

Pinole Shores Project

Transportation Demand Management Plan

Prepared for:
M-Group and City of Pinole

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1. Introduction

The proposed Pinole Shores Project is required to prepare a Transportation Demand Management (TDM) Plan consistent with the City of Pinole’s General Plan Policy CE.6.2. This report provides an overview of the City’s requirements, a description of the proposed project, and existing available transportation modes at the site. This is followed by a description of required and encouraged TDM measures specifically tailored for the project based on the project’s location, available travel modes, and the operating conditions at the project. The report concludes by presenting the monitoring and reporting aspects for the TDM Plan.

City of Pinole Requirements

Policy CE.6.2 of the Pinole General Plan (adopted in 2010) requires implementation of “transportation demand management strategies in conjunction with land uses in order to prevent future traffic congestion in the city,” and outlines six actions:

Action CE.6.2.1: Coordinate with ride-sharing programs to provide up-to-date lists of potential riders and to educate the public on commuting options.

Action CE.6.2.2: Encourage the development of employer-funded vanpool and shuttle bus services to new employment centers.

Action CE.6.2.3: Encourage employer provision of information on alternative modes of transit.

Action CE.6.2.4: Encourage employers to offer flextime arrangements to their employees in order to reduce the percentage of trips made during peak hours.

Action CE.6.2.5: Work with schools to encourage carpooling and a flexible class schedule in order to reduce the percentage of trips made during peak hours.

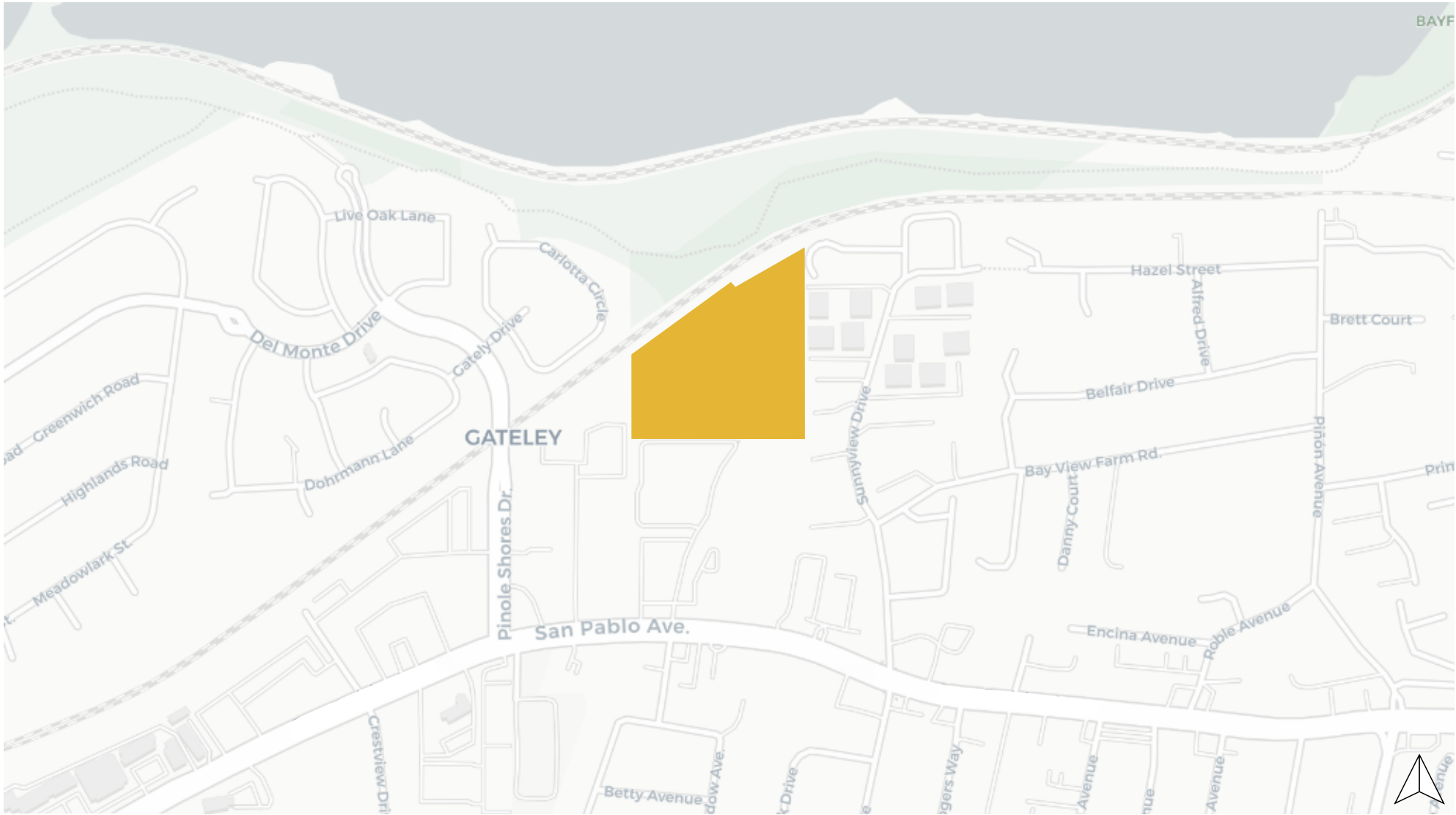
Action CE.6.2.6: Establish and apply minimum carpool requirements for all nonresidential developments.

Project Description

Figure 1 shows the location of the project, which is located at 830 San Pablo Avenue in the City of Pinole and is currently a 7.4-acre vacant lot. The project would provide approximately 117,940 square feet of space in two buildings (37,480 square feet in Building 1 and 80,460 square feet in Building 2). Although the exact use is not yet determined, it is expected to be warehouse and/or research and development (R&D). The project site is about 700 feet north of San Pablo Avenue.

The project would provide 139 passenger vehicle parking spaces and 9 loading docks (2 loading docks in Building 1 and 7 loading docks in Building 2). Access to the site would be provided through one existing driveway on San Pablo Avenue which is shared with other uses located between the project site and San Pablo Avenue. The driveway is located opposite of Meadow Avenue with all movements allowed at the intersection and stop signs on the minor northbound and southbound approaches.





 Project Site



Figure 1
Project Location

Project Trip Generation

Table 1 summarizes the daily, and AM and PM peak hour trip generation for the project, assuming the highest trip generating use (R&D) expected at the site. The project is estimated to generate about 1,310 daily, 121 AM peak hour, and 116 PM peak hour passenger vehicle trips on a typical weekday.

Table 1: Project Automobile Trip Generation

Land Use	Size ¹	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
Research & Development ²	117.9 KSF	1,310	99	22	121	18	98	116

Notes:

1. KSF = 1,000 square feet.
2. ITE *Trip Generation Manual, Eleventh Edition* land use category 760 (Research and Development Center) in General Urban/Suburban Setting:
 Daily: $T = 11.08 * X$
 AM Peak Hour: $T = 1.03 * X$ (82% in, 18% out)
 PM Peak Hour: $T = 0.98 * X$ (16% in, 84% out)

Source: Fehr & Peers, 2022.

Project Location and Setting

Pedestrian, bicycle, and transit facilities in the project vicinity are described below.

Pedestrian Access and Circulation

Walk Score is a measure of the walkability of any address based on distance to amenities within a 5 to 30-minute walk, and other metrics such as block length and intersection density. The project site has a Walk Score of 35/100¹, meaning most trips from this location require a car. The project is expected to generate some pedestrian trips given its proximity to San Pablo Avenue. However, the location of the project site behind three existing buildings and the winding nature of the ADA-accessible path around them could discourage walking between the project site and San Pablo Avenue.

Sidewalks are present on both sides of San Pablo Avenue and all other streets near the project site. A marked uncontrolled crosswalk across San Pablo Avenue at the intersection with the site's access driveway provides pedestrian access across San Pablo Avenue.

Bicycle Access and Circulation

Bike Score measures if an area is good for biking considering the availability of bike infrastructure, terrain, destinations, street connectivity, and number of bike commuters. The project site has a Bike Score of

¹ Walkscore.com, 830 San Pablo Avenue, Pinole, CA 94564, October 2022
(<https://www.walkscore.com/methodology.shtml>)



32/100², meaning that the area is not very bikeable and there exists minimal bike infrastructure in the immediate area.

Figure 2 shows existing and proposed bicycle facilities in the vicinity of the project. Existing bicycle facilities include:

- The San Francisco Bay Trail north of the BNSF railroad tracks north of the project site, accessible via Pinole Shores Drive, about 550 feet west of the project site
- A Class III bicycle route on Pinole Shores Drive between San Pablo Avenue and the San Francisco Bay Trail

The Three Corridors Specific Plan (City of Pinole, adopted in 2010 and updated in 2019), consistent with the *Contra Costa Countywide Bicycle and Pedestrian Plan* (Contra Costa Transportation Authority, 2019) proposes the following near the project site:

- Class II bicycle lanes on San Pablo Avenue

It is expected that most cyclists would use San Pablo Avenue and/or the Bay Trail to access the site.

Transit

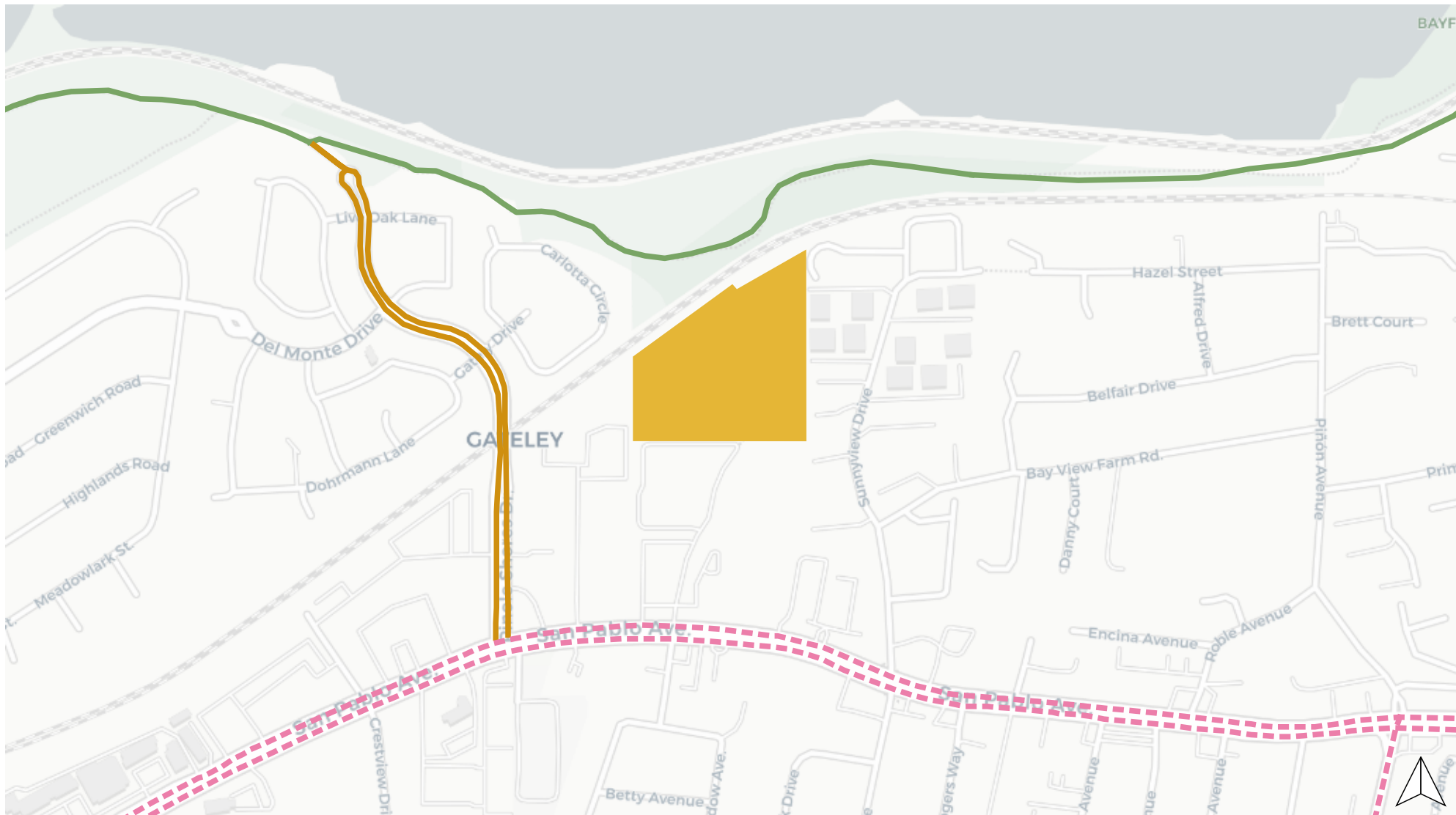
Existing transit service in the project area is shown on **Figure 3** and described below.

WestCAT is the local bus service provided in western Contra Costa County, including Pinole. The bus service shown on **Figure 3** represents the current service, as of Fall 2022, in the study area. Due to the COVID-19 pandemic, WestCAT has reduced service, including eliminating lines and reducing service frequencies.

Routes C3 and JL/JR operate along San Pablo Avenue with connections to Contra Costa College, Hercules Transit Center, and the El Cerrito del Norte BART station with combined weekday headways of 15 minutes during the weekday peak commute periods. Prior to the pandemic, WestCAT also operated Route 17 along San Pablo Avenue that connected the project with the Richmond Parkway Transit Center. Prior to the pandemic, all bus routes together operated at combined headways of 10 minutes during the weekday peak commute periods. The nearest existing eastbound and westbound Route C3 and JL/JR bus stops to the project site are on San Pablo Avenue at the far side of the intersection with Meadow Avenue and the access driveway to the site. Neither stop provides any amenities, such as a shelter or bench.

² Walkscore.com, 830 San Pablo Avenue, Pinole, CA 94564, October 2022
(<https://www.walkscore.com/methodology.shtml>)



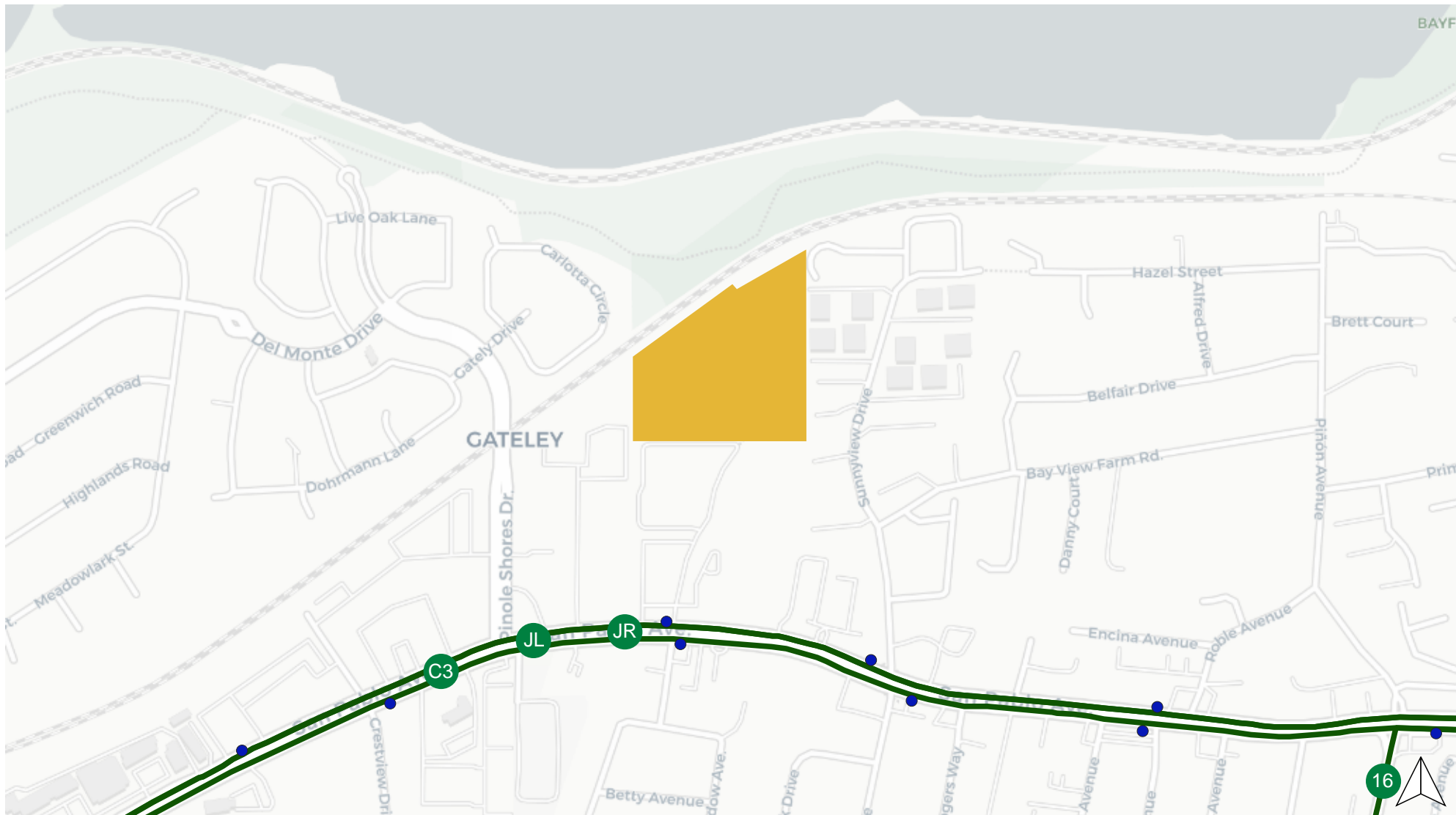


- Project Site
- Existing — Class I Bicycle Path
- Existing — Class III Bicycle Route
- Proposed — Class II Bicycle Lane



Figure 2

Existing and Proposed Bicycle Network



- Project Site
- WestCAT Service
- Transit Stops



Figure 3

Existing Transit Facilities

Commute Mode Splits in the Project Area

Table 2 summarizes the commute mode splits for workers in the project census tract. Based on the US Census data, about 78 percent of the workers in the area drive alone and about 11 percent carpool to and from work. About 11 percent of the workers in the project census tract use non-automobile modes to travel to and from work, which is consistent with the level of pedestrian and bicycle infrastructure, and the transit service in the project vicinity described above.

Table 1: Worker Commute Mode Split

Travel Mode	Percent Mode Split
Drove Alone	78%
Carpool	11%
Walk	3%
Bike	1%
Transit	6%
Other	1%
Total	100%

Source: Census Transportation Planning Products, U.S. Census Bureau, American Community Survey 2012-2016 Five-Year Estimates, Census tract 3591.02, Contra Costa County, California, summarized by Fehr & Peers, 2022.

2. Transportation Demand Management Measures

The TDM Plan for the Pinole Shores project was developed to meet the specific needs of the project, considering the logistical resources, challenges, and opportunities of the site. The TDM measures provided in this plan identify elements and actions that commit the project to their implementation.

This chapter presents the goals and objectives of the TDM Plan and presents details on the required and encouraged measures for the project.

TDM Goals and Objectives

The primary goal of TDM programs is to reduce the number of drive-alone trips generated by new developments, by shifting a proportion of trips to more sustainable modes, such as walking, biking, transit, or carpooling. This, in turn, helps to alleviate traffic congestion, reduce vehicle miles traveled (VMT) which results in reduced greenhouse gas emissions and other air pollution, and reduce demand for parking. This TDM Plan is designed to reduce single-occupant vehicle (SOV) trips generated by the project.

Because of the success of many individual TDM measures depends on operating characteristics of the project site such as hours of operations, or other factors, such as where employees live, whether they need to combine the work commute with dropping off or picking up children from school or day care, and many other personal factors, it is difficult to know in advance which non-SOV mode will be most attractive to any specific individual or which TDM measure is most likely to encourage them to try it. The Employee Survey, described in Chapter 3, will solicit feedback on employees' perceptions of obstacles to using a non-SOV mode and what additional measures would be most effective in achieving the project's goal.

Roles and Responsibilities

A successful TDM Plan requires a combination of supportive site design elements, programming, and incentives to encourage employees to shift to non-SOV modes for commuting to work. Thus, the TDM strategies included in this plan include both one-time physical infrastructure improvements as well as ongoing operational strategies. Physical improvements are anticipated to have a one-time capital cost with some level of ongoing maintenance for certain measures. Operational strategies provide ongoing incentives and support for the use of non-SOV transportation modes. These TDM measures have monthly or annual costs and will require ongoing management.

Required TDM Elements

Table 3 summarizes the required TDM measures for the project, provides a description of each measure, presents the estimated costs of implementing the measure, and estimates the effectiveness of the measure in reducing the SOV trips generated by the project. The infrastructure improvement measures (measures 1 through 5) will be implemented by the project prior to the occupancy of the project buildings. The other operational measures (measures 6 through 14) will be implemented after the buildings are occupied and will be on-going.

Encouraged TDM Elements

Table 4 summarizes the TDM measures that the project is encouraged to implement. Most of these measures cannot be implemented at this time or may not be effective in reducing SOV trips at this time. For example, depending on the start and end time of work shifts at the site, providing transit subsidies (measure 19) could attract more employees to utilize the frequent transit options along San Pablo Avenue.

TDM Program Effectiveness

The effectiveness of the measures in Tables 3 and 4 is primarily based on research compiled in *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*, California Air Pollution Control Officers Association [CAPCOA], December 2021). This report is a resource for local agencies to quantify the benefit, in terms of reduced VMT, of implementing various TDM strategies. Although the focus of the CAPCOA research is reductions to VMT, the research used to generate the reductions also indicates vehicle trip reductions are applicable as well. For the purposes of this analysis the reduction in SOV is assumed to equal the VMT reduction.

It is estimated that the required TDM measures presented in Tables 3 and 4 would reduce the SOV trips generated by the project by about 5 to 10 percent.

Table 2: Required TDM Measures

TDM Strategy	Description	Costs ¹		Effectiveness Range ²
		One Time	Annual	
1. Pedestrian Connections	Improve walkability and pedestrian access between the project site and San Pablo Avenue. Consider providing a more direct pedestrian path between the project site and San Pablo Avenue than the current circuitous pedestrian path through the existing parking facilities and loading docks. Another option is aligning the crosswalk across the project access driveway on San Pablo Avenue with the sidewalks on both sides of the driveway.	\$\$\$-\$\$\$\$		Low
2. Bus Shelter	Coordinate with the City of Pinole and WestCAT to explore the feasibility and if found feasible, install bus shelters and/or other amenities at the bus stops in both directions on San Pablo Avenue.	\$\$-\$\$\$		Low
3. Bicycle Parking – Long-term and Short-term	Provide long-term and short-term bicycle storages for commuters who travel by bike.	\$\$		Low
4. Bicycle Repair Fixit Station	Provide at least one fixit station within the project site which will provide the tools necessary to perform basic bicycle repairs and maintenance.	\$		Low
5. Showers and Locker Room	Provide at least one shower per gender and six lockers per shower for each building.	\$\$		Low
6. Remote Work	Allow employees who do not have to physically be present at the project site to complete their tasks to work remotely at least one day per week		\$	Medium
7. Carpool/Vanpool Parking	Reserve preferred parking spaces for carpools and vanpools.	\$		Low
8. Carpool Matching Efforts and Promotions	Encourage employees to sign-up for 511 Rideshare or other similar programs that provide employees with a computerized list of other commuters near their employment and residential ZIP code, along with the closest cross street, phone number and hours commuters are available to commute to and from work. Individuals are then able to select and contact others with whom they wish to match for a ride.		\$	Low
9. Emergency Ride Home Program	Encourage employees to sign-up for 511 Contra Costa's Guaranteed Ride Home (GRH). When unexpected circumstances arise, the GRH Program provides a free ride home from work for employees who choose to commute by not driving alone. The GRH Program is free for employees who register for the program, work in Contra Costa County, and use sustainable forms of transportation, including walking, biking, taking transit, or ridesharing.		\$	Low

TDM Strategy	Description	Costs ¹		Effectiveness Range ²
		One Time	Annual	
10. Transportation Kiosk	Provide a transportation information board or commuter kiosk in the employee lounge and/or lobby of each project building. The kiosk will contain transportation information such as transit schedules, bicycle maps, commuter materials, and 511 ridematching incentives.	\$\$	\$	Low
11. Commute Program Flyer	At the start of employment, provide each employee with an employee commute flyer. This flyer will include (but not be limited to) information about carpool parking, vanpool program, transit opportunities, ride-matching services, bicycle routes, and emergency ride home program.	\$	\$	Low
12. TDM Project Coordinator and Employee Transportation Coordinators	Designate a TDM coordinator for the project site. The TDM coordinator(s) will manage and monitor the employer commute programs and will be responsible for ensuring that all employees are aware of their transportation options and would serve as a point of contact regarding the TDM program.		\$\$	Low
13. Promotional programs (Bike to Work Day, Earth Day, Transportation Spare the Air notices, e-newsletters, etc.)	Provide promotional events and periodic articles by the project TDM Coordinator for internal employee newsletters, with ongoing highlights of alternative commuters and their successes.		\$\$-\$	Low
14. Participate in the Bay Area Commuter Benefits Program	Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program, requires employers with 50 or more full-time employees to register and offer commuter benefits to their employees.		\$	Low

Notes:

1. Approximate cost ranges:

- \$ <\$1,000
- \$\$ \$1,000 - \$10,000
- \$\$\$ \$10,000 - \$100,000
- \$\$\$\$ >\$100,000

2. Approximate effectiveness in reducing SOV trips*:

- Low <3%
- Medium 3-8%
- High >8%

*Due to inherent uncertainty in the effectiveness of any given TDM strategy, these values represent a reasonable range of effectiveness for strategies placed in each tier.

Source: Fehr & Peers, 2022.

Table 3: Encouraged TDM Measures

TDM Strategy	Description	Costs ¹		Effectiveness Range ²
		One Time	Annual	
15. Bikeshare/Scooter-share	If bikeshare and/or scooter-share is provided near the project site, provide annual membership to employees.	\$	\$\$	Low
16. Rideshare	Designate parking spaces for ridesharing vehicles and/or designate an adequate passenger loading zones and waiting areas for ridesharing vehicles. Provide an app or website to coordinate rides.	\$\$	\$	Low-Medium
17. Carshare	If carshare is provided near the project site, provide annual membership to employees.	\$	\$\$	Low
18. Pre-Tax Transit Payroll Deduction Option	Use programs such as WageWorks to help employees pay for commuting expenses through pre-tax payroll deductions towards transit passes.		\$\$	Low
19. Transit Subsidies	Subsidize or reimburse employees for transit passes.		\$-\$\$\$	Low-Medium
20. Cash Allowances and Rewards (Non-Transit)	Reward incentives for alternative commute modes.		\$\$	Low
21. Carpool Incentive Program	Provide incentives for carpool/vanpool commuters such as gas cards or bridge tolls reimbursements.		\$\$	Low
22. Provide vanpool services to major transit stations	Explore collaborating with other nearby employers to provide vanpool services to the Richmond or El Cerrito del Norte BART stations or other areas where a high number of employees live.		\$\$\$-\$\$\$\$	Low-Medium

Notes:

1. Approximate cost ranges:

- \$ <\$1,000
- \$\$ \$1,000 - \$10,000
- \$\$\$ \$10,000 - \$100,000
- \$\$\$\$ >\$100,000

2. Approximate effectiveness in reducing SOV trips*:

- Low <3%
- Medium 3-8%
- High >8%

*Due to inherent uncertainty in the effectiveness of any given TDM strategy, these values represent a reasonable range of effectiveness for strategies placed in each tier.

Source: Fehr & Peers, 2022.

3. Monitoring and Reporting

It is important to ensure TDM measures are implemented and effective. Therefore, a monitoring program is necessary to measure the performance of the TDM plan based on the project non-SOV mode-use and corresponding automobile trip reductions. An annual commute program evaluation as described in this chapter will allow the project and the City to assess the effectiveness of the unique program designed for the project. The annual monitoring provides an opportunity for the project to assess the success of the TDM Plan and to make adjustments or revisions as needed to achieve the TDM Plan goal.

Annual Employee Commute Survey

The project shall conduct an employee commute survey (See **Appendix A** for a sample survey) that would last for five continuous weekdays to assess the employee commute mode shares and evaluate and ensure the success of the TDM Plan. The survey can be in-person and/or online and shall be administered to all site employees.

The project will encourage, support, and participate in the promotion and marketing of the annual employee survey. Survey data may be used to focus commuter marketing and the efforts of the TDM Coordinator(s) to maintain the project's commitment to reduce vehicle trips at the site, as well as modify the implemented TDM measures to increase their effectiveness. The initial annual employee survey shall be conducted within one year of the project occupancy and subsequent surveys shall be conducted at the same time of the year as the initial survey.

Annual TDM Summary Report

The project shall submit an annual TDM summary report to the City of Pinole to document the effectiveness of the TDM Plan in reducing the SOV trips generated by the project and compliance with this TDM Plan. At minimum, the report shall consist of the following:

1. A description of the current TDM measures and services provided at the project, the level of use or participation of each measure (to the extent feasible), and compliance with the required and encouraged measures in the TDM Plan.
2. Results of the annual employee survey that quantify the mode split for site employees, the perception of the TDM Plan by the project employees, and compliance with the TDM Plan's vehicle trip reduction goal. The survey results should focus on the weekday daytime employees.
3. Findings of the project compliance with the TDM reduction and participation goal. If the report findings show that the TDM reduction and/or participation goals have not been met, the project would work with City staff to identify modifications to the TDM Plan and if there are additional TDM measures the project could reasonably (financially and practically) implement to further improve the site's TDM reductions and participation.

The Annual TDM Summary Report shall be submitted to the City after the completion of the annual employee commute survey. The reports subsequent to the first report shall include a comparison of the TDM measures and services and their effectiveness, as well as the mode split data, with the previous years.

No Expiration of TDM Plan or Programs

Ongoing implementation of all required TDM measures will continue with no expiration of this plan.

Appendix A – Sample Commute Survey

NOTE: Questions should be tailored by the project based on specific policies such as work schedules, available commuter benefits, available commute options, etc.

1. What is your home zip code?
2. What are your typical work hours?
 - a. Start time:
 - b. End time:
3. Thinking about last week, how did you get to work on each of the following days? If you used more than one, please indicate the way for the longest part of your trip.
 - a. Monday:
 - b. Tuesday:
 - c. Wednesday:
 - d. Thursday:
 - e. Friday:
 - f. Saturday:
 - g. Sunday:
4. Thinking about last week, how did you leave work on each of the following days? If you used more than one, please indicate the way for the longest part of your trip.
 - a. Monday:
 - b. Tuesday:
 - c. Wednesday:
 - d. Thursday:
 - e. Friday:
 - f. Saturday:
 - g. Sunday:
5. Thinking about last week, how often did you leave work in the middle of the day to get lunch or run errands?
 - a. Yes, multiple times a day
 - b. Yes, once a day
 - c. Yes, a few times a week
 - d. No, I did not leave the office during the day
6. When you leave the office in the middle of the day, how do you typically travel to get lunch or run errands?
 - a. Private vehicle
 - i. Drove my own private vehicle (Drive alone)
 - ii. Drove my own private vehicle (Carpool)
 - iii. Passenger in a private vehicle (Carpool)
 - b. Uber/Lyft/Taxi drop-off
 - c. AC Transit Bus
 - d. Bicycle
 - e. Walked
 - f. Bikeshare/E-scooter
 - g. Other: _____
7. What is most important to you when you choose how to get to work? (Select up to 3.)
 - a. Travel time
 - b. Cost
 - c. Convenience/flexibility
 - d. Reliability
 - e. Comfort/safety
 - f. Reducing pollution
 - g. Ability to make stops between home and work
 - h. Stress
8. If you typically use a non-drive alone mode to commute to work, how can we better support your commute?
 - a. Company subsidy for transit
 - b. Company subsidy for vanpool
 - c. Company subsidy for biking or walking
 - d. Lower parking rates for carpooling
 - e. Preferred parking for carpooling
 - f. Assistance using transit or biking
 - g. Assistance with
 - h. Flexible work schedule
 - i. Ride home in case of emergency
 - j. Incentive program (prizes or contests)
 - k. Other: _____

9. If you normally drive alone to work, what are your main reasons for doing so?
 - a. Need a car for work
 - b. Need a car for personal use during the work day
 - c. No reasonable transit option
 - d. No reasonable walking or biking option
 - e. No options for carpooling
 - f. Need a car for errands or to transport children
 - g. Cannot get home in an emergency
 - h. Cost of taking transit
 - i. Other: _____
10. If you usually drive alone to work, which of the following transportation options (other than driving alone) would appeal most to you? (Select up to 3.)
 - a. Carpooling
 - b. Vanpooling
 - c. Transit
 - i. BART
 - ii. AC Transit
 - d. Bicycling
 - e. Walking
 - f. Not interested in other transportation options for commuting
 - g. Other: _____
11. If you normally drive alone to work, what would encourage you to use a non-drive alone mode to commute to work? (Select up to 3.)
 - a. Company subsidy for transit
 - b. Company subsidy for vanpool
 - c. Company subsidy for biking or walking
 - d. Parking cash-out
 - e. Lower parking rates for carpooling
 - f. Preferred parking for carpooling
 - g. Assistance using transit or biking
 - h. Assistance finding carpool partners
 - i. Flexible work schedule
 - j. Ride home in case of emergency
 - k. Incentive program (prizes or contests)
 - l. Other: _____
12. Do you have other comments about your transportation options for commuting to work?