	16.0
Citywide Average	282,986	271,212	323,937	357,344	312,386	16.3	15.5	14.5	14.3	15.0
85% of 2020 Countywide Average	---	---	---	---	---	14.7	14.7	14.7	14.7	14.7
Project Area	56,759	55,401	139,749	121,542	114,689	14.6	13.8	13.3	12.4	14.0



VMT Area	Home-Based VMT					Home-Based VMT/Resident				
	2020 Base	2040 No Project	2040 + Plan Orinda	2040 + Alternative 2	2040 + Alternative 3	2020 Base	2040 No Project	2040 + Plan Orinda	2040 + Alt 2	2040 + Alt 3
Project <85% of Countywide Average?	---	---	---	---	---	---	---	Yes	Yes	Yes

SOURCE: Contra Costa Countywide Travel Demand Model; Fehr & Peers, May 2022.

The analysis indicates the following:

- The City of Orinda VMT per resident of 16.3 miles-per-resident is below the countywide average VMT per resident of 17.3 miles-per-resident in the 2020 baseline.
- VMT rates in the County as a whole, and in the City of Orinda, are projected to decline between 2020 and 2040.
- The VMT rates within the HE Planning Areas are projected to be less than 85% of the baseline countywide average for Plan Orinda and both alternatives, in both 2020 and 2040.

While these results suggest that Plan Orinda, Alternative 2, and Alternative 3's impact with respect to VMT would be less than significant, individual development proposals under Plan Orinda and the two alternatives that do not screen out of further analysis may exceed the VMT criteria. In other words, future development projects that are greater than one half-mile from the BART station, not in a low-VMT area, or that are within these areas but do not screen out for other project-specific reasons, will require a project-specific VMT analysis, and results of that analysis may exceed the VMT criteria. For this reason, the impact is considered **potentially significant**, requiring mitigation.

1.4.2.1.1 Cumulative Analysis

The year 2040 total countywide VMT per service population (all residents and employees) is shown in **Table 1.4-4**, for the No Project case, Plan Orinda, Alternative 2, and Alternative 3. These metrics reflect VMT generated by all trips by all land uses in the County, as opposed to the home-based trips generated by housing development only, described above. As shown in the table, Plan Orinda and Alternative 2 both result in slightly lower total VMT per service population than the No Project case, while Alternative 3 has the same total VMT per service population as the No Project case. Therefore, the cumulative impact with respect to VMT would be **less than significant**.



Table 1.4-4: Cumulative VMT Analysis

VMT Area	Total VMT					Total VMT/Service Population ¹				
	2020 Base	2040 No Project	2040 + Preferred Project	2040 + Alternative 2	2040 + Alternative 3	2020 Base	2040 No Project	2040 + Preferred Project	2040 + Alt 2	2040 + Alt 3
Countywide Average	25,933,300	30,430,310	30,479,579	30,473,495	30,377,010	16.6	16.2	16.1	16.1	16.2
VMT Rate Constant or Decreasing with Project?	---	---	---	---		---	---	Yes	Yes	Yes

1. Service Population consists of all residents and employees.

SOURCE: Contra Costa Countywide Travel Demand Model; Fehr & Peers, April 2022.

Mitigation Measure 1.4-2: Implement VMT Reduction Measures. Individual housing project development proposals that do not screen out from VMT impact analysis shall provide a quantitative VMT analysis using the methods applied in this EIR, with modifications if appropriate based on future changes to City of Orinda practices and CCTA VMT analysis methodology guidelines. Projects which result in a significant impact shall include travel demand management measures and physical measures to reduce VMT, including but not limited to the measures below, which have been identified as potentially VMT reducing in the California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (December 2021). Potential VMT reduction estimates are included below, but detailed requirements, calculation steps, and limitations are described in the CAPCOA Handbook. In addition, application of one or more measures is generally expected to result in a net VMT reduction of 10% or less for development projects in suburban settings such as Orinda.

- Unbundle parking costs (i.e., sell or lease parking separately from the housing unit). Effectiveness: up to 15.7% reduction in GHG from VMT per the CAPCOA Handbook.
- Provide car-sharing, bike sharing, or scooter sharing programs. Effectiveness: 0.15 – 0.18% reduction in GHG from VMT for car share, 0.02 – 0.06% for bike share, and 0.07% for scooter share, per the CAPCOA Handbook. The higher car share and bike share values are for electric car and bike share programs.
- Subsidize transit passes for residents of affordable housing. Effectiveness: up to 5.5% reduction in GHG from VMT per the CAPCOA Handbook.

In addition to the on-site measures noted above, individual housing projects that are above the VMT threshold could potentially contribute to future VMT mitigation fee programs, banks, or exchanges. No regional VMT mitigation programs currently exist; however, the CCTA is currently evaluating different mitigation program frameworks which may lead to a countywide or sub-regional VMT mitigation program. Should such a program be implemented, development projects could potentially pay into a fee



program or purchase mitigation credits to achieve needed VMT mitigation instead of, or in addition to, onsite TDM measures.

Because the effectiveness of the above measures in reducing an individual project's VMT impact to a less than significant level cannot be determined in this analysis, the impact for projects which do not screen out from VMT impact analysis would remain **significant and unavoidable with mitigation**.

Impact 1.4-3: Plan Orinda, Alternative 2, or Alternative 3 would not result in designs for on-site circulation, access, and parking areas that fail to meet City or industry standard design guidelines. (Less than Significant Impact with Mitigation)

Subsequent projects under Plan Orinda, Alternative 2 or Alternative 3, including any new roadway, bicycle, pedestrian, and transit infrastructure, would be subject to, and designed in accordance with industry standard design guidelines, such as Caltrans Highway Design Manual, California Manual on Uniform Transportation Control Devices, and the National Association of City Transportation Officials (NACTO) Guidance which address transportation design elements such as sight lines, driveway placement, street widths, traffic control, intersection geometric design, and other provisions for motor vehicle, pedestrian, bicycle and bus circulation. New transportation facilities, or improvements to existing facilities associated with subsequent projects would be constructed based on industry design standards and best practices consistent with the City's zoning code and building design and inspection requirements. As part of a project's review and approval process, the City would evaluate the project's effect on the surrounding and internal roadways relating to vehicular level of service and queueing, as well as analysis of pedestrian, bicycle, and transit circulation. While the City generally requires these analyses as part of project review, it currently does not have Transportation Impact Analysis (TIA) guidelines regarding project-level analysis.

Focused Assessment of the BART Sites

The BART Site has generated concern on the part of the public regarding congestion and safety related to the proximity of the parking lot access points to the SR 24 on-ramps and off-ramps. The limited-access right turn in/right turn out driveways on Camino Pablo, vehicle lane changes (weaving) required over short distances, potential for higher traffic with the construction of housing on these sites, and limited pedestrian and bicycle connections to the north and south contribute to these concerns.

Design and construction of housing on the BART site would be implemented with guidance from BART's *Transit Oriented Design Guidelines* (2017) which among other things addresses guidance on creating pedestrian-friendly areas that feature good connectivity and a greater mix of transit-supportive land uses, as well as a requirement that a comprehensive transportation demand management program be implemented to minimize the number of motor vehicle trips generated by the project. To date the BART site and Camino Pablo corridor near the downtown area have been reviewed in the *ConnectOrinda* report, which included potential near-term and long-term transportation projects. Near-term projects included connecting the Village District and BART and connecting the Theatre District and BART. Long-term



projects included building a new pedestrian and bicycle bridge from the Bryant Way/Moraga Way intersection connecting to the south end of Orinda Way and a two-way protected bike lane along Camino Pablo along the BART frontage. These projects would provide a separate connection that does not currently exist for pedestrians and bicyclists from the areas north of SR 24 to south of the freeway.

Based on the proposed housing units at the two BART Sites at time of this analysis, new housing on the Eastern Lot Site could generate an additional 120 trips in the morning peak hour and 127 trips evening peak hours, and new housing on the Western Lot Site could generate an additional 282 trips in the morning peak hour and 298 trips evening peak hours. The actual future traffic volumes at the BART sites could be less than, the same as, or more than existing conditions depending on factors such as the size of the project, if the project will provide parking, and the change in existing BART parking to accommodate the project. Elements to incorporate and consider when preparing the design for the BART site housing projects are detailed in BART's guidelines. Key measures likely to have the greatest benefit in reducing vehicle trips include reducing the parking ratios (parking spaces provided per unit), unbundling parking (selling or leasing parking separately from the housing units), shared micromobility services (bike share, scooter share), car-share service, shuttle service linking the sites to Orinda Village and the Theater Square District, establishing improved bicycle and pedestrian connections to downtown and improving multimodal access to and along the Camino Pablo corridor between Brookwood Road and Santa Maria Way. Each of these elements would reduce the vehicle trips generated by the BART site thereby reducing the motor vehicle traffic impact to Camino Pablo. Since no actual projects are proposed for the BART sites at this time, the number of units, access design changes, and measures that may be implemented to reduce vehicle trips are unknown.

Based on these considerations, Plan Orinda, Alternative 2, and Alternative 3 would result in a **potentially significant impact** with respect to transportation design.

Mitigation Measure 1.4-3: Prepare Transportation Impact Analysis (TIA) Guidelines. These guidelines are to be used to identify if a project will have a substantial adverse effect on on-site and/or off-site vehicular, bicycle, and pedestrian circulation and access to transit. At a minimum, the TIA guidelines shall include appropriate references to design guidelines and standards such as Caltrans Highway Design Manual and NACTO guidelines. The guidelines shall include LOS and queueing analysis to ensure a project will not create potential adverse effects on driveways and the internal and external roadway network.

Impact 1.4-4: Plan Orinda, Alternative 2, and Alternative 3 would not result in inadequate emergency access to development sites. (*Less than Significant Impact with Mitigation*)

There are no specific development projects associated with the Plan Orinda, Alternative 2, and Alternative 3; and thus, specific housing sites developed under Plan Orinda and the two alternatives cannot be analyzed for adequacy of emergency access at this time. However, the City maintains the roadway network which would provide access to new development sites in accordance with industry design standards. Emergency access to new development sites proposed under Plan Orinda and the two alternatives would be subject to review by the City of Orinda, Caltrans, and responsible emergency service



agencies, thus ensuring the projects would be designed to meet all emergency access and design standards. It is recommended that the City pull together guidelines that require the preparation of construction management plans that minimize temporary obstruction of traffic during site construction.

Additional vehicles associated with new development sites could increase delays for emergency response vehicles during peak commute hours. However, emergency responders maintain response plans which include use of alternate routes, sirens and other methods to bypass congestion and minimize response times. In addition, California law requires drivers to yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicle passes to ensure the safe and timely passage of emergency vehicles.

Based on the above considerations, adequate emergency access would be provided to new development sites, and the impact would be **less than significant with mitigation**.

Mitigation Measure: Prepare guidance around accommodating pedestrian, bicyclists, and transit in construction zones. This includes providing sidewalk diversion or detour plans, bicycle accommodations, and bus stop relocation or closure plans.



1.5 References

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