THE CITY OF MILPITAS

Trail, Pedestrian, and Bicycle Master Plan

June 2021

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California Environmental Quality Act (CEQA) Guidelines Section 15260 describes the circumstances when an exemption from CEQA can occur. Section 15262 discusses that a feasibility or planning study is exempt when, "the possible future actions which the agency, board, or commission has not approved, adopted, or funded does not require the preparation of an EIR or negative declaration but does require consideration of environmental factors. This section does not apply to the adoption of a plan that will have a legally binding effect on later activities."

The City of Milpitas's Trail, Pedestrian, and Bicycle Master Plan meets these criteria for an exemption because these Plans are a study that serve as the basis for future grant applications and updates to the General Plan. These Plans serve as a guiding document related to the education, encouragement, enforcement, and evaluation of future walking, bicycling, and trail network improvements. Therefore, this Plan has no legally binding effect on current activities (e.g., development project application review) or later activities (i.e., the General Plan Update).

Project recommendations and alignments included in this plan are described at a conceptual level for planning purposes only. Implementation of individual projects will require obtaining project funding and conducting further study including feasibility, design, outreach, and environmental clearance, as applicable.

Contents

EXECUTIVE SUMMARY

The Milpitas Trail, Pedestrian, and Bicycle Master Plan provides a vision and action plan for the city to improve safe and convenient travel by active modes in Milpitas. Specifically, this plan seeks to:

- Support connectivity and access to destinations;
- Improve safety for all modes;
- Create an all ages and abilities active transportation network that supports all users, including vulnerable and historically disadvantaged populations;
- Integrate active transportation networks with BART and other transit options; and
- Increase access to recreational opportunities.

Today, fewer than 2% of residents walk or bike to work.[1] However, as the population continues to grow along with employment in the city, it is important to expand options for how people travel in and around the city. The recently-opened BART station has the potential to dramatically change the transportation landscape for Milpitas, providing new opportunities to access the region without relying on a personal vehicle. Safer bicycle and pedestrian connections to the BART station and other transit options are particularly important to better serve the growing number of jobs in the city.

Network Needs

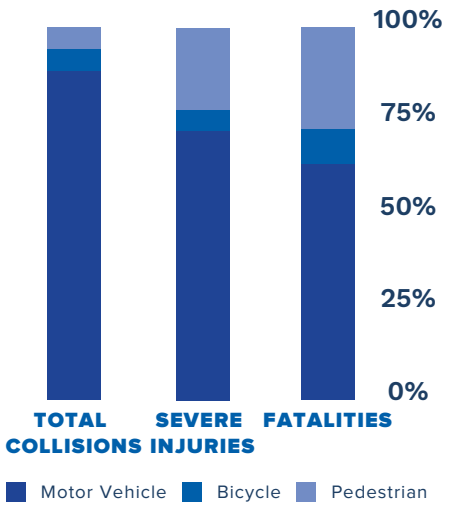
Network needs and opportunities for improvement were identified through consideration of the existing network, the location of destinations and services in the city, evaluation of collision data, and public input.

The Needs Analysis reveals several key considerations for creating a complete and connected active transportation network in Milpitas:

High-speed roadways, rail lines, creeks, and highways are barriers for continuous, connected travel among destinations and neighborhoods. Specifically, travel east and west across the city is restricted by highways. The few crossing opportunities available provide access for all modes, resulting in complex shared traffic conditions.

Collisions, particularly those resulting in serious injuries or fatalities, disprorportionately impact people walking or bicyciling, as shown in the figure below. Serious injury or fatal collisions involving people walking or bicyling also primarily occured on major roadways, further emphasizing the barriers created by these roads.

REPORTED CRASHES IN MILPITAS, 2014-2018



1 2018 ACS 5-year estimate

Finally, a complete and connected network should support people of all ages and abilities. As the population continues to grow, it is important to consider how people connect to not only jobs but also schools, parks, services, transit, and regional destinations. Today's conditions support varied levels of access to these destinations; this is explored further in the Needs Analysis Chapter.

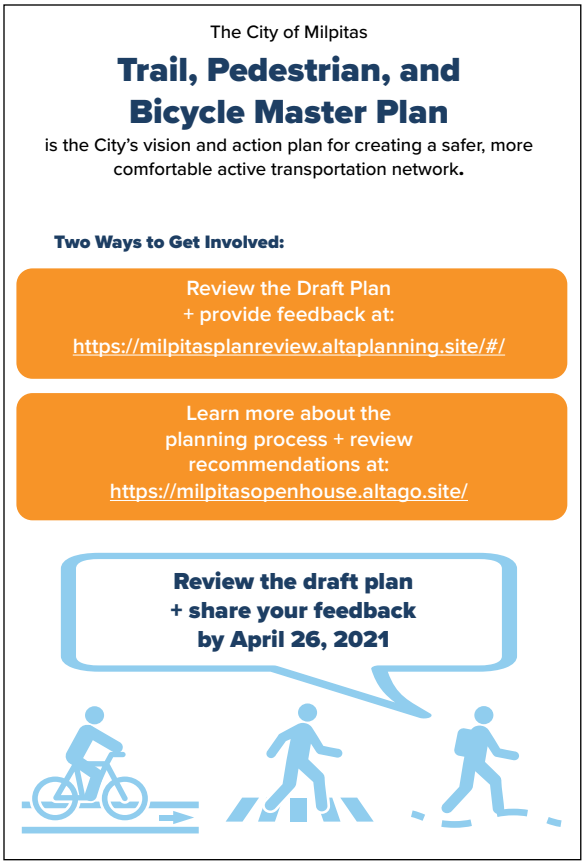
Public Engagement

Throughout the planning process, Milpitas residents and visitors were invited to share about their current travel experiences, provide input on the types and locations of recommended improvements, and share feedback about the plan. Input opportunities included both in-person workshops, open houses, and public meetings as well as online tools, such as interactive input maps, plan comment tools, and a Virtual Open House.

Throughout the planning process—and despite the challenges created by the COVID-19 panedmic—Milpitas residents and visitors shared more than 2,000 points of feedback.

Results of public engagement reflected themes similar to the findings ofthe Needs Analysis. Comments most frequently supported the need for improved safety for all people and modes; improved connections to schools and transit; improved access across major barriers; and increased connectivity both locally and with neighboring cities.

As a result, this plan prioritizes bicycle and pedestrian travel in the city to make these modes an attractive travel option. Recommendations focus on development of a low-stress active transportation system that prioritizes separation from motor vehicles along and across roadways.



IN SPRING 2021, MILPITAS RESIDENTS AND VISITORS WERE INVITED TO REVIEW THE DRAFT TRAIL, PEDESTRIAN, AND BICYCLE MASTER PLAN. A VIRTUAL OPEN HOUSE PROVIDED AN OVERVIEW OF THE PLANNING PROCESS AND KEY RECOMMENDATIONS, WHILE THE DRAFT PLAN WAS MADE AVAILABLE FOR COMMENT.

Recommendations

The Trail, Pedestrian, and Bicycle Master Plan provides network recommendations based on both corridor (or linear) improvements as well as intersection (or point) locations. These improvements seek to create complete and connected networks, with an emphasis on low-stress travel opportunities. Further, these recommendations seek to maximize use of existing right-of-way and prioritize improvements with high levels of feasibility and advance plan goals and objectives.

Pedestrian Recommendations identify both area-based improvements as well as specific locations for new or improved crossings, expansion of the sidewalk network, and closing network gaps.

Bicycle Recommendations include both on-street connections, such as new bicycle boulevards or separated bike lanes, and intersection improvements that improve network connectivity.

Trail Recommendations identify new shared-use paths, trail access points, and trailheads that support low-stress travel along separated routes.

Projects for Further Study include projects that will advance network objectives but require additional consideration due to the high level of complexity and coordination required. These projects, including crossings of highways and rail, were identified through other planning efforts, public comment, and network analysis.

Together, the improvements identified as part of this plan seek to create a comprehensive active transportation network that supports people of all ages and abilities.

When completed, the City of Milpitas will have over 50 miles of low-stress faciities, including 35 miles of new low-stress facilities.

TABLE 1 *Summary of Plan Recommendations*

RECOMMENDATION TYPE	PROPOSED NUMBER / MILEAGE
Pedestrian Spot Improvements	60 crossings
Bicycle Spot Improvements	30 crossings
Linear Bikeway Improvements	40 miles
Trail Spot Improvements	19 access points
Linear Trail Improvements	9 miles

Pedestrian Improvements

Commercial Pedestrian Priority Areas and the Neighborhood Pedestrian Priority Areas are focused locations for improved pedestrian facilities and amenities. Recommendations include elements such as improved sidewalks, direct routes through street end connections, safer roadway crossings, and lighting, wayfinding, and street trees. These improvements and others seek to improve safety and comfort of the pedestrian environment in Milpitas.

In addition to area-based recommendations, over 50 locations are highlighted for specific crossing improvements and gap closure. Although the Milpitas sidewalk network is relatively complete, wide roadways, high traffic speeds and volumes, and limited crossing opportunities affect safe and comfortable travel by foot or with use of a mobility device. Prioritized pedestrian spot improvements are shown in the map above.

TABLE 2 *Priority Pedestrian Spot Recommendations: Short Term Improvements*

PROJECT TYPE*	LOCATION	CROSS STREET
Commercial Signalized	Milpitas Blvd	Dixon Landing Rd
Commercial Signalized	Abel Street	Milpitas Blvd
Neighborhood Unsignalized	Yosemite Dr	S Temple Dr
Neighborhood Unsignalized	Arizona Avenue	Washington Drive
Neighborhood Unsignalized	Milpitas Blvd	Tramway Dr
Commercial Signalized	Jacklin Rd.	Park Victoria Dr
Commercial Signalized	Main St	Cedar Way
Commercial Unsignalized	Jacklin Rd	Foothills Square
Commercial Signalized	Abel St	Serra Way
Neighborhood Signalized	Milpitas Blvd	Washington Dr
Commercial Unsignalized	Dixon Rd	Hetch Hetchy Trail
Neighborhood Unsignalized	Yosemite Dr	Roswell Dr
Neighborhood Unsignalized	Abbott Avenue	Valley Way
Neighborhood Signalized	S Park Victoria	Yosemite Dr
Neighborhood Unsignalized	Capitol Ave	Fallen Leaf Way
Commercial Signalized	Calaveras Blvd	Serra Way
Commercial Signalized	Jacklin Rd	Escuela Parkway
Neighborhood Signalized	Abel St	Redwood Ave
Neighborhood Signalized	Abel St	Marilynn Dr
Neighborhood Signalized	Abel St	Penitencia St
Commercial Unsignalized	Main St	Corning Ave
Commercial Unsignalized	Abel St	Machado Ave
Commercial Signalized	Main St	Curtis Ave
Commercial Signalized	Abel St	Main St
Neighborhood Signalized	Landess Ave	Yellowstone Ave
Neighborhood Unsignalized	Edsel Dr	Temple Dr
Neighborhood Signalized	Park Victoria Dr	Edsel Dr
Sidewalk Gap	Milpitas Blvd	Montague Expwy to Los Coches St

Bicycle Network Improvements

This plan proposes a complete and connected low-stress bicycle network that supports travel to, from, and around major destinations in Milpitas. Shared-use paths, explored in more detail below, provide the foundation for the network and connect to bike boulevards and cycle tracks to link people to where they want to go. On-street bike lanes and buffered bike lanes support more confident bicyclists in locations with limited right-of-way. The proposed network includes 35 miles of new low-stress bikeways. The priority bike network is shown in the map above.

TABLE 3 *Priority Bikeway Recommendations: Short Term Improvements*

PROJECT TYPE	ROADWAY	LOCATION
Class IV	Abel Street	Milpitas Blvd to Redwood Ave
Class IIB	Abel Street	Redwood Ave to Calaveras Blvd
Class II	Evans Road	S Park Victoria Dr to Kennedy Dr
Class IIB	S Park Victoria Dr	Calaveras Blvd to Landess Ave
Class IIB	S Park Victoria Dr	Jacklin Rd to Calaveras Blvd
Class IV	Milpitas Blvd	City Limit to Jacklin Rd
Class IV	Jacklin Rd	Milpitas Blvd to S Park Victoria Dr
Class IV	Milpitas Blvd	Jacklin Rd to Calaveras Blvd
Class IIIB	Yosemite Dr	S Park Victoria Dr to Piedmont Rd
Class IV	Yosemite Dr	Milpitas Blvd to S Park Victoria Dr
Class IIIB	Arizona Avenue	Buskirk St to Jacklin Rd
Class IIIB	Yellowstone Ave	S Park Victoria Dr to Landess Ave
Class IIIB	Washington Dr	Milpitas Blvd to Escuela Parkway
Class IV	Dixon Land Rd	Milpitas Blvd to Hetch Hetchy Trail
Class IV	Milpitas Blvd	Calaveras Blvd to Yosemite Dr
Class IV	Milpitas Blvd	Yosemite Dr to Landess Ave
Class IIIB	Tahoe Dr	Sinnott Park to Yellowstone Ave
Class IIB	Evans Road	Kennedy Dr to Calaveras Blvd

Bicycle Spot Improvements

Intersection improvements support safe bicycle travel and a complete and connected network. Intersection improvements presented in this plan include near-term and longer-term improvements that support safer travel across the network. Prioritized bicycle spot improvements are shown in the map above.

Near term improvements including completing bike lane striping through the approach to an intersection where bike lane markings currently drop prior to intersections. Longer-term improvements seek to enhance safety and connectivity across major barriers, such as I-680 and I-880, that require more significant intervention.

TABLE 4 *Priority Bike Spot Recommendations: Short Term Improvements*

PROJECT TYPE	ROADWAY	LOCATION
Bike Lane Connectivity	Milpitas Boulevard	Jacklin Road
Bike Lane Connectivity	Dixon Landing Rd	Milpitas Blvd
Bike Lane Connectivity	Jacklin Road	Arizona Avenue
Bike Lane Connectivity	Milpitas Boulevard	Calaveras Boulevard
Bike Lane Connectivity	Abel Street	Marilynn Drive
Bike Lane Connectivity	Montague Expressway	E Capitol Avenue
Bike Lane Connectivity	Milpitas Blvd	Washington Dr
Bike Lane Connectivity	Jacklin Road	Escuela Parkway
Bike Lane Connectivity	Jacklin Road	Park Victoria Drive
Bike Lane Connectivity	Park Victoria Drive	Calaveras Boulevard
Bike Lane Connectivity	Abel Street	Redwood Avenue
Bike Lane Connectivity	Park Victoria Drive	Edsel Drive
Bike Lane Connectivity	Park Victoria Drive	Yosemite Drive
Bike Lane Connectivity	Milpitas Boulevard	Montague Expressway
Bike Lane Connectivity	Main Street	Great Mall Parkway
Bike Lane Connectivity	Tasman Drive	McCarthy Boulevard
Bike Lane Connectivity	Abel St	Main St

PRIORITY TRAIL IMPROVEMENTS

NORTH

0 0.5 1 Miles

PRIORITIZED TRAIL RECOMMENDATIONS

- HIGH NEED, HIGH FEASIBILITY
- HIGH NEED, LOW FEASIBILITY
- LOW NEED, HIGH FEASIBILITY
- LOW NEED, LOW FEASIBILITY

EXISTING TRAILS

- Existing
- Unpaved Trails

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water
- Bike/Ped Bridge

Trail Improvements

The existing trail network in Milpitas is primarily comprised of paved shared use paths. The Trail, Pedestrian, and Bicycle Master Plan seeks to expand the existing network to provide a foundation of direct, separated routes for people walking and biking. While the trail network builds on previously-proposed path alignments, shifting conditions, updated standards, and changing development patterns have impacted the path alignments recommended here. However, it is important to consider the proposed paths in conjunction with the on-street network and sidewalk recommendations that support a more complete, better connected network. Priority trail alignments are shown in the map above.

TABLE 5 *Priority Trail Recommendations: Short Term Improvements*

TYPE*	LOCATION	CROSS STREET
Paved Shared Use Path	Penitencia Creek	San Andreas Dr to Calaveras Blvd
Paved Shared Use Path	Calera Creek	Milpitas Blvd to Hillview Dr
Paved Shared Use Path	Escuela Pkwy	Russell Ln to Roger St
Paved Shared Use Path	Hillview Dr / Los Coches St	Berryessa Creek

Trail Spot Improvements

Trail spot improvements, when implemented in conjunction with the paved shared use path network, increases access to paths throughout the city while also support navigation through wayfinding improvements, new access points, and trailheads. Improved access points expand integration of the trail network with on-street improvements, expand connections to destinations across the city, and increase recreational opportunities. The map above represents proposed and prioritized spot improvements along the paved shared use path network.

TABLE 6 *Priority Trail Spot Recommendations: Short Term Improvements*

TYPE*	LOCATION	CROSS STREET
Trail Access Improvements	Berryessa Creek	Yosemite Dr
Trail Access Improvements	Berryessa Creek	N Milpitas Blvd
Trailhead Improvements	Hetch Hetchy Trail	Oliver W. Jones Park
Trailhead Improvements	Robert E. Browne Park	Yellowstone Ave
Trailhead Improvements	Hetch Hetchy Trail	Paseo Refugio
Trail Access Improvements	S Hillview Dr	Los Coches St
Trail Access Improvements	Tom Evatt Park	S Abel St

Shared Micromobility

As Milpitas expands active transportation infrastructure, the City should consider opportunities for shared mobility programs that support travel options for Milpitas residents, visitors, and employees. Neighboring jurisdictions and other communities in the region have implemented a shared micromobility program, including both bicycle and scooter share programs. It is recommended that the City of Milpitas explore similar opportunities, including opportunities to coordination or partnership with neighboring cities.

Specifically, this plan recommends a preliminary strategy for integrating shared bicycle and scooter programs through a one-year pilot program in select areas of the city.

This program should include elements such as designated parking areas, equitable access to shared vehicles, and close coordination with neighboring jurisdictions. Evaluation of the program, following the one-year pilot study, should consider opportunities to expand the program beyond the recommended pilot areas.

DESIGNATED PARKING AREAS FOR BIKE SHARE AND SCOOTER SHARE ENCOURAGE COMPLIANCE WITH PARKING REQUIREMENTS, INCLUDING PROVIDING LOCATIONS TO LOCK BIKES AND SCOOTERS.

Policies and Programs

To supplement infrastructure investments, Milpitasshould also implement education and encouragement programs, such as Safe Routes to School, employer-based encouragement programs, and adult cycling classes. Wayfinding sign systems and bicycle parking programs can further support residents and visitors traveling by active modes, while a comprehensive data collection program and maintenance policy can support greater understanding and preservation of the City's infrastructure investments. Finally, the City should adopt Vision Zero and Complete Streets policies to support a safer, more balanced transportation system.

Project Implementation

Recommended projects were prioritized based on community feedback, plan goals, and results of the network needs analysis. Criteria considered both need and feasibility. This approach prioritizes connections that provide access to destinations, improve high stress corridors, address a history of bicycle- and pedestrian-involved collisions, and are identified as a need by the community. Further, it considers the potential investment and complexity associated with the project; near term improvements are those that are both high need and can be completed by the City of Milpitas within the existing right-of-way. The resulting project list is an action plan for implementation.

In addition to prioritized projects, potential funding opportunities were identified from local, regional, and state sources to help guide the implementation of the plan's recommendations.

COVID-19 Impacts

This plan reflects an adjusted planning process in response to the COVID-19 pandemic. Beginning with the California Governor's March 2020 Stay at Home Order, planned outreach activities and the associated scheduled were modified to comply with public health guidelines in effect throughout the remainder of 2020 and early 2021. This includes extended public comment periods, shift to virtual outreach activities, and extension of the overall plan timeline.

DURING PHASE 2 OF PUBLIC OUTREACH, OVER 1,500 PEOPLE VISITED THE VIRTUAL OPEN HOUSE, WHICH PROVIDED RESIDENTS THE OPPORTUNITY TO REVIEW THE PLANNING PROCESS, COMMENT ON THE PROPOSED PRIORITY PROJECTS, AND SHARE FEEDBACK ABOUT THE PLAN.

INTRODUCTION

The Milpitas Trail, Pedestrian, and Bicycle Master Plan provides a vision and action plan for the City to create a complete and connected network of bicycle and pedestrian facilities. Through improved sidewalks, bikeways, and paved shared use paths, the resulting network seeks to support residents and visitors of all ages and abilities. This plan serves as an update to the previously-adopted Trail Master Plan (1997) and Bikeway Master Plan Update (2009). It focuses on supporting safer travel in and around Milpitas while maintaining and expanding connections with neighboring jurisdictions.

An improved active transportation network will support a growing city whose increasing population and employment demands more options for how to get around and connect to the region. Supported by a network of paved shared use paths, on-street bicycle facilities, and enhanced pedestrian facilities, Milpitas has the opportunity to expand transportation choice while helping meet the needs of people of all ages and abilities.

Plan Contents

Chapter 1, Introduction, outlines the purpose of this plan and considers the benefits of active transportation.

Chapter 2, Existing Conditions, considers the broader context of this plan, including demographic and development trends, the transportation system, and the current state of the active transportation network, including bicycle, pedestrian, and trail facilities in the city.

Chapter 3, Needs Analysis, describes the needs of the active transportation network in the city, including ways to support low-stress travel to community destinations and recreation opportunities.

Chapter 4, Outreach, summarizes the engagement activities and findings conducted as part of this plan.

Chapter 5, Vision and Goals, defines the vision for the active transportation network and identifies the supporting Comprehensive Plan goals that the proposed bicycle, pedestrian, and trail systems supports.

Chapter 6, Recommendations, describes the proposed active transportation network, including recommendations for both corridor and spot improvements. This chapter also includes recommendations for programs and policy to support an expanded active transportation system.

Chapter 7, Shared Mobility, describes the recommended strategy for e-bike and e-scooter share implementation.

Chapter 8, Implementation, prioritizes recommended active transportation improvements and summarizes potential funding sources.

Relationship to Other Plans

The Milpitas Trail, Pedestrian, and Bicycle Master Plan aims to create a complete, interconnected system of paved shared-use paths, on-street bikeways, and pedestrian improvements to support residents as they recreate and travel in and around the city.

Local and regional planning documents, specifically those aimed at improving walking and biking, informed development of the Trail, Pedestrian, and Bicycle Master Plan. Recommendations put forth in this plan incorporate previous planning efforts, while acknowledging changing conditions in the City influencing the growth of active transportation networks.

Local plans reviewed include the Circulation Element of the Milpitas General Plan, the Milpitas Bikeway Master Plan (2009), the Milpitas Community-Based Transportation Plan (2009), the Milpitas Trail Master Plan (1997), as well as specific area plans such as the Milpitas Transit Area Specific Plan (Amended in 2011), and the Midtown Specific Plan (2002). Regional plans, including the Santa Clara County Bicycle Plan (2018), the Santa Clara County Countywide Trails Master Plan (1995), and plans from neighboring jurisdictions, were also reviewed.

The Trail, Pedestrian, and Bicycle Master Plan builds on the goals and objectives outlined in the Circulation Element of the forthcoming Milpitas General Plan. The related goals and objectives are included in **Chapter 5.** The General Plan will guide the long-term physical development of the city, while the Trail, Pedestrian, and Bicycle Master Plan Update will guide the city's implementation of recommendations that support the city's vision for improved multi-modal connectivity.

Benefits of Active Transportation

Investment in active transportation infrastructure—including bikeways, sidewalks, and trails—supports residents, employees, and visitors as they travel in and around Milpitas. Active transportation can support a more active lifestyle; support people as they connect to recreation, employment, or educational opportunities; and for many, serve as the primary way to travel.

The benefits of active transportation are well-documented and broad-reaching, including environmental, economic, and health benefits. Key befits includes:

SAFETY

Addressing network gaps, improving existing infrastructure, and supporting continued education and enforcement can reduce potential conflicts among people walking, bicycling, and driving. Well-designed roadways and active transportation facilities can improve safety for all roadway users through increased predictability and increased separation from motor vehicles.

HEALTH AND EQUITY

A connected active transportation network can provide safer and more comfortable ways to travel for all ages and abilities. Low-stress networks can expand access to schools, jobs, homes, and parks—connecting residents to economic, education, and recreational opportunities. Active transportation supports those who cannot drive, choose not to drive, or cannot afford to own a car.

Further, active transportation supports mental and physical well-being through reduced stress, reduced anxiety, and numerous health benefits associated with higher levels of activity. For example, students who walk or bike to school are more likely to show up ready to learn.

ENVIRONMENTAL

Increased walking and bicycling activity for transportation can reduce vehicle miles traveled and reduce vehicle emissions, resulting in improved air quality. This not only helps improve the quality of life for those vulnerable to asthma and other respiratory conditions, but it also helps reduce the city's contribution to climate change. For more information, see the next chapter.

QUALITY OF LIFE

Active transportation provides residents with more choices for how they can get around safely. Not only does improved infrastructure increase the comfort of a route for those walking or bicycling, it can also encourage more people to use active modes of travel for short trips. Residents can more easily connect with educational, economic, and recreational opportunities, supporting an improved quality of life for residents who may otherwise be stuck in traffic.

Consideration of Environmental Factors

Improved active transportation networks also support environmental goals through increased transportation choice. With more options to walk, bike, or access transit, Milpitas has the opportunity to reduce reliance on motor vehicles. This has direct effects for advancing environmental protection goals locally and in the state.

According to California's Air Resource Board, the use of motor vehicles to transport people and good contributes to 39% of total climate change emissions.[2] Reducing trips through improved active and public transportation systems can shift Milpitas's impact on the environment while simultaneously supporting health, safety, and equity focused goals.

The recommendations developed as part of the Trail, Pedestrian, and Bicycle Master Plan seek to establish a more complete, better connected active transportation network. The following section summarizes environmental benefits related to improved active transportation networks.

Reduced Vehicle Miles Traveled (VMT)

More options for walking, biking, or taking transit can mean less reliance on motor vehicles for daily trips, particularly for short distance trips. Fewer vehicle miles traveled on city roadways support a variety of benefits, including reduced environmental impact, improved cost efficiency for roadway maintenance, and improved safety.

Reduced VMT is associated with improved air quality, reduced impact to water quality and aquatic habitats, reduced greenhouse gas emissions, and reduced fuel consumption. Reduced VMT is also consistent with goals established through the Milpitas General Plan and is consistent with statewide congestion management guidance.

Improved Air Quality

Reduction in motor vehicle trips can improve air quality. Vehicle emissions include CO2, nitrous oxide, sulfur oxide, and other gases associated with asthma attacks and cardiovascular disease. According the EPA, improved air quality can be associated with prevention of premature deaths, avoided hospitalizations, and reducing work days lost.[3]

2 California Air Resources Board, "California Greenhouse Gas Emissions for 2000 to 2018"

3 Environmental Protection Agency (EPA), "Air Pollution: Current and Future Challenges"

Reduced Greenhouse Gas Emissions (GHG)

Reducing motor vehicle trips results in reduced greenhouse gas emissions. According to the EPA, transportation was responsible for 28% of GHG emissions in 2018.[4] GHG emissions contribute to climate change, the effects of which include increased weather severity, drought, and wildfire. Increased walking and biking can support reduction in CO2 emissions and help Milpitas combat climate change

Related Benefits

In addition to the benefits outlined above, reduced demand for driving also provides savings in the form of reduced maintenance needs for roadways, reduced collisions, and reduced collision-related costs.

Project Implementation

While the environmental benefits of active transportation are well-documented, consideration of environmental impacts for specific projects should be considered at the time of project implementation. The recommendations outlined in the following chapters of this plan are described at a conceptual level for planning purposes only. Implementation of individual projects will require obtaining project funding and conducting further study, including any environmental review required under CEQA.

4 Environmental Protection Agency (EPA), "Sources of Greenhouse Gas Emissions"

EXISTING CONDITIONS

The City of Milpitas is located in Santa Clara County at the southern extent of the San Francisco Bay. It is situated directly north of San Jose and is located southeast of Fremont, covering over 13 square miles. A new BART station and supporting regional transportation investments are setting the stage for new opportunities in this rapidly-growing city.

Community Context

Milpitas residents represent a diverse and growing population. Since 2010, the population of Milpitas has grown by 16%.As of January 2019, there were an estimated 76,231 people living within Milpitas city limits.[2] More than 70% of households speak a language other than English, and Asian populations represent over 60% of Milpitas residents.

The population is also well-educated, with over 50% of residents having a Bachelor's degree or higher. Further, the area median income is approximately 1.5 times higher than that of State of California and 10% higher than the surrounding area.[3] However, the city also has a higher poverty rate than surrounding areas, with approximately 8% of households living at or below the federal poverty level.

2 California Department of Finance
3 2017 ACS 1-year estimate

Households with limited income may rely on walking, bicycling, or transit more often to reach jobs, services, and basic needs. Further, navigating the city regardless of mode may be more difficult for residents who do not speak English. Transportation improvements should not only help people connect to destinations through active modes but also support navigation through wayfinding, education, and encouragement.

On an average weekday, the daytime population nearly doubles as people travel from across the region to several major employers in the city. As the population has grown, so has the number of jobs, with an estimated 38% increase in jobs from 2010 to 2017. [4] With a growing number of people living and/or working in Milpitas, there will be a greater demand on the roadway network, including increased congestion. Expansion of travel options, including improved walking and biking network and connections to transit, can help alleviate traffic congestion and expand choice for how Milpitas residents and visitors travel.

In addition to traveling to reach employment opportunities, Milpitas residents are also traveling to reach basic services or educational opportunities. Approximately 25% of the population is under the age of 18, while 10% are age 65 or older.[5] Although this represents a small proportion of the total population, residents in these age brackets are often the most vulnerable road users, and opportunities to provide safe routes to access schools, services, and other destinations should be a priority.

4 LEHD
5 2017 ACS 1-year estimate

Land Use & Development

Development patterns in Milpitas respond to primary through-ways, such as the rail lines, I-680, and I-880, which run north-south across the city, and State Route 237, running east-west through much of the city. In addition to influencing land use patterns, these routes create barriers to bicycle and pedestrian travel, restricting safe, convenient access across the city and support an over-reliance on motor vehicles for easy travel.

Milpitas is predominantly residential, with single-family homes comprising approximately 75% of all housing units. However, residential land uses are separated from other uses, with multi-family uses located on the edge of single family zones. This suburban development pattern includes a series of winding roadways and cul-de-sacs that limit connectivity within and among neighborhoods. Figure 1 depicts the city's existing land use condition.

Economic centers, found in commercial and industrial zones, are typically located in the south and west of the city along major roadways. These locations are separated from residential uses and typically located on larger parcels with limited points of access and large parking lots. These qualities lend to reliance on a motor vehicle, even for short trips.

Across the city, increasing connectivity—such as by connecting street ends, providing dedicated paths across larger parcels, increasing access to trails and paved shared use paths, and improving crossings at major roadways—can increase the availability of lower-stress travel options for bicyclists and pedestrians, creating opportunity for greater access for all.

Additionally, the natural landscape in Milpitas provides an advantage for improving bicycle and pedestrian travel options. Milpitas benefits from a relatively flat terrain, which provides for more accessible bicycle and pedestrian travel as compared to locations with steep hills. Further, the creeks that run throughout the city provide a unique opportunity for trails and shared use paths alongside the creeks, where feasible.

FIG. 1 *Existing Land Use*

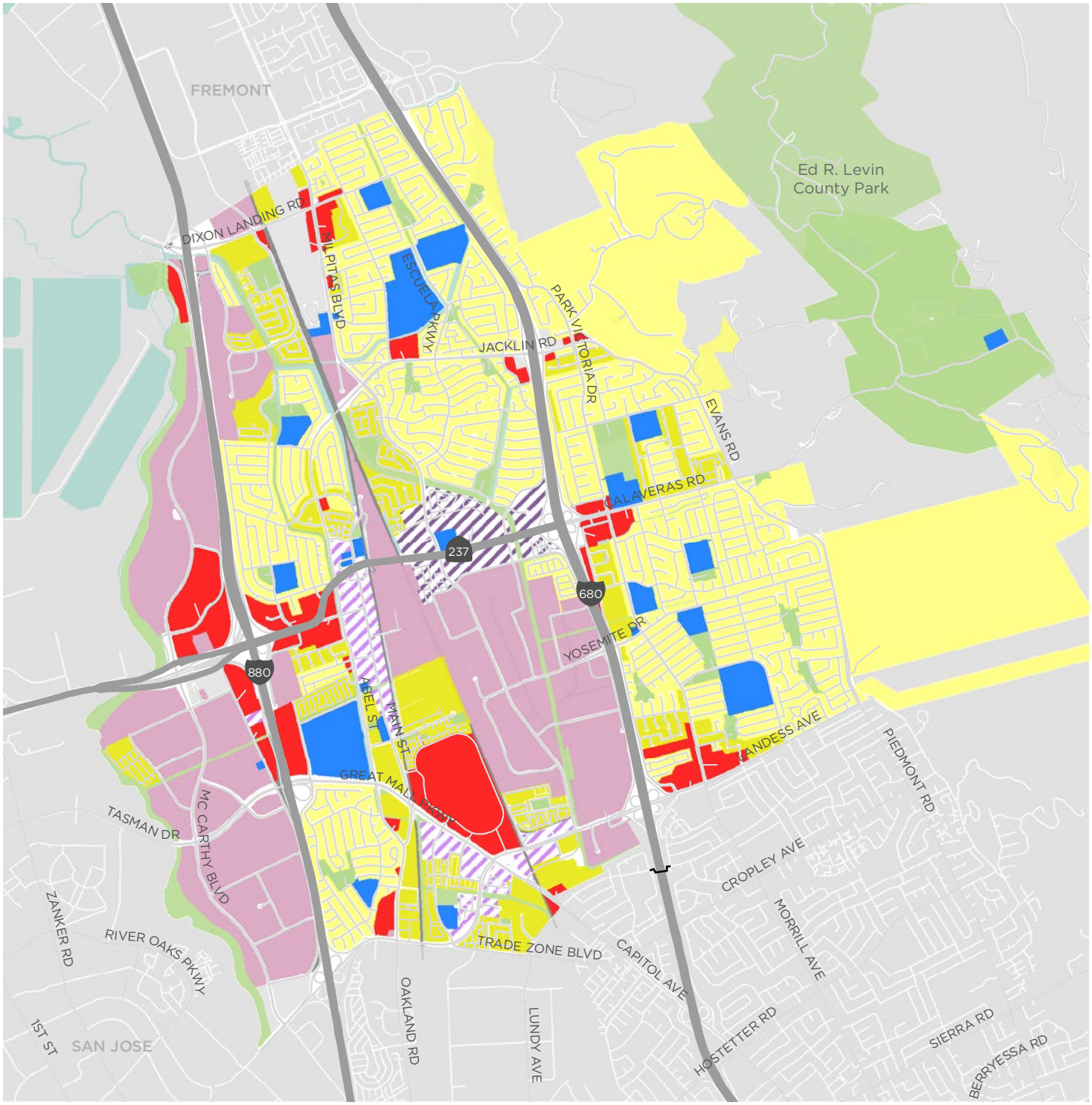


FIGURE 1
EXISTING LAND USE

NORTH

0 0.5 1 Miles

EXISTING LAND USE

- Commercial
- Highway Services
- Industrial
- Institutional
- Mixed Use
- Multi Family Residential
- Park Open Space
- Single Family Residential
- Town Center
- Transportation
- Waterways

BACKGROUND

- Streets
- Railroad
- Bike/Ped Bridge
- PublicParks
- Water

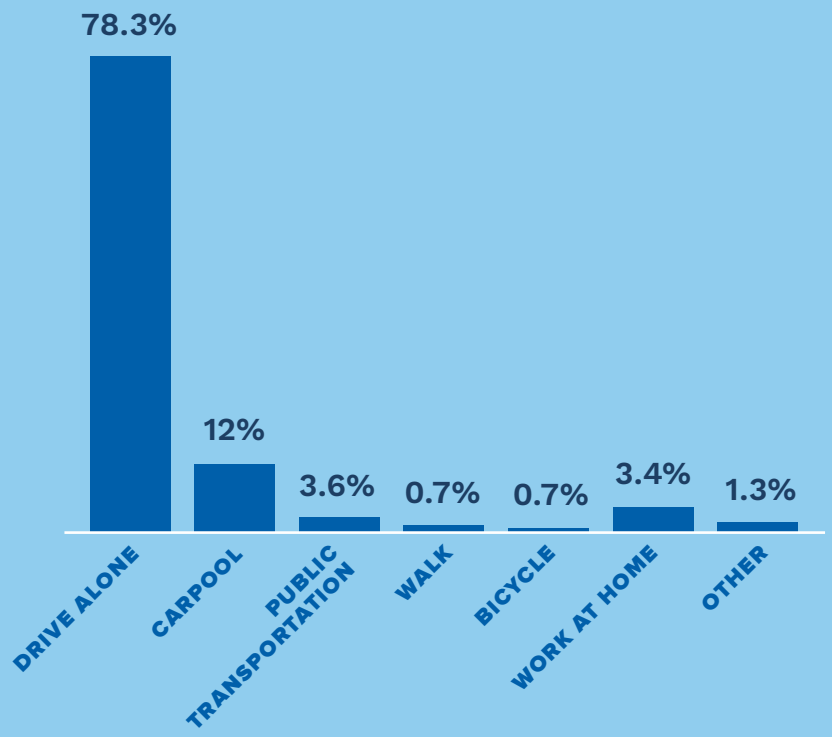
Transportation Overview

Transportation options in Milpitas are varied and include bicycle facilities, sidewalks and shared use paths, bus lines, light rail, and regional rail. Despite the wide range of modes available, 78% of individuals commute to work by driving alone.

The roadway network in Milpitas supports local travel and includes several major routes that are regionally significant. State Route 237, Montague Expressway, and Great Mall Parkway support trips into and out of Milpitas, particularly providing access to employment centers in the southern area of Milpitas. I-680 and I-880 also support regional trips. Each of these routes, however, impacts safe and comfortable travel by active modes in the city. Improvements should consider the regional role of these roadways while seeking to improve access and comfort for active modes.

While over 80% of households in Milpitas have access to two or more motor vehicles, nearly 2% of households do not have access to a motor vehicle. Those without a motor vehicle often rely on transit, walking, and bicycling to meet daily needs. A high quality active transportation network that connects destinations and provides access to transit not only provides mobility options for those without motor vehicle access but can also increase options available to those relying on motor vehicles today. This is particularly important for connecting areas in the southern area of the city, including employment centers and regional transit.

MEANS OF TRANSPORTATION TO WORK



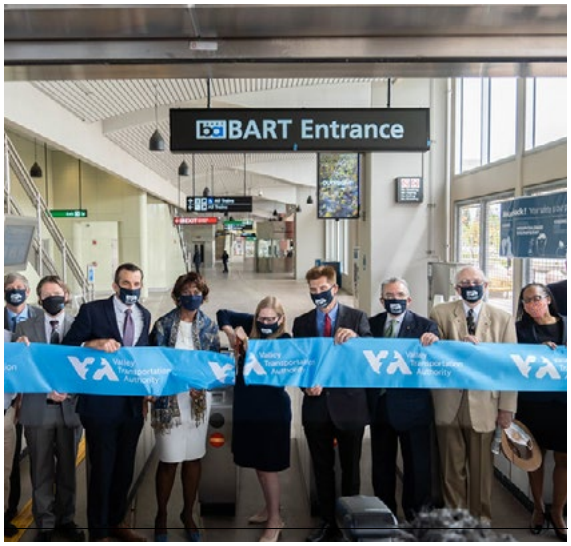
Source: 2018 ACS 5-year estimate

Public Transportation

Only 3.6% of the working population commutes via public transportation today. The network is supported by bus and light rail service, with routes connecting across the city and into neighboring jurisdictions. The Milpitas BART station, which opened in June 2020 in the southern part of the city, is projected to have 20,000 daily passengers by the year 2030 and is expected to significantly alter transportation in the region. This station will be a major transportation hub in the city and connects Milpitas with the region; not only will residents have improved access to nearby cities, but those traveling to Milpitas will need ways to get around without a motor vehicle when they reach the city. Bicycle, pedestrian, and trail improvements should provide connections to this new hub to support resident access to the region, support employee access to employers in Milpitas, and limit reliance on motor vehicles to access transit.

Bus and light rail in Milpitas are primarily operated by the Santa Clara Valley Transportation Authority (VTA), although several bus lines providing service in the city are operated by AC Transit. Frequent bus service is limited across the city; existing routes run north-south through the city, enabling access between the northern neighborhoods and the Great Mall light rail station.

The Alum Rock – Santa Teresa light rail line includes stops in the southern area of Milpitas. Stops are located along E Tasman Drive and E Capitol Avenue, with three stops within Milpitas city boundaries. The I-880 Milpitas Station and the Great Mall/Main Station have park and ride lots available; the Montague station is located near the recently opened BART stop. Opportunities to increase bicycle and pedestrian connectivity to transit through improved infrastructure and implementation of Transit Demand Management (TDM) strategies envisioned in the Transit Area Specific Plan, should be explored.



Source: bart.gov

THE MILPITAS STATION BEGAN SERVICE IN JUNE 2020, EXPANDING TRANSIT OPTIONS FOR RESIDENTS AND VISITORS. PHOTO SOURCE: BART SILICON VALLEY

Providing safe and convenient routes to access transit can support residents in getting around without a motor vehicle, support transit ridership, encourage improved health outcomes, reduce congestion, and improve air quality. Walking, rolling, and bicycling help close the last mile gap.

FIG. 2 *Public Transportation*

FIGURE 2
PUBLIC TRANSPORTATION

NORTH

0 0.5 1 Miles

PUBLIC TRANSPORTATION

- BART Station
- Light Rail Station
- Frequent Service Bus Stop

BACKGROUND

- Schools
- PublicParks
- Streets
- Bike/Ped Bridge
- Railroad
- Water

Pedestrian Network

A comprehensive pedestrian network supports residents and visitors in reaching the places they want and need to go, including utilitarian trips and recreational activities. Pedestrians are those who walk or roll. The term *roll* reflects those who might use a wheelchair or other assistive mobility devices. Sidewalks form the foundation of the pedestrian network and connect students to their schools; transit riders to their buses; and families to their neighborhood parks.

The sidewalk network in Milpitas is supported by sidewalks, trails, park paths, and other informal connections. The pedestrian network also includes curb ramps, crosswalks, crossing signals, pedestrian signal heads, and other features that support the safety and comfort of people walking and rolling.

Although data specifying pedestrian infrastructure locations throughout the city was not available, review of aerial imagery and local knowledge indicate that the sidewalk network is relatively complete across the city. Street Design Guidelines for the city specify that streets shall include sidewalks with curb ramps. While this requirement supports people walking, it is important to note that cul-de-sacs, high speed arterials, limited access highways, and larger parcels limit the connectivity and directness of pedestrian routes. On- and off-ramps for highways also create safety concerns for pedestrians, and opportunities to cross the highways are limited. Opportunities to enhance pedestrian safety and connectivity to destinations such as transit, schools, parks, and commercial services should be explored. For more information on types of pedestrian infrastructure, see the Pedestrian Improvement Toolbox beginning on page 89.

Suggested Walking Routes to School

The Milpitas School District is comprised of 14 schools, representing an enrollment of over 10,000 students. For 11 of these schools, the City has designated Suggested Walking Routes along nearly 45 miles of roadways. These routes are shown in Figure 3. Through designating these routes, the City has not only identified priority routes for safety improvements, but have also signaled to families looking to walk to school that their trip may best be supported by these routes.

The Suggested Walking Routes typically follow neighborhood roadways, which are lower speed and lower volume, or include segments of paved shared use paths. However, several segments are located along higher speed roadways, such as Abel Street, and encounter difficult crossings. With children comprising approximately one-quarter of the total population in Milpitas, and children often being more vulnerable to crashes than adults, these routes and other connections to school should provide an all ages and abilities route. Improvements to the active transportation network should consider connections to schools specifically and opportunities to support some of the most vulnerable roadway users in Milpitas.

Children, representing one-quarter of the population in Milpitas, are often more vulnerable to crashes than adults. Improvements to the bicycle and pedestrian network should consider connections to schools specifically and opportunities to support vulnerable roadway users in Milpitas.

FIG. 3 *Suggested Walking Routes*

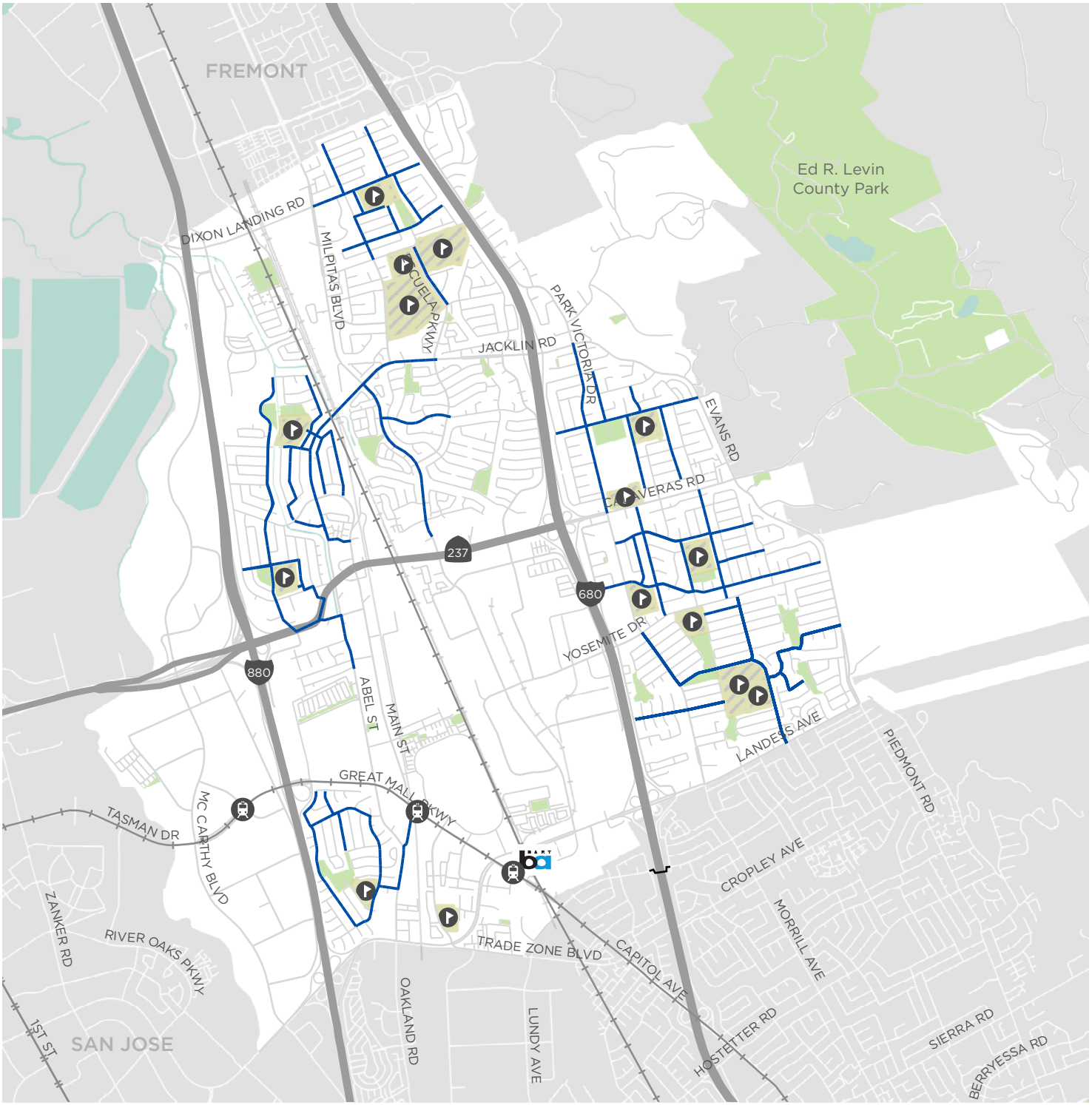


FIGURE 3
SUGGESTED WALKING ROUTES

NORTH

0 0.5 1 Miles

SUGGESTED WALKING ROUTES TO SCHOOL

- Suggested Route
- Schools

BACKGROUND

- Streets
- Railroad
- Bike/Ped Bridge
- Public Parks
- Water

Bicycle Network

The existing bicycle network includes nearly 50 miles of bicycle lanes, designated bicycle routes, and paved shared use paths. While there are 15 miles of designated bike routes, as shown in Table 7, most of these routes do not have signage or pavement markings to support bicyclists. On-street bikeways, including bike lanes and designated bike routes, are primarily located along major roadways with higher posted travel speeds and traffic volumes; many are also designated as freight routes.

Paved shared use paths provide low-stress, off-street bicycle and pedestrian connections. However, the existing paved shared use path network is incomplete due to network gaps and varying levels of surface quality. This limits continuous travel among destinations. While paved shared use paths are an integral component of the bicycle network, for the purposes of this plan, they are discussed in more detail as part of the existing trail network beginning on page 37.

Milpitas does not currently have other bikeway types, such as buffered bike lanes, bike boulevards, or cycle tracks; these facility types are discussed in greater detail beginning on page 35. The existing network generally supports travel north-south through many areas of Milpitas; however, opportunities for travel east-west across the city are limited. In all directions, on- and off-ramps for highways create safety concerns for those traveling by bike, and opportunities to cross the highways are limited. Where crossings do exist, they typically require navigating shared conditions with high speed motor vehicles.

Within neighborhoods, residential streets support lower-stress travel options for people bicycling. Lower posted speeds, fewer motor vehicles, and narrower rights-of-way contribute to more comfortable bicycling conditions with connections to schools, parks, and other neighborhood-based destinations. However, frequent major roadway crossings, indirect routes, and limited connectivity of low-stress routes reduce connectivity to other destinations across the city.

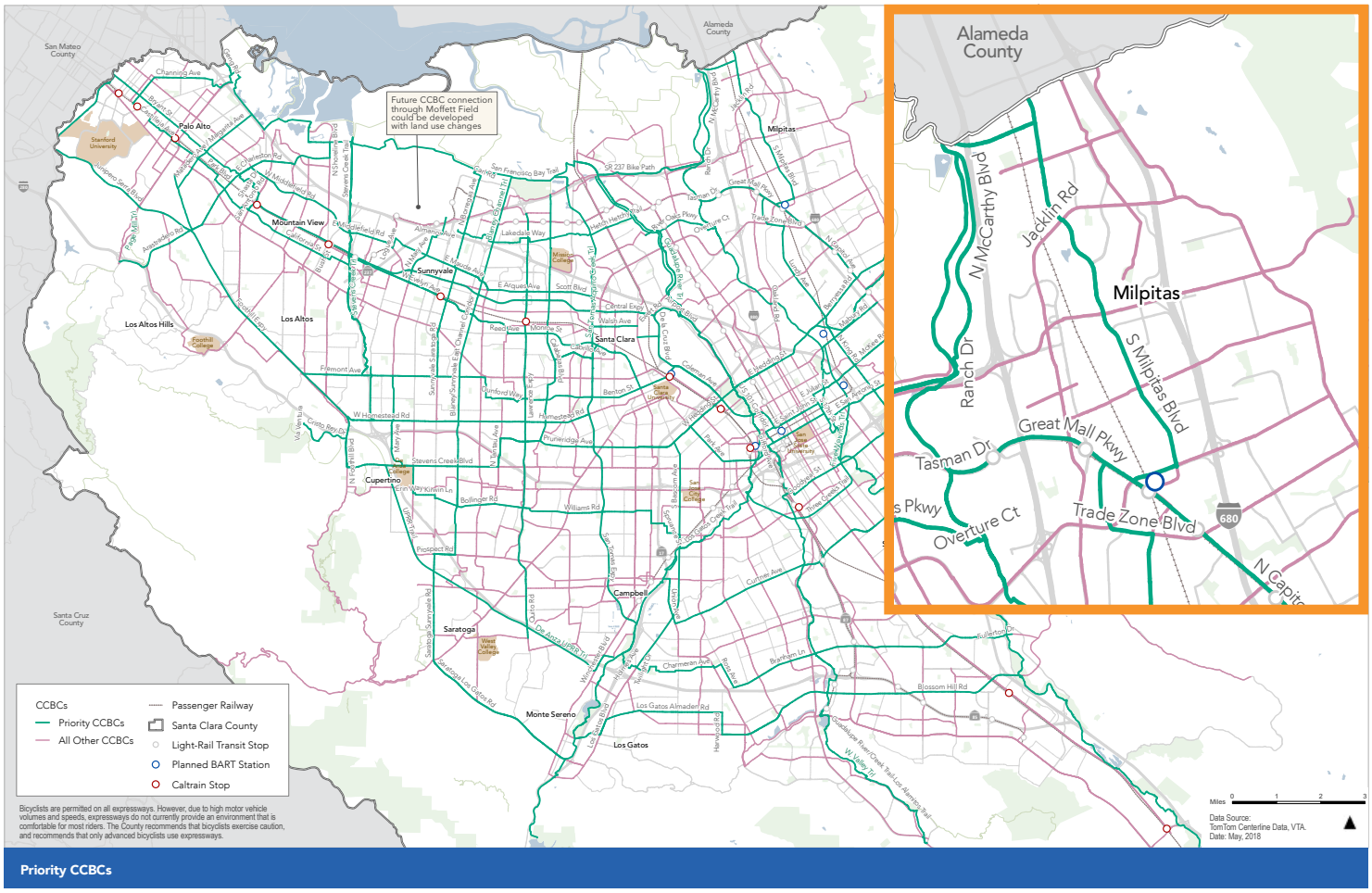
Opportunities to connect residential roadways with paved shared use paths, protected crossings, and improved bikeways along major roadways can support more trips by bike to more places across Milpitas and the region.

A description of bikeway types are included on page 35, and existing bikeways are shown in Figure 5.

TABLE 7 *Existing Bikeways*

FACILITY TYPE	LENGTH
Class I: Paved Shared Use Path	8 miles
Class II: Bike Lane	25 miles
Class III: Designated Bike Route	15 miles
TOTAL	48 miles

FIG. 4 *VTA Cross-County Bikeway Corridors*



Priority CCBCs

Regional Bicycle Network

With connection to the San Francisco Bay Trail, San Jose, and Fremont, Milpitas is an integral part of the regional bicycle network. The Santa Clara Valley Transportation Authority (VTA) has established a vision for Cross-County Bikeway Corridors (CCBC) that connect residents, employees, and visitors across Santa Clara County. The 2018 County-wide Bicycle Master Plan identified nearly 950 miles of bikeways, as shown in Figure 4. Priority projects (shown in green) include Milpitas Boulevard, McCarthy Boulevard, Dixon Landing Road, and Great Mall Parkway. In addition to the VTA plan, the Santa Clara County Countywide Trails Master Plan also proposed a bicycle route along Dixon Landing Road, Jacklin Road, Evans Road, and Old Calaveras Road that connects the Coyote Creek Trail to Ed Levin County Park.

The on-street bike routes identified in the VTA plan and the Countywide Trails Plan are important corridors in Milpitas for connecting people across highway and rail barriers, supporting trips to destinations and transit, and linking people to regional recreational opportunities. Currently most of these corridors have designated bike lanes or are designated bicycle routes. Improvements should be considered to improve safety and comfort along these routes for Milpitas residents and support the Santa Clara County bikeway vision.

Bikeway Types

Class I: Paved Shared Use Path

- Completely separated from the roadway
- Typically shared with bicyclists and pedestrians
- Comfortable for people of all ages and abilities

Class II: Bike Lane

- Dedicated lane for bicycle travel adjacent to traffic and in the right-of-way
- Separated from motor vehicles by a painted white line

Class IIB: Buffered Bike Lane

- Dedicated lane for bicycle travel adjacent to traffic and in the right-of-way
- A painted buffer separates bicyclists from motor vehicles to provide additional comfort and operating space

Class III: Designated Bike Route

- Signed routes where people bicycling share the lane with motor vehicles
- Often designated with pavement marking, typically only comfortable for confident cyclists

Class IIIB: Bike Boulevard

- Calm, local roadways that prioritize bicycle travel through traffic calming features such as traffic diverters and speed humps
- Comfortable for a wide range of ages and abilities

Class IV: Cycle Track

- On-street bikeway separated from motor vehicles by a curb, median, planters, or other physical barrier

FIG. 5 *Existing Bikeways*

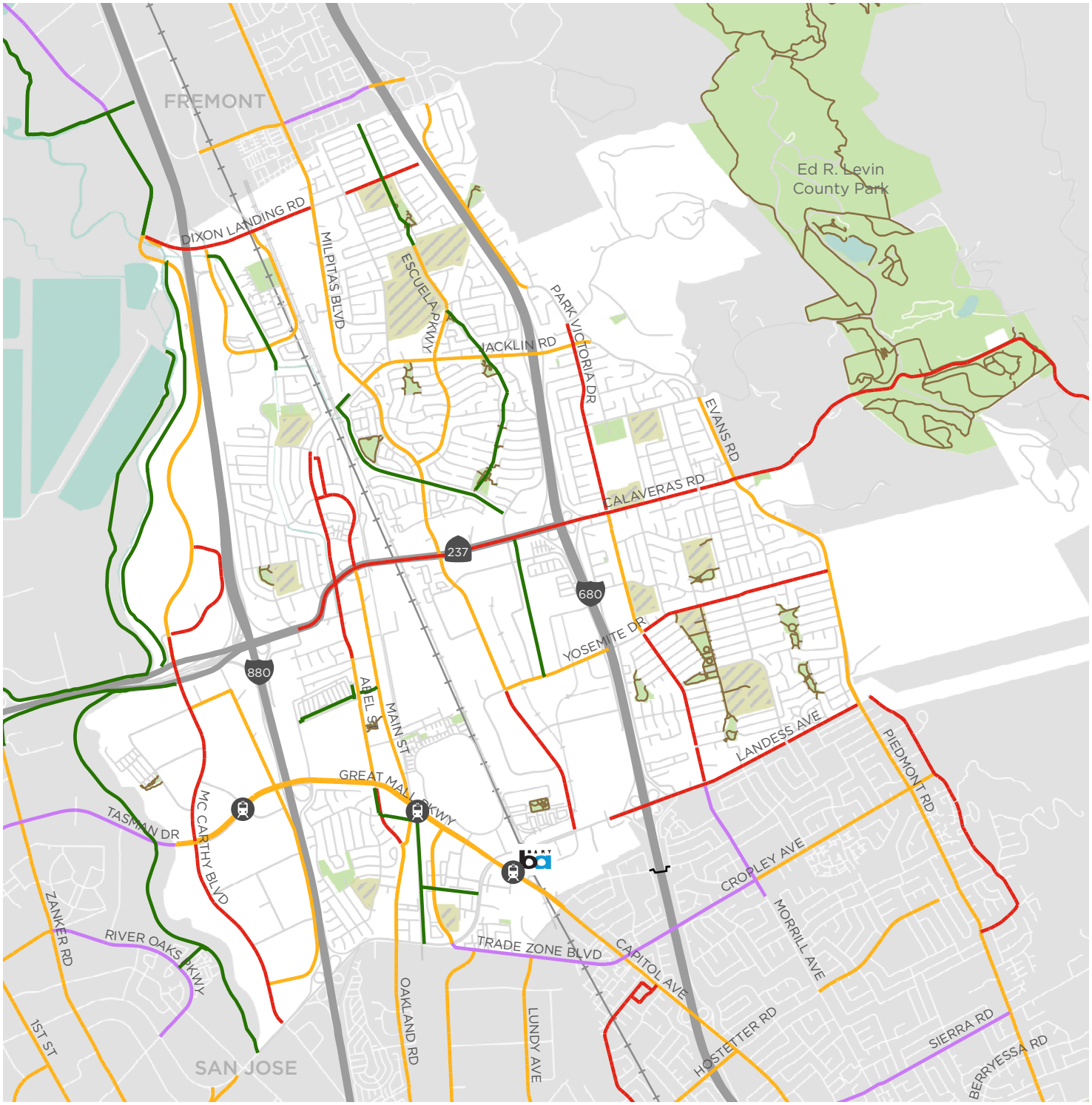


FIGURE 5
EXISTING BIKEWAYS

NORTH

0 0.5 1 Miles

EXISTING BIKEWAYS

- Class I: Paved Shared Use Path
- Class II: Bike Lane
- Class IIB: Buffered Bike Lane
- Class III: Bike Route
- Unpaved Trails

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Bike/Ped Bridge
- Railroad
- Public Parks
- Streets
- Water

Trail Network

Unpaved trails and paved shared use paths are vital components of Milpitas's transportation system and recreation opportunities. The existing network is primarily comprised of paved shared use paths. However, the trail network also includes unpaved paths and/or soft surface trails, located primarily within parks; this is shown in Figure 6. Paved paths are present along portions of Penitencia and Berryessa Creeks, and the Hetch Hetchy trail leads north from Peter Gill Memorial Park toward Fremont. While these paths have expanded over time, they are intermittent and limited in their utility as part of a connected system. Further, existing segments may be in need of repair and other routine maintenance, such as regular clearing of debris and vegetation. Completing these paths, with a focus on connecting segments, improving the quality of existing routes, and reaching major destinations, can support the city's vision for a complete and connected low-stress system.

In addition to local trails and paths, two regional recreational destinations are also located near Milpitas. First, the Coyote Creek Trail, which includes both a paved path and soft surface trail, is a designated segment of the San Francisco Bay Trail.

The San Francisco Bay Trail is an effort to establish walking and bicycling facilities around approximately 500 miles of the San Francisco Bay, with the goal of connecting communities to parks, schools, and transit. It is comprised of a series of on-street, paved off-street, and unpaved off-street segments.

To date, 350 of the 500 miles are designated and available for use; the trail miles not yet available for use are proposed, with alignments dependent on jurisdiction coordination, funding availability, and construction. Proposed segments in Fremont and San Jose will improve connectivity among these cities and create opportunities for greater connectivity with Milpitas.

Second, Ed R. Levin County Park to the east of Milpitas offers over 20 miles of unpaved trails. This park provides for recreational opportunities for hiking, walking, and in some locations, biking. Unpaved sections of trail are also available along Coyote Creek to the west of Milpitas. Direct connections to both of these recreation areas is currently limited by active modes and rely heavily on motor vehicle use to access these valued resources.

Berryessa Creek, Penitencia Creek, and Calera Creek provide opportunities for connected and continuous trails in Milpitas that help residents connect to transit, regional recreation, and commercial centers. Future trails along these creek corridors, however, are dependent on their feasibility. The creek system in Milpitas is managed by Valley Water, who are a key partner in implementation of Milpitas's proposed trail system.

FIG. 6 *Existing Trails*

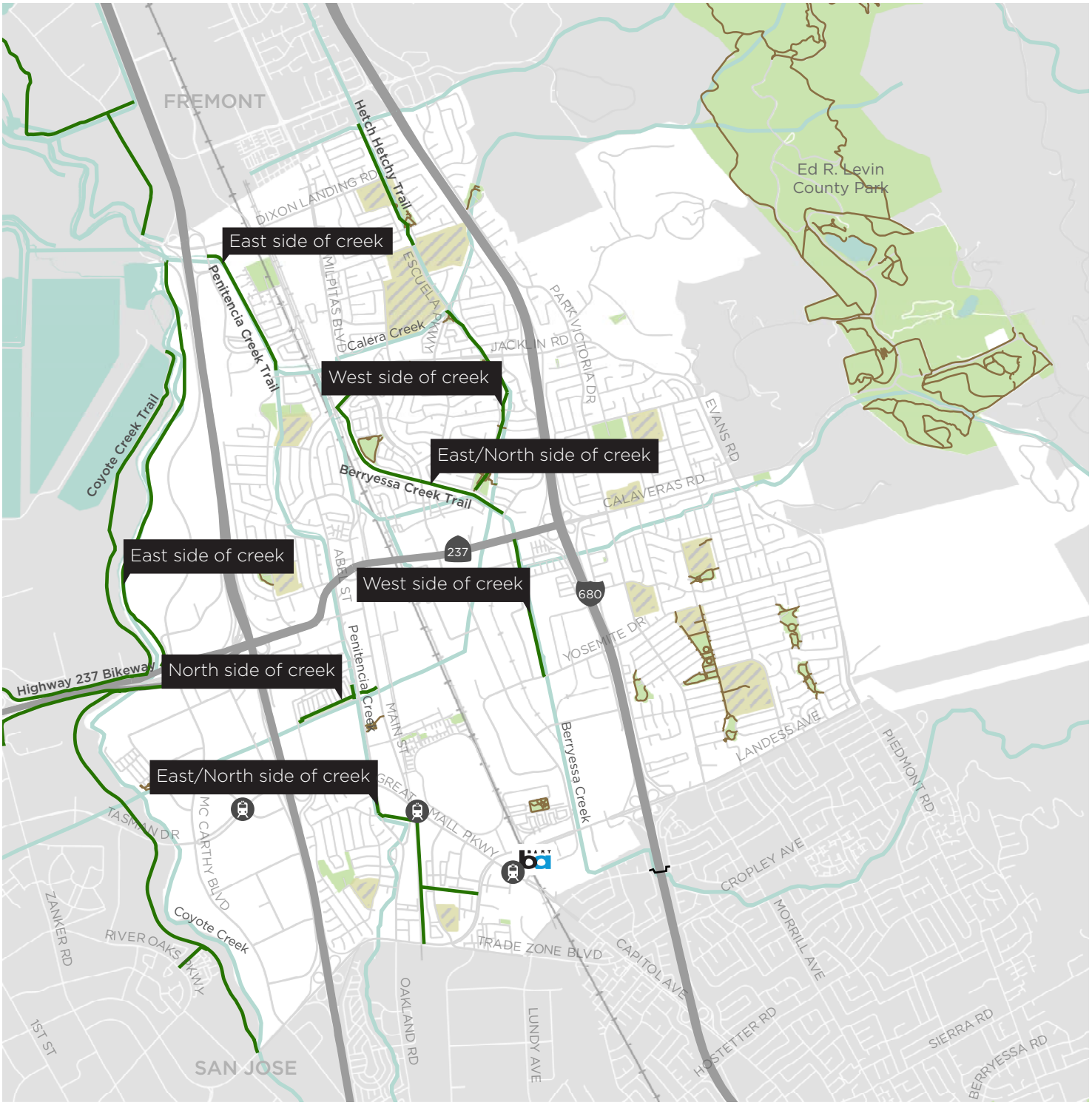


FIGURE 6
EXISTING TRAILS

EXISTING TRAILS
- Class I: Paved Shared Use Paths
- Unpaved Trails

BACKGROUND
- BART Station
- Light Rail Station
- Schools
- Bike/Ped Bridge
- Railroad
- Public Parks
- Streets
- Water

NORTH

0 0.5 1 Miles

Education and Encouragement Programs

Bicycle and pedestrian focused programs provide education and encouragement for residents to use existing bicycle, sidewalk, and trail networks. Programs complement quality infrastructure and are a vital component of a comprehensive approach to active transportation in Milpitas.

Programs may be offered by the City, agency partners, or other organizations. Interviews with City partners revealed that there are limited existing programs in Milpitas today; however, there are significant opportunities to expand these options for residents. New program opportunities are explored in the Recommendations Chapter.

Safe Routes to School: There is not currently a Safe Routes to School program in place; however, previous efforts have identified suggested routes to area elementary schools. Maps are available through the school district to help families plan their route to school. Not only do these routes provide insight into where infrastructure improvements may be most needed, they also provide the foundation for additional education and outreach efforts. Milpitas should coordinate with VTA, Santa Clara County, and the Milpitas School District to explore options for Safe Routes to School Programs, including opportunities to utilize Measure B funding.

Bike to Work Day: Bike to Work Day is a national celebration, encouraging people to bike to work for the first time and celebrating those who bike to work regularly. Milpitas participates in the May event and campaign annually, as part of the Bay Area Bike to Work celebration. In coordination with Silicon Valley Bicycle Coalition, Santa Clara County, and VTA, the City hosts Energizer Stations at locations around Milpitas. In 2019, 4 stations were available to commuters to stop for encouragement, pick up small incentives, and learn more about biking to work.

MILPITAS HOSTS BIKE TO WORK STATIONS EACH YEAR IN MAY TO CELEBRATE BIKE COMMUTERS. STATIONS ARE SET UP ACROSS THE CITY AND REGION.

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NEEDS ANALYSIS

The following chapter summarizes network needs and identifies gaps in the existing network. The needs analysis considers network safety, network connectivity, and access to destinations. This information provides additional insight to the challenges and opportunities for active transportation and informs opportunities for improvements across the city.

Active Transportation Safety

While bicyclists and pedestrians represent only 11% of all reported collisions, they are disproportionately represented in fatal and serious injury collisions in Milpitas. From 2014 to 2018, a total of 1,703 vehicle collisions were reported in Milpitas, including 19 fatalities. This included 187 bicyclist- or pedestrian-involved collisions, representing 11% of all reported collisions. Four pedestrian fatalities* and one bicycle fatality represents over 25% of the total reported fatalities in the city, while severe injury collisions involving bicyclists or pedestrians represent 35% of all reported severe injury crashes during this time period.

During this same time period, there were over 6,000 bicycle- or pedestrian-involved collisions in Santa Clara County, representing nearly 17% of total collisions in the County. Of these collisions, 43 people biking and 168 people walking were killed on Santa Clara County's roadways, representing 31% of all fatal collisions.

Bicyclist- and Pedestrian-involved Collisions

From 2014 to 2018, there were a total of 103 bicycle-involved collisions reported in Milpitas, including 7 severe injuries and one fatality. Of the 103 bicycle-involved collisions, 55% occurred at an intersection. As shown in Figure 7, bicycle-involved collisions primarily occurred along major roadways, such as Calaveras Boulevard, Montague Expressway, and Jacklin Road. Most of these roadways are either designated bike routes, such as Calaveras Boulevard, or have designated bike lanes, such as Abel Street and Great Mall Parkway.

During this same time period, there were a total of 84 pedestrian-involved collisions, including 16 severe injuries, and 4 fatalities. Similar to bicycle-involved collisions, pedestrian-involved collisions occurred most frequently along major roadways, such as Calaveras Road, Landess Avenue, and Dixon Landing Road, as shown in Figure 8. The streets with the most pedestrian

COLLISION DATA IS SOURCED FROM THE STATEWIDE INTEGRATED TRAFFIC RECORDS SYSTEM (SWITRS).

**COLLISIONS OCCURRING ALONG INTERSTATE ROUTES WERE OMITTED FROM THIS COUNT. PEDESTRIAN TRAVEL ALONG INTERSTATES IS SPECIFICALLY PROHIBITED, AND ARE NOT WITHIN MILPITAS'S JURISDICTION.*

REPORTED CRASHES IN MILPITAS, 2014-2018

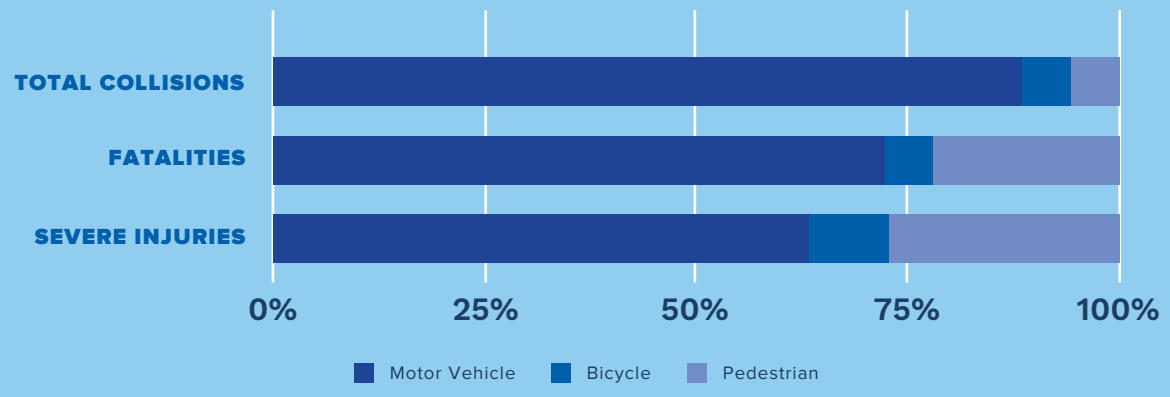


TABLE 8 *Safety Summary*

BICYCLE-INVOLVED COLLISIONS	PEDESTRIAN-INVOLVED COLLISIONS
103 total collisions	84 total collisions
55% occurred at an intersection	45% occurred in a crosswalk
Occurred most often along major roadways with designated bikeways	Occurred most often along major roadways with high speeds and roadways supporting regional trips
7 severe injuries	16 severe injuries
1 fatality	4 fatalities*
Most severe injuries and fatalities occurred along a major roadway and at unsignalized intersections with no bicycle facility.	Severe injuries and fatalities occurred most often along major roadways and at unsignalized locations.

**COLLISIONS OCCURRING ALONG INTERSTATE ROUTES WERE OMITTED FROM THIS COUNT.*

fatalities and severe injuries, however, were Abel Street and Park Victoria Drive. Considering the location of all bicycle- and pedestrian-involved collisions, contributing factors may include the high posted speeds, wide and numerous lanes, highway ramps, and unsafe crossings. It should be further noted that collisions involving people who bike or walk are often under-reported, so while this data provides insight into where the most serious collisions occurred, minor collisions are likely under-represented.

Trail-Specific Considerations

Safety data reflect collisions along roadways; however, where trails cross roadways frequently create safety concerns for trail users and low-stress routing. Further, trails may also provide an alternate route to an otherwise high-stress and high-collision roadways. Alignments along creeks and alongside roadways, such as Abel Street and Great Mall Parkway, provide opportunities for safer active transportation routes.

Providing for safe crossings of major roadways is necessary to create a trail network that supports comfortable, all-ages and ability travel. Locations where improved trail facilities and roadway crossings can better support the growing trail network include:

- Yosemite Drive at the entrance to the Murphy Park Trail at Merryhill Elementary
- Near the entrance to the Coyote Creek Trail from Calaveras Boulevard
- On Dixon Landing Road near the entrance to the Coyote Creek Trail
- At multiple intersections along the Hetch Hetchy Trail, including Jacklin Road, north of Sandalwood Park, Washington Drive, and Coelho Drive.

FIG. 7 *Bicycle Collisions, 2014-2018*

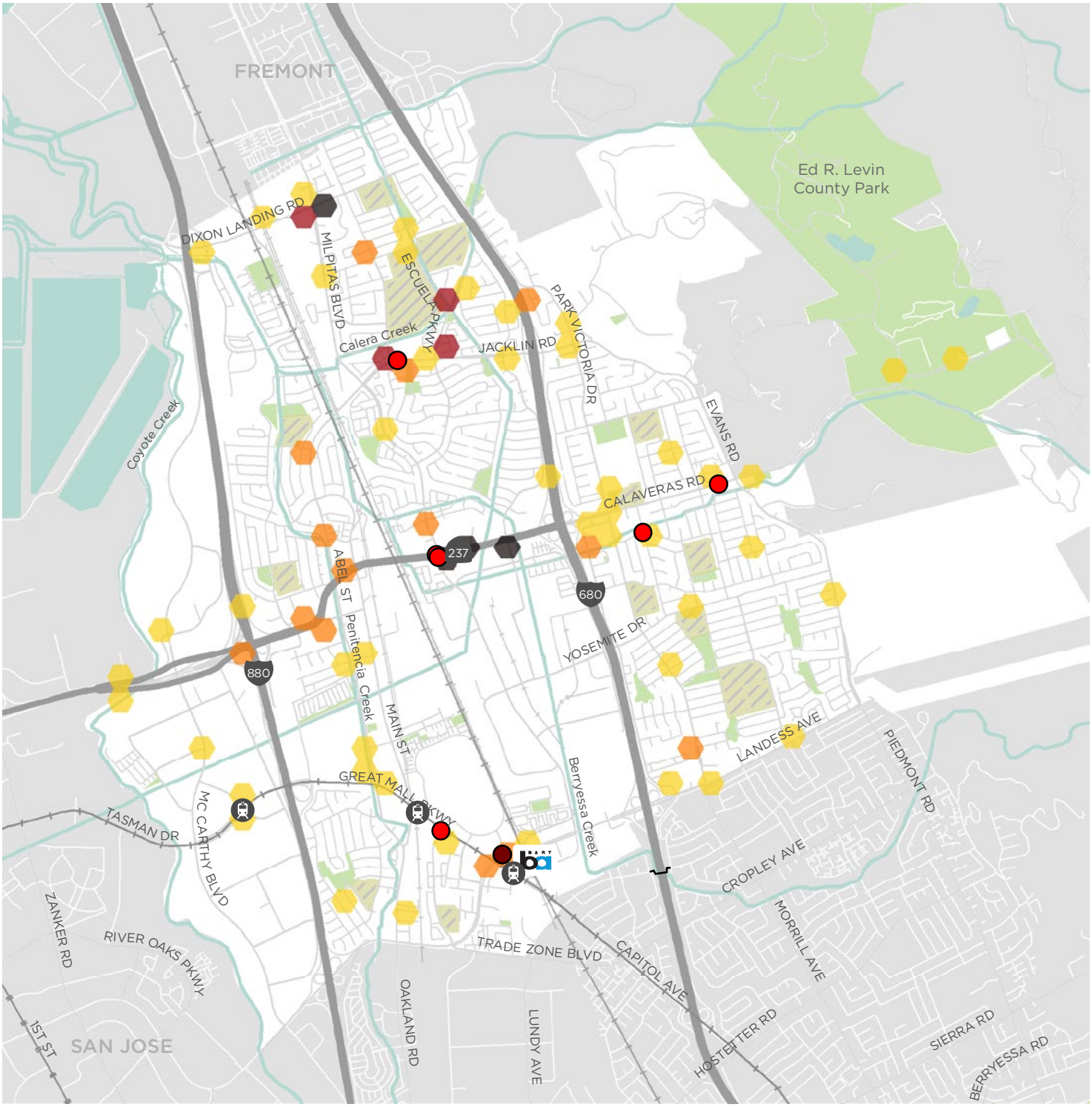


FIGURE 7
BICYCLE COLLISIONS 2014-2018

NORTH

0 0.5 1 Miles

SERIOUS INJURY + FATAL COLLISIONS
- SERIOUS INJURY
- FATALITY

BIKE COLLISIONS PER HEXAGON (2014-2018)
- 1 Collision
- 2 Collisions
- 3 Collisions
- 4 Collisions

BACKGROUND
- Schools
- Streets
- Railroad
- Public Parks
- Water
- Bike/Ped Bridge

FIG. 8 *Pedestrian Collisions, 2014-2018*

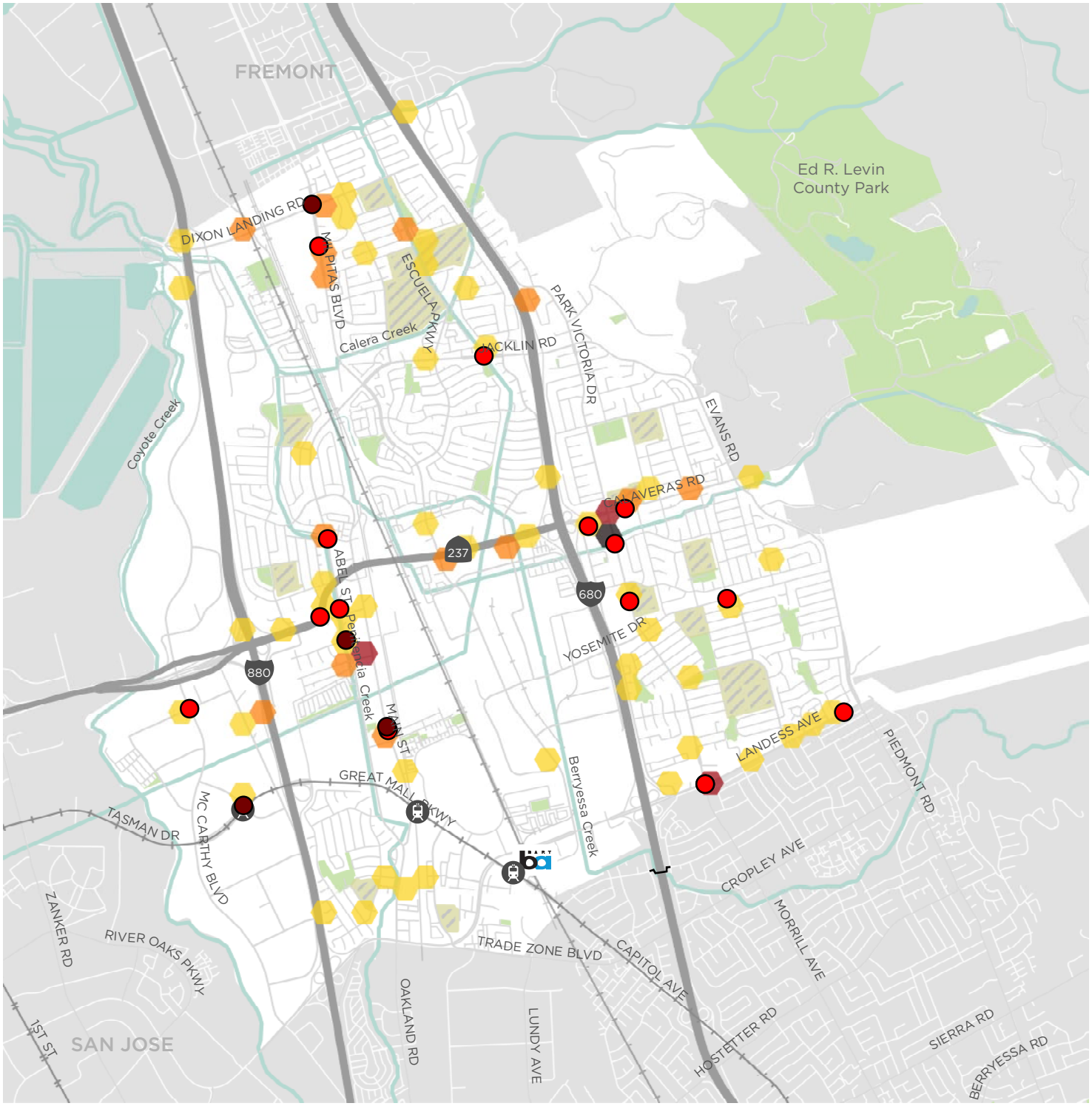


FIGURE 8
PEDESTRIAN COLLISIONS
2014 - 2018

NORTH

0 0.5 1 Miles

SERIOUS INJURY + FATAL COLLISIONS

- Serious Injury
- Fatality

PEDESTRIAN COLLISIONS PER HEXAGON (2014-2018)

- 1 Collision
- 2 Collisions
- 3 Collisions
- 4 Collisions

BACKGROUND

- Schools
- Streets
- Railroad
- Public Parks
- Water
- Bike/Ped Bridge

Level of Traffic Stress (LTS)

LTS refers to the perceived comfort level of a roadway or shared use pathway. While primarily intended to evaluate the bike network, it also provides insight into relative roadway comfort for pedestrians. At its foundation, LTS relates to the speed of the roadway, the width of the roadway, and the provision of space for bicycles. A roadway with fewer lanes for motor vehicles, lower posted speeds, and greater separation from motor vehicles is considered most comfortable, while high speeds and mixed traffic conditions are least comfortable. Generally, LTS 1 and LTS 2 are considered low stress, while LTS 3 and LTS 4 are high stress roadways.

These scores guide understanding of who might bike along a roadway. The Four Types of Cyclists, shown to the right, consider one's interest and comfort bicycling. The majority of the population—those who are interested but concerned--are most likely to be comfortable biking only on low stress (LTS 1 and LTS 2) roadways.

LTS also delineates network gaps and guides focus areas for improving the active transportation network. Figure 9 on the following page shows the LTS scores for roadways within Milpitas. These results highlight the following:

- Neighborhood roadways are typically low stress.
- Primary roadways, such as Calaveras Boulevard, are higher stress.
- A greater number of collisions occurred on high stress roadways.
- Industrial and commercial land uses, as well as BART and light rail stops are located along high stress corridors.

1-3%

STRONG & FEARLESS

Very comfortable and willing to ride on streets with no designated bike facilities.

5-10%

ENTHUSIASTIC & CONFIDENT

Very comfortable riding but prefer streets with designated bike lanes.

50-60%

INTERESTED BUT CONCERNED

Comfortable on trails and streets with buffered or separated bikeways; interested in biking more.

30%

NOT CURRENTLY INTERESTED

Physically unable or very uncomfortable biking, even on streets with separated bikeways.

LTS SCORES HELP US IDENTIFY A LOW STRESS NETWORK THAT SUPPORTS PEOPLE BICYCLING WHO ARE INTERESTED IN RIDING BUT ARE CONCERNED FOR THEIR SAFETY. THIS GROUP TYPICALLY REPRESENTS UP TO 60% OF THE POPULATION.

FIG. 9 *Level of Traffic Stress*

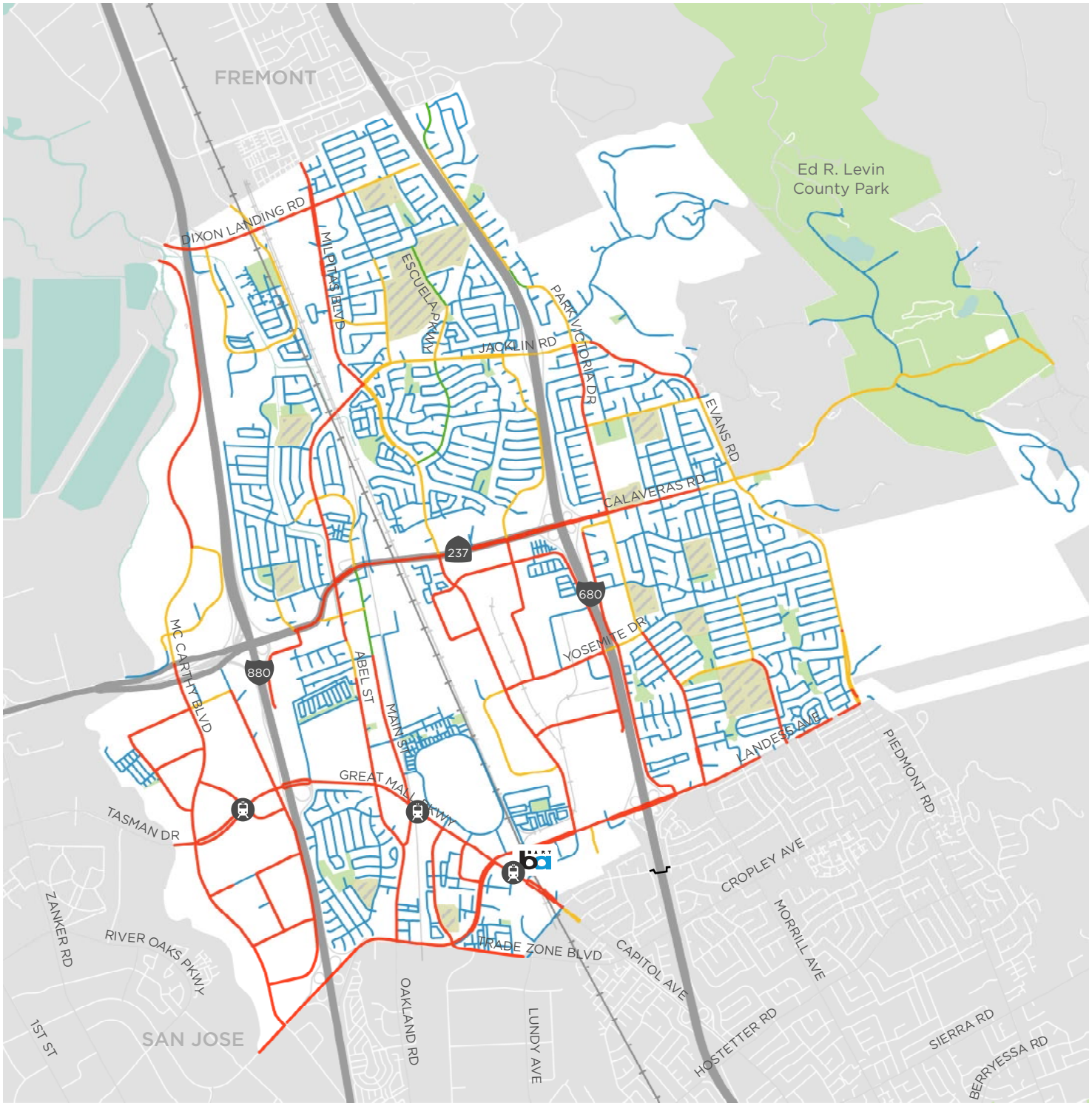


FIGURE 9
LEVEL OF TRAFFIC STRESS

NORTH

0 0.5 1 Miles

LEVEL OF TRAFFIC STRESS

- 1
- 2
- 3
- 4

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Public Parks
- Streets
- Railroad
- Water
- Bike/Ped Bridge

Low-Stress Connectivity

Low-stress routes can support families, students, and interested but concerned adults in exploring their city, traveling to work or school, or running daily errands by bike. These routes provide greater separation from motor vehicles, support safe crossings of major roadways, and have lower posted speeds. **However, low-stress roadways are only beneficial if they help people get where they need to go.**

If a trip occurs primarily along a low-stress road or paved path but requires someone to travel briefly along a high-speed, high-volume roadway or navigate a major roadway crossing without a signal, the trip is no longer low-stress. A low-stress network must help people get from trip start to trip end along low-stress roadways and crossings.

LTS results help visualize the effect of high stress routes and crossings on network connectivity. Figure 10 depicts low-stress connectivity islands, where each color represents the area one can travel along continuous and connected low-stress (LTS 1 or LTS 2) roadways. Low-stress travel is only possible within a particular color; a change in color indicates that a high stress crossing or road is present.

For example, the neighborhood near Hall Memorial Park is well-connected through low-stress roadways. However, once one travels toward Abel Street or Calaveras Boulevard, the low stress connection ends.

This exercise also demonstrates the impact of suburban roadway patterns on continuous travel along the network and highlights the importance of shared use pathways in overcoming these barriers. This affects both bicyclists and pedestrians. For example, the network around Escuela Parkway in the northern part of the city (shown in blue) includes a series of roadways and cul-de-sacs that would require travel along a higher stress roadway to reach any other destination. Roadways such as Canada Drive, Los Positos Drive, and Pacheco Drive located off of Hillview Drive are key examples of this. However, these roadways connect to the Hetch Hetchy Trail at their end, linking these homes to a low-stress network that provides access to several schools, parks, and other destinations. Without street end connections or the Hetch Hetchy Trail, this large area of low-stress connectivity would not be possible.

Improving crossings to connect neighborhoods across major roadways, completing the shared use path network to address major barriers like rail and highways, and exploring opportunities for new street-end connections can help people reach the places they want to go along more comfortable and connected networks.

OVER 90% OF MAJOR ROADWAYS ARE CLASSIFIED AS HIGH STRESS (LTS 3 OR LTS 4).

FIG. 10 *Low-Stress Connectivity Islands*

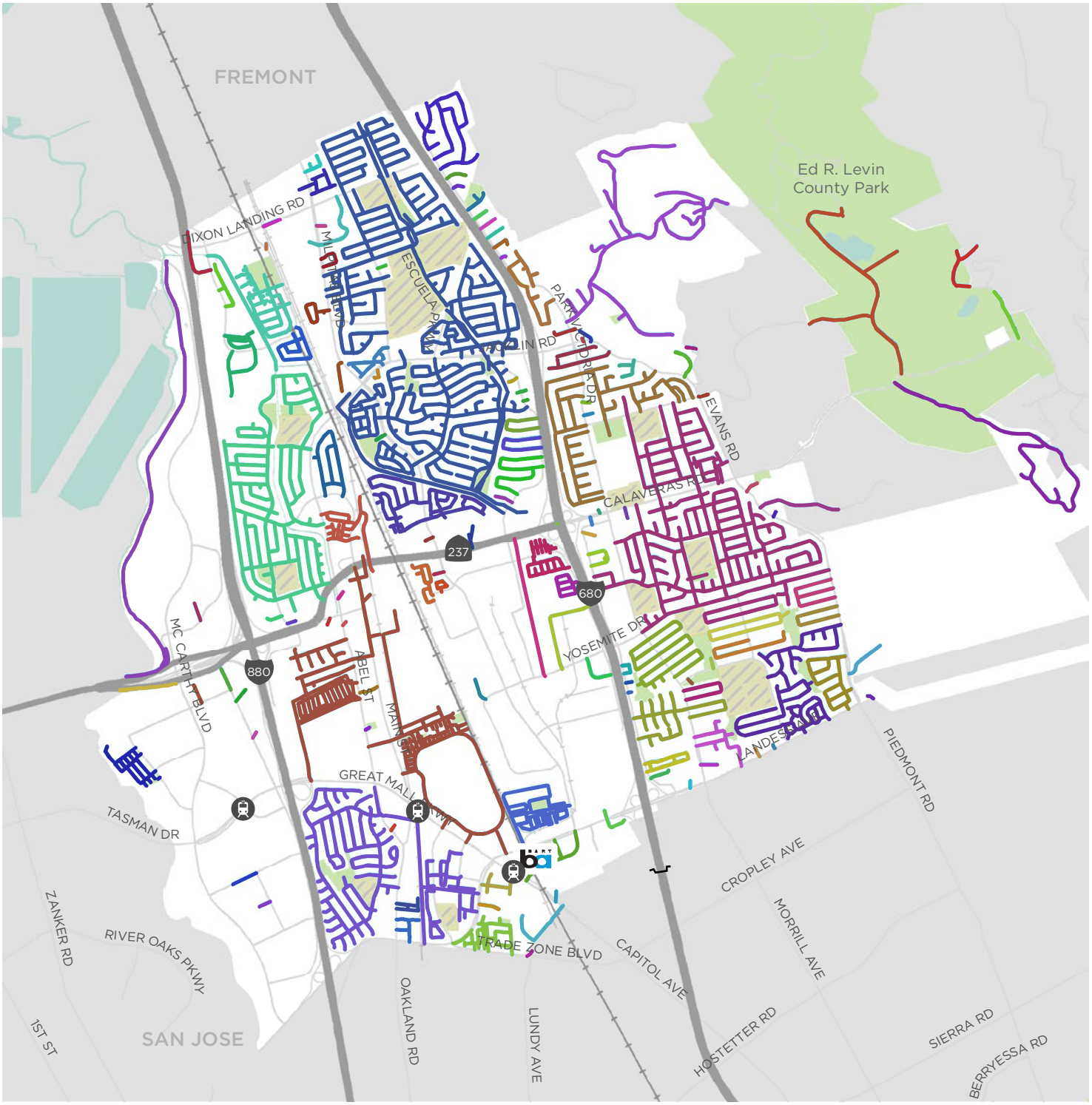


FIGURE 10
LOW-STRESS CONNECTIVITY ISLANDS

NORTH

0 0.5 1 Miles

BACKGROUND

- BART Station
- Light Rail Station
- Streets
- Schools
- Railroad
- Public Parks
- Water
- Bike/Ped Bridge

Access to Schools

Low-stress roadways and shared use paths are important for connecting students to schools of all grade levels. Comfortable routes that are perceived to be safe can support more active trips to school, reduce congestion and air pollution near schools, and improve safety around schools. A single difficult roadway crossing or high stress roadway segment may impact a family's choice to reach school by walking or rolling.

Figure 11 shows school locations compared to high stress (LTS 3 or LTS 4) roadways. In general, nearly all schools in Milpitas are well-supported by lower stress roadways, particularly within neighborhoods. However, some schools, including John Sinnott Elementary, Mabel Mattos Elementary, and Robert Randall Elementary are located along high stress roadways with limited access to lower-stress residential areas nearby. It is important to improve crossings, connect to neighborhood roadways and bike boulevards, and prioritize improvements along designated walking routes for these schools.

Further, it's important to consider how students will travel to school as they advance to middle or high school. Trips to these schools will require covering longer distances, and for most areas of the city, will require crossing major roadways. Improving crossings and roadways with travel to middle or high school in mind should also be considered to provide support for students who choose or otherwise rely on active travel to reach school.

WHILE 50% OF STUDENTS WALKED OR BIKED TO SCHOOL IN 1969, LESS THAN 1 IN 6 KIDS DO SO TODAY.

Safe Routes to School programs engage school communities in identifying needed improvements near schools, encouraging more families to walk and bike to school, and support city goals of reduced congestion and improved air quality. Walk audits are one tool, which gathers the school community to evaluate the walking environment and identify challenges. Hosting walk audits with school communities can help the city better understand where improvements are most needed to encourage more families to walk and bike safely to school.

FIG. 11 *Access to Schools*

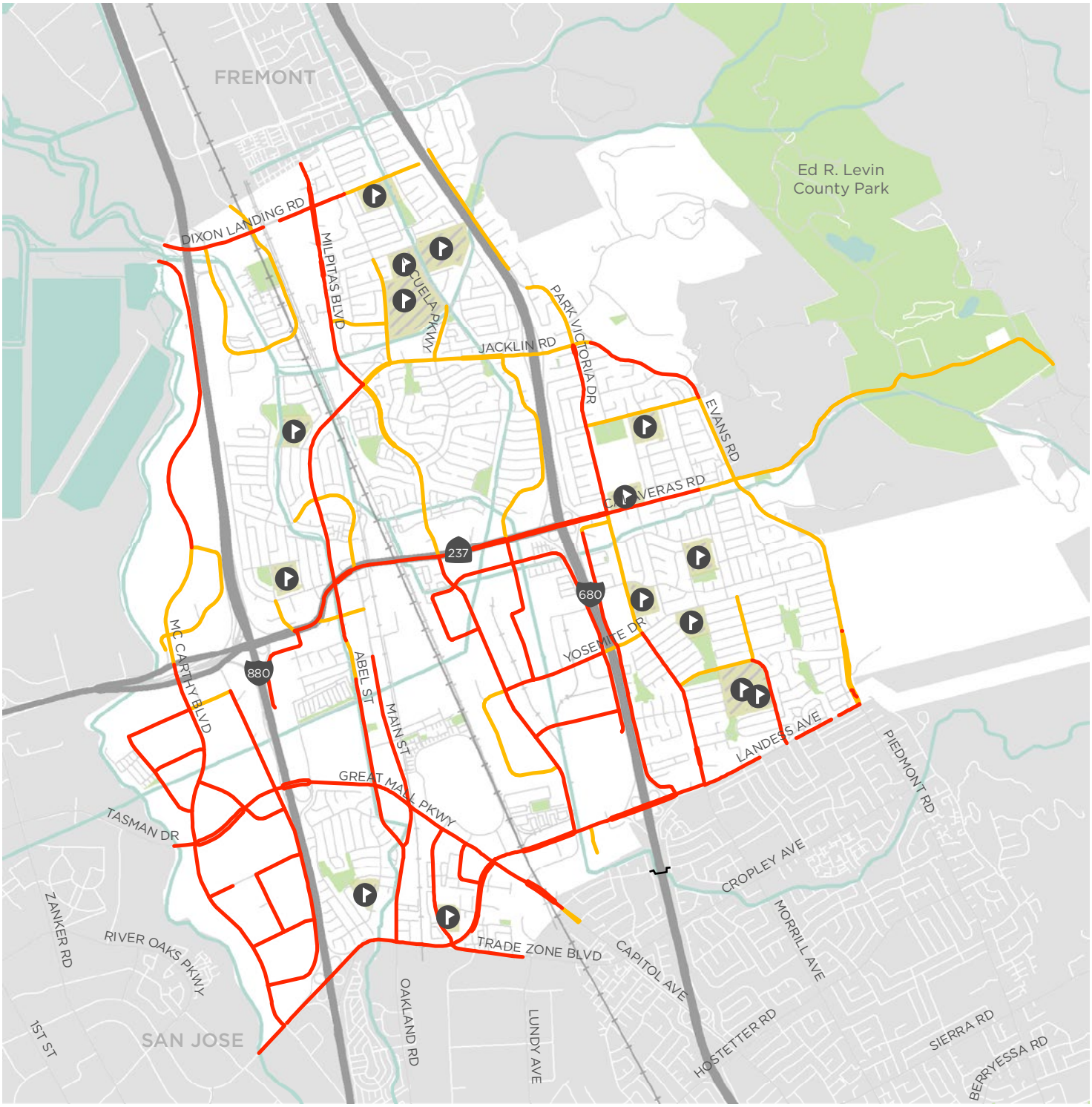


FIGURE 11
ACCESS TO SCHOOLS

NORTH

0 0.5 1 Miles

LEVEL OF TRAFFIC STRESS

- LTS 3
- LTS 4

BACKGROUND

- Schools
- Streets
- Railroad
- Public Parks
- Water
- Bike/Ped Bridge

Access to Transit

Transit options, including light rail, BART, and bus, help people of all ages connect to economic and educational opportunities or access services, recreational destinations, and shopping. Transit also connects Milpitas to the larger Bay Area region. However, nearly all transit opportunities are located along high stress corridors, as shown in Figure 12.

This is particularly pronounced in the southern area of Milpitas near BART and light rail, where few alternate routes support access to these modes. BART, for example, is located at the intersection of two high-stress roadways, and the rail line creates an additional barrier to accessing the station. Reaching nearby employment destinations or residential areas require passengers to navigate difficult roadway crossings with high traffic volumes and speeds.

Frequent bus service, which can help more residents access BART and light rail, is also typically located along high stress roadways, such as Abel Street and Jacklin Road. Limited opportunities to cross major roadways safely may result in longer trips to reach the bus stop, which can discourage transit use.

Providing low-stress connections to transit stops, including protected crossing opportunities and pedestrian bridges, can improve access to transit opportunities, increasing system ridership and supporting regional connections without the use of a personal car. Further, improvements to bus stops and shelters can improve the comfort and safety of those waiting at the transit stop along high speed, high stress roadways.

The Milpitas BART station is projected to serve over 20,000 riders daily by the year 2030. Access to this station will better connect Milpitas residents to the region while providing new opportunities to commute to work in Milpitas without a motor vehicle. Support for improved bicycle and pedestrian connections to and from the station has the potential to dramatically change the transportation landscape in Milpitas.

FIG. 12 *Access to Transit*

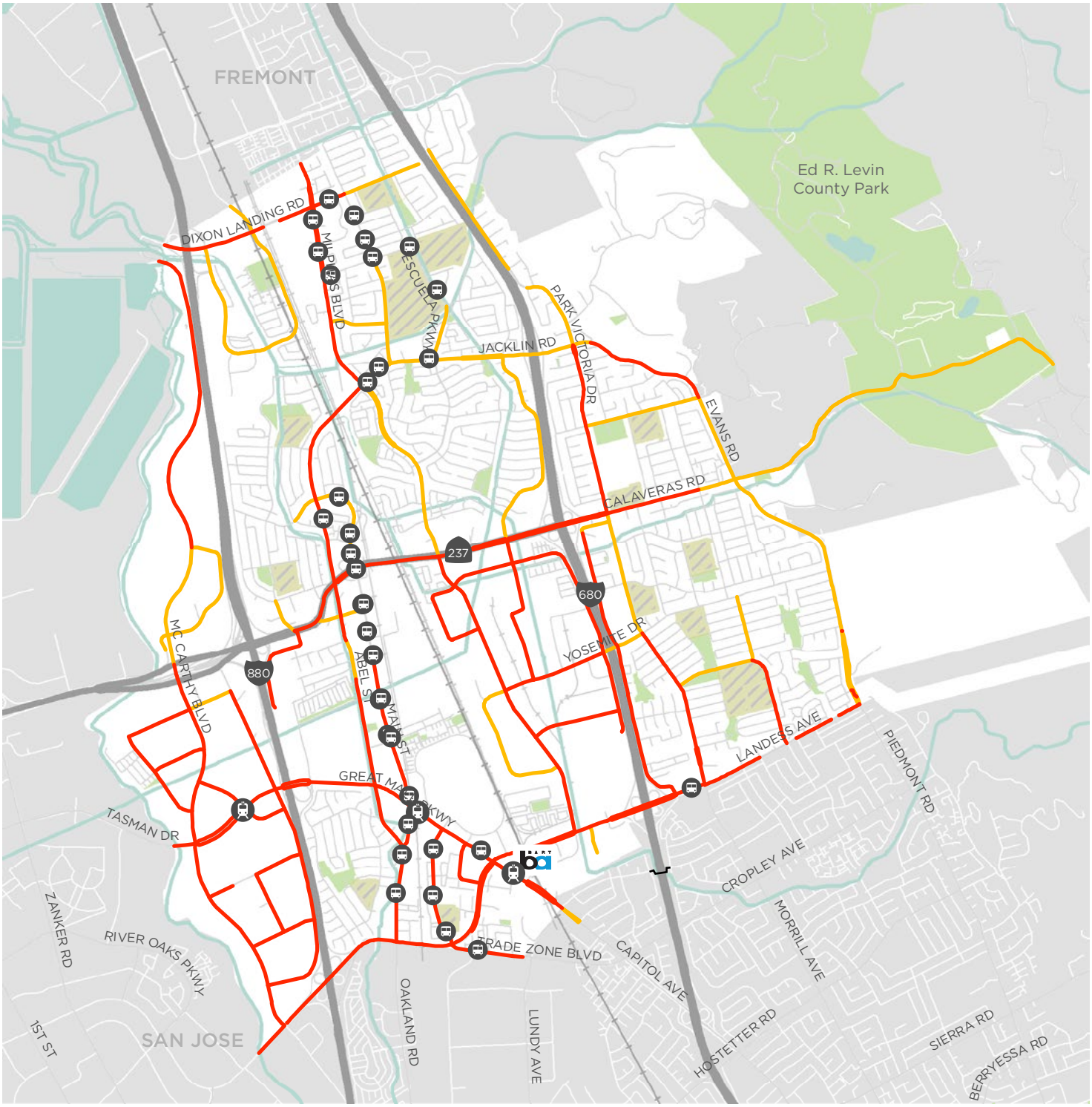


FIGURE 12
ACCESS TO TRANSIT

NORTH

0 0.5 1 Miles

LEVEL OF TRAFFIC STRESS
- LTS 3
- LTS 4

BACKGROUND
- BART Station
- Light Rail Station
- Bus Stop (Frequent Service)
- Schools
- Streets
- Railroad
- Public Parks
- Water
- Bike/Ped Bridge

Access to Commercial and Employment Centers

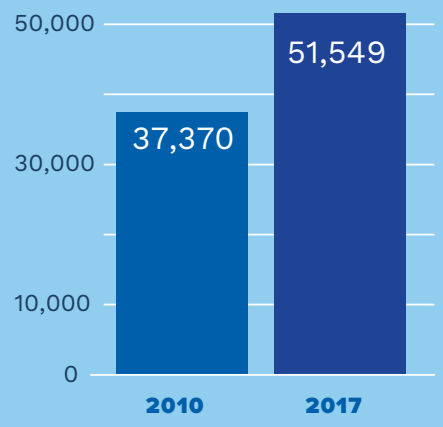
Commercial centers provide access to goods and services, including grocery stores, pharmacies, medical offices, and other shopping options. Along with industrial areas in the city, these locations are also where people work. These businesses not only provide economic opportunities for residents but attract a significant number of people from around the region, nearly doubling Milpitas's population each work day.

Shown in Figure 13, commercial areas and employment centers are concentrated in the southern and western areas of the city and are located primarily along major, high-stress roadways. For nearly all locations, there are few opportunities to access the area without traveling along a high stress road. McCarthy Boulevard, Milpitas Boulevard, Calaveras Boulevard, and Great Mall Parkway are key routes that provide access to these areas that should be considered for improvement.

Improvements should include greater separation from motor vehicles, increased safe crossing opportunities, and exploration of more direct paths to help people navigate large parcels and frequent driveways. Improving comfort and safety along these roadways can also support use of transit options by improving the first-last mile connection to light rail, BART, and local bus routes.

This is especially important when considering the growth in both population and employment that Milpitas has experienced in recent years Expanding comfortable opportunities to reach employment and commercial centers without a motor vehicle can help reduce the impact of a growing population.

GROWTH IN JOBS (2010-2017)



FROM 2010 TO 2017, THE NUMBER OF JOBS IN MILPITAS GREW BY 38%, EXCEEDING PREVIOUS PROJECTIONS. AS THE NUMBER OF JOBS CONTINUES TO GROW, MORE PEOPLE WILL BE TRAVELING TO MILPITAS DAILY.

FIG. 13 *Access to Commercial and Employment Centers*

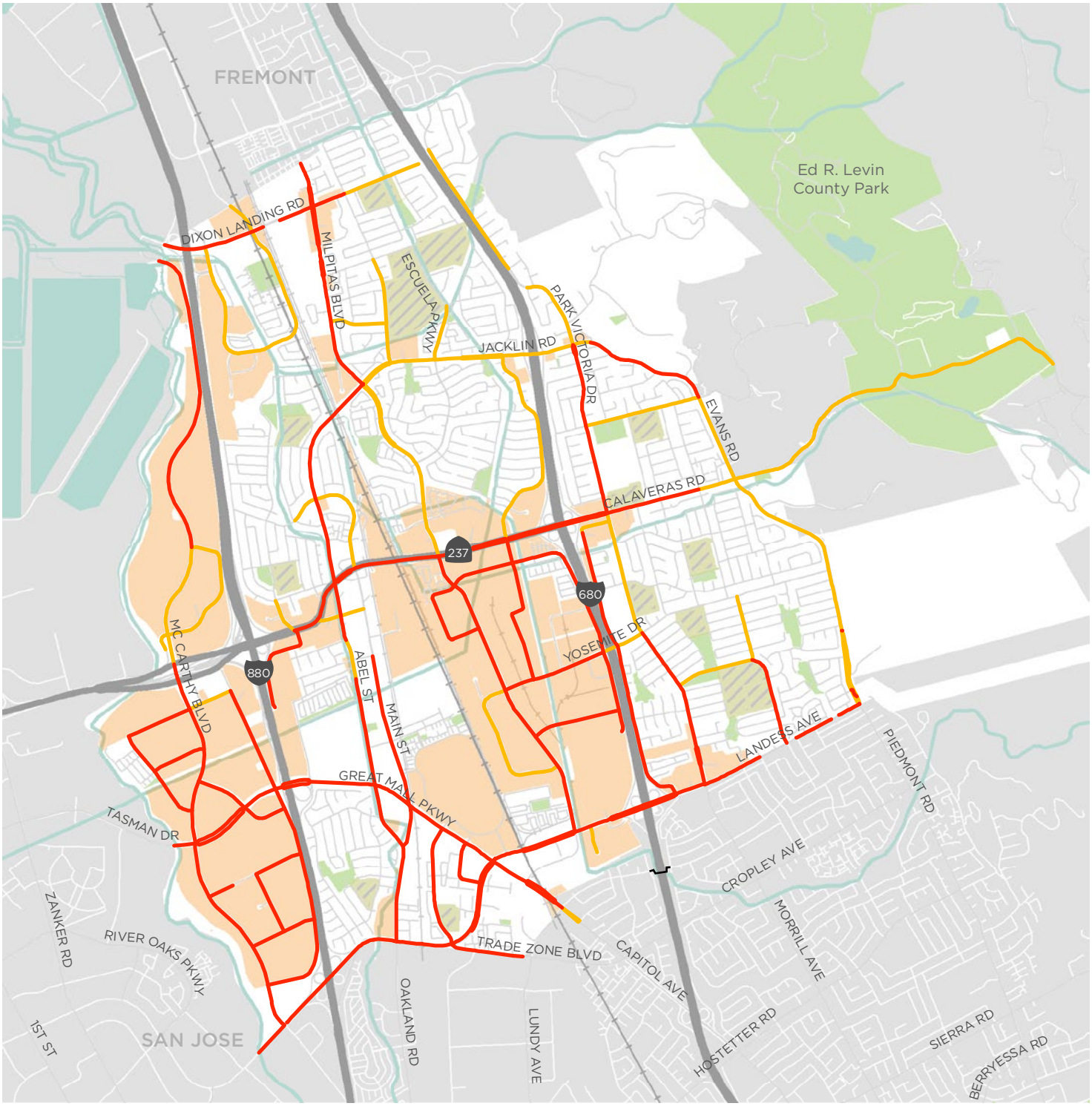


FIGURE 13
ACCESS TO COMMERCIAL AND EMPLOYMENT CENTERS

NORTH

0 0.5 1 Miles

LEVEL OF TRAFFIC STRESS

- LTS 3
- LTS 4

BACKGROUND

- Streets
- Commercial and Industrial
- Schools
- Railroad
- Public Parks
- Water
- Bike/Ped Bridge

Access to Parks

Nearly all residential areas are located within one-half mile of a park, and an even greater percentage of the city is within one mile of a neighborhood or city park. As shown in Figure 14, few areas within Milpitas are separated by a high stress roadway from a nearby park.

Improvements that increase low-stress connections directly to parks from residential areas and activity centers, including new trails, safer crossings of major roadways, and a connected bikeway network, can significantly improve connections to parks across the city.

Specifically, improvements along roadways such as Jacklin Road, S Park Victoria Drive, and Abbot Avenue can increase access to parks including Oliver Jones Memorial Park, Starlite Park, Hall Memorial Park, and Cardoza Park.

Where low stress facilities already exist, wayfinding and improved signage can better direct residents to parks and other recreation destinations. Wayfinding signs are an important component to help those who walk and bike navigate the network safely.

Finally, new low stress connections and improved access to existing trails can provide safer and more direct routes to regional trails and parks near Milpitas. Connections to Ed R. Levin County Park along Calaveras Blvd. and new opportunities to access Coyote Creek Trail can expand recreational opportunities within and around the city.

CONCURRENT WITH THE TRAIL, PEDESTRIAN, AND BICYCLE MASTER PLAN, THE PARK AND RECREATION MASTER PLAN UPDATE WILL IDENTIFY OPPORTUNITIES FOR IMPROVING, PROTECTING, AND EXPANDING THE CITY'S PARKS AND RECREATIONAL OPPORTUNITIES.

MILPITAS RESIDENTS SHARED THEIR EXPERIENCES WITH THE CITY PARK AND RECREATION SYSTEM IN EARLY 2020.

FIG. 14 *Access to Parks*

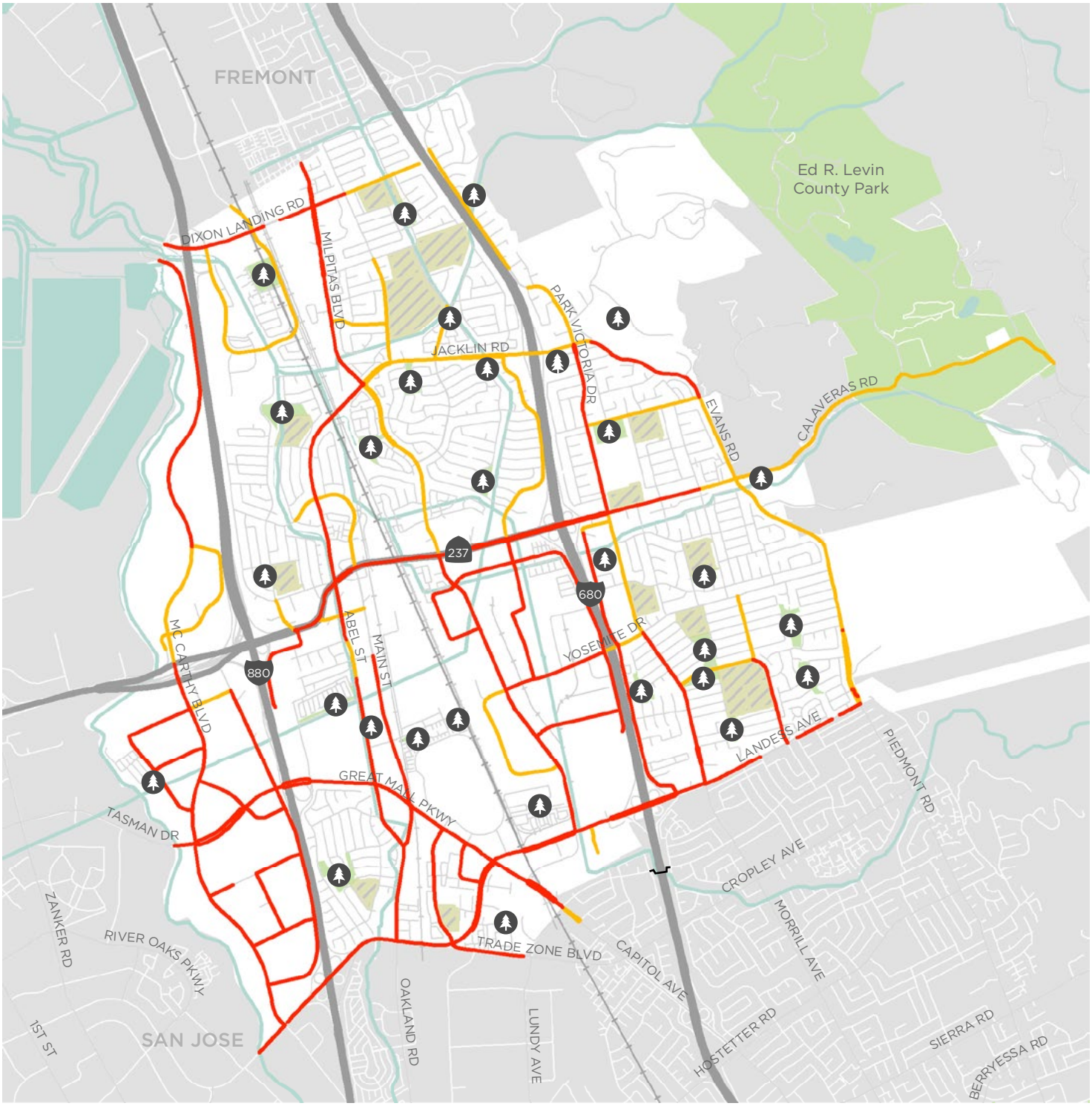


FIGURE 14
ACCESS TO PARKS

NORTH

0 0.5 1 Miles

LEVEL OF TRAFFIC STRESS

- LTS 3
- LTS 4

BACKGROUND

- Parks
- Schools
- Streets
- Railroad
- Water
- Bike/Ped Bridge

Travel Time to Destinations

In addition to the comfort and safety of a route, mode choice is often affected by the length of a trip. While a park, school, or bus stop might be a short distance from a family's home, the most comfortable route to walk or bike there may be long and indirect.

The quality of Milpitas' active transportation network isn't just determined by the miles of bike lanes and sidewalks, it is also determined by how complete and connected it is. Understanding the length of trips to reach a destination is one way to evaluate how complete and connected the active transportation network is.

The following maps provide examples of the distance required to travel along Milpitas' roadways and paths to access certain destinations today. The examples included here show generally where in the city one can travel to within 2 miles of a park (Figure 15) or a transit station (Figure 16). The results of this analysis demonstrate the effect of limited crossings and high stress roads; benefits of shared use paths; and the density of the transportation network.

Travel to Parks

Most areas in Milpitas are within a short distance of at least one park. The number of parks in the city supports short trips to parks, but the addition of shared use paths and dense neighborhood networks in some locations expands access in many areas of the city.

Nearly all residential areas are located within one-half mile of a designated park, and an even greater percentage of the city is within one mile of a neighborhood or city park. This means that generally, residents are within a 10-minute walk of a park, and a larger number of parks are available within a ten-minute bike ride.

Areas north of Calaveras Road, particularly along the Hetch Hetchy Trail, have greater access to parks within one-half mile due to both more frequent intersections and easy connections to the Hetch Hetchy Trail. This direct route links several parks on a low-stress trail.

However, areas within the central area of the city, where land uses are predominantly industrial and commercial, have more limited access to park space. Barriers such as the railway and the interstate, in addition to larger block sizes, reduce access in areas such as near the BART station.

Improved path connections can increase the number of park spaces within close distance of all residents and visitors; further, paths along creeks and improvements at major roadway crossings can support lower-stress travel options for those further away.

ON AVERAGE, A 10-MINUTE WALK WILL COVER 1/2 MILE, WHILE A 10-MINUTE BIKE RIDE WILL COVER 1 1/2 MILES.

FIG. 15 *Trail Access to Parks*

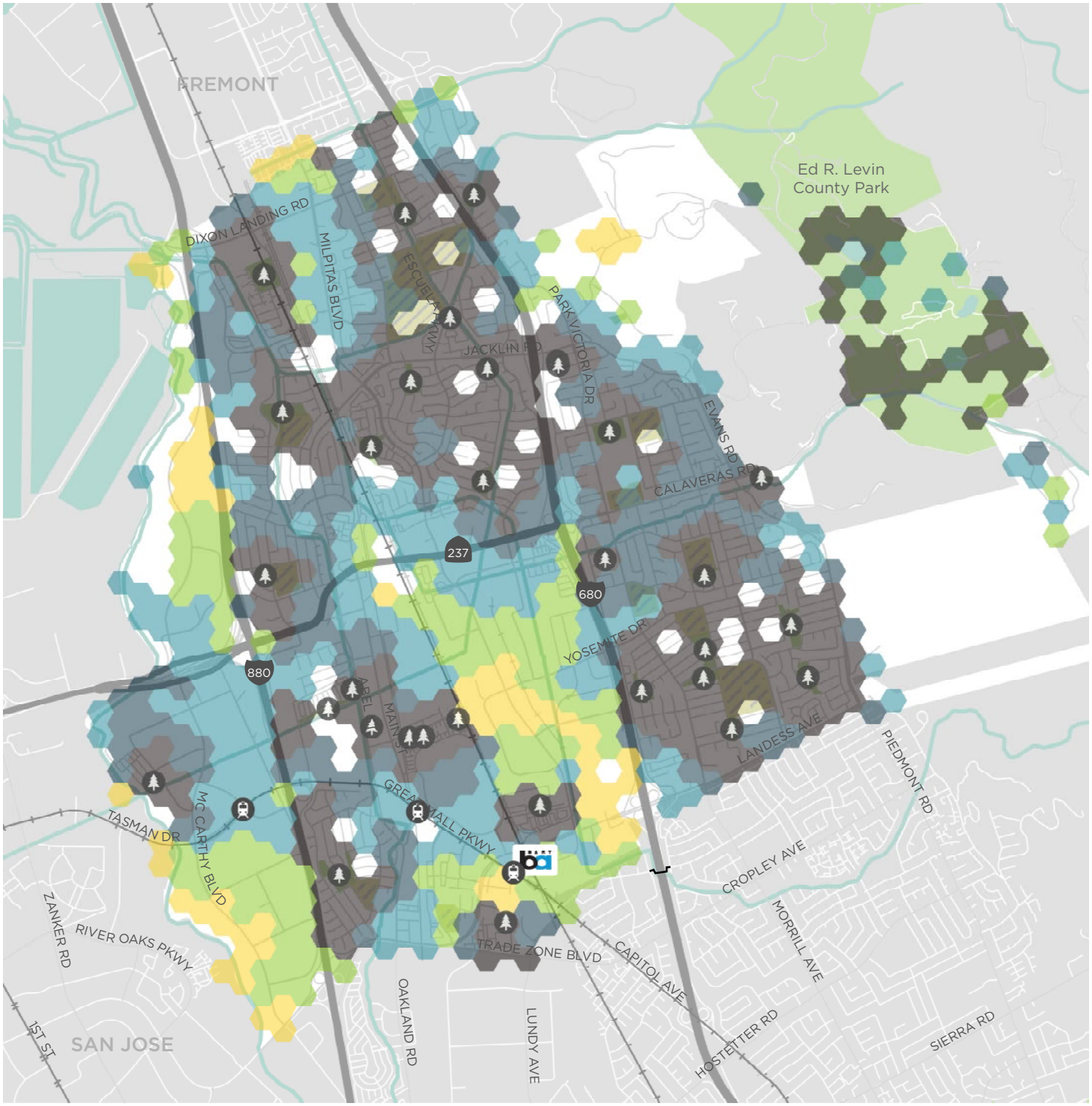


FIGURE 15
TRAIL ACCESS TO PARKS

NORTH

0 0.5 1 Miles

ACCESS TO PARKS

- 0.25 miles
- 0.5 miles
- 1 mile
- 1.5 Miles
- 2 Miles

BACKGROUND

- Parks
- BART Station
- Light Rail Station
- PublicParks
- Bike/Ped Bridge
- Streets
- Railroad
- Water

Travel to Transit

Unlike parks, there are fewer opportunities to access high-capacity transit like BART and light rail. Stations are concentrated in the southern areas of the city where there are larger block sizes, more frequent barriers such as highways and high stress roadways, and fewer complete and connected shared use paths.

This results in significantly less access to high capacity transit in Milpitas. As shown in Figure 16, reaching transit through a short walking or biking trip is typically limited to the immediate area around each station. Access to major employment centers and residential areas extend beyond a one mile trip. The Tasman/ Alder station to the west of I-880 is the one exception, providing better connections to employers that are located near the station.

Comfortable walking distances limit access to within a few blocks of BART and light rail stations, serving only a small number of residential and commercial areas. While a ten-minute bike ride broadens the reach, high stress roadways and large parcels limit route choice and restrict access to more industrial areas of the city along high stress roadways.

Longer, less comfortable trips between BART or light rail and nearby destinations has implications for promoting alternate modes of travel into the city and limits the benefit of high capacity transit for Milpitas residents.

Linking residents and employees to transit through safe, direct connections--such as paved shared use paths, grade-separated crossings, street-end connections, and separated bikeways--expands how people can get around Milpitas.

WIDE, HIGH SPEED ROADWAYS NEAR BART AND LIGHT RAIL STATION LIMIT DIRECT, COMFORTABLE ACCESS TO TRANSIT OPPORTUNITIES.

FIG. 16 *Trail Access to Transit*

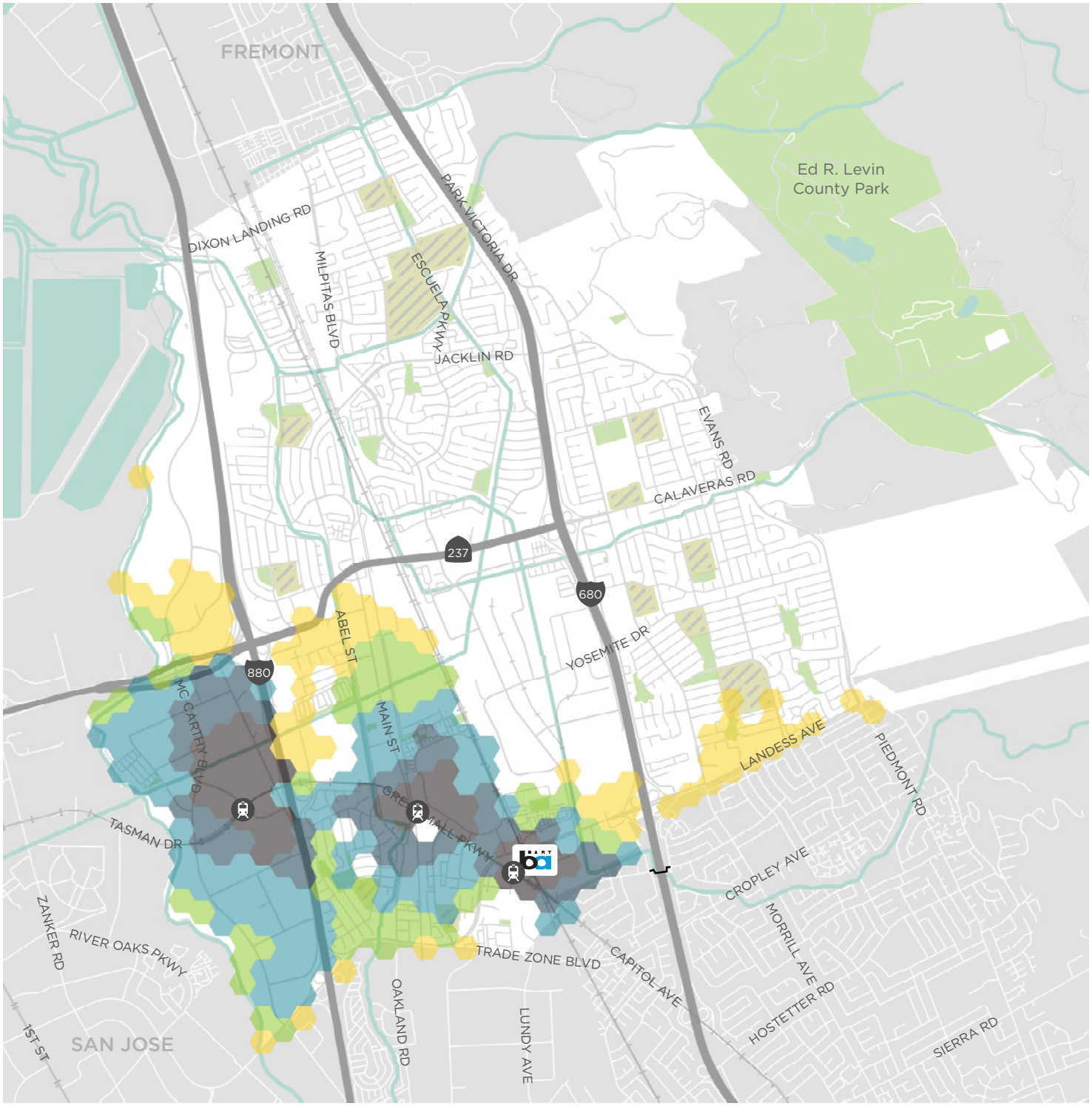


FIGURE 16
TRAIL ACCESS TO TRANSIT

NORTH

0 0.5 1 Miles

ACCESS TO TRANSIT

- 0.25 miles
- 0.5 miles
- 1 mile
- 1.5 Miles
- 2 Miles

BACKGROUND

- BART Station
- Light Rail Station
- PublicParks
- Bike/Ped Bridge
- Streets
- Railroad
- Water

Needs Analysis Summary & Improvement Opportunities

The existing active transportation network in Milpitas helps residents connect to neighborhood destinations along low-stress routes but is often disconnected and incomplete. Major barriers, including highways, on- and off-ramps, high speed roadways, and railways, limited safe, comfortable, and direct travel for people traveling by foot or by bike.

Further, recent safety data and evaluation of network quality suggest that an expanded network of connected low-stress routes can better support residents and visitors of all ages and abilities. Improved connections to schools, services, commercial areas, transit, employment, and recreational opportunities can expand choice for how people get around Milpitas.

A complete and connected network will also require improved crossings, both at intersections and mid-block locations. Specifically, improved safety and highway on- and off-ramps will better support active transportation users navigating limited crossings of major barriers in the city.

Consistent with the vision for a regional active transportation network, it is also important to consider connections between Milpitas and the neighboring cities of Fremont and San Jose. As these cities also develop action plans to improve active transportation, Milpitas should coordinate closely to provide seamless transitions into and out of the city. Consistency in facility selection and design can expand access in the region and promote active transportation as an option for daily trips.

Figure 17 on the following page summarizes key opportunities for improved active transportation infrastructure identified through the existing conditions and needs analysis process.

FIG. 17 *Improvement Opportunities*

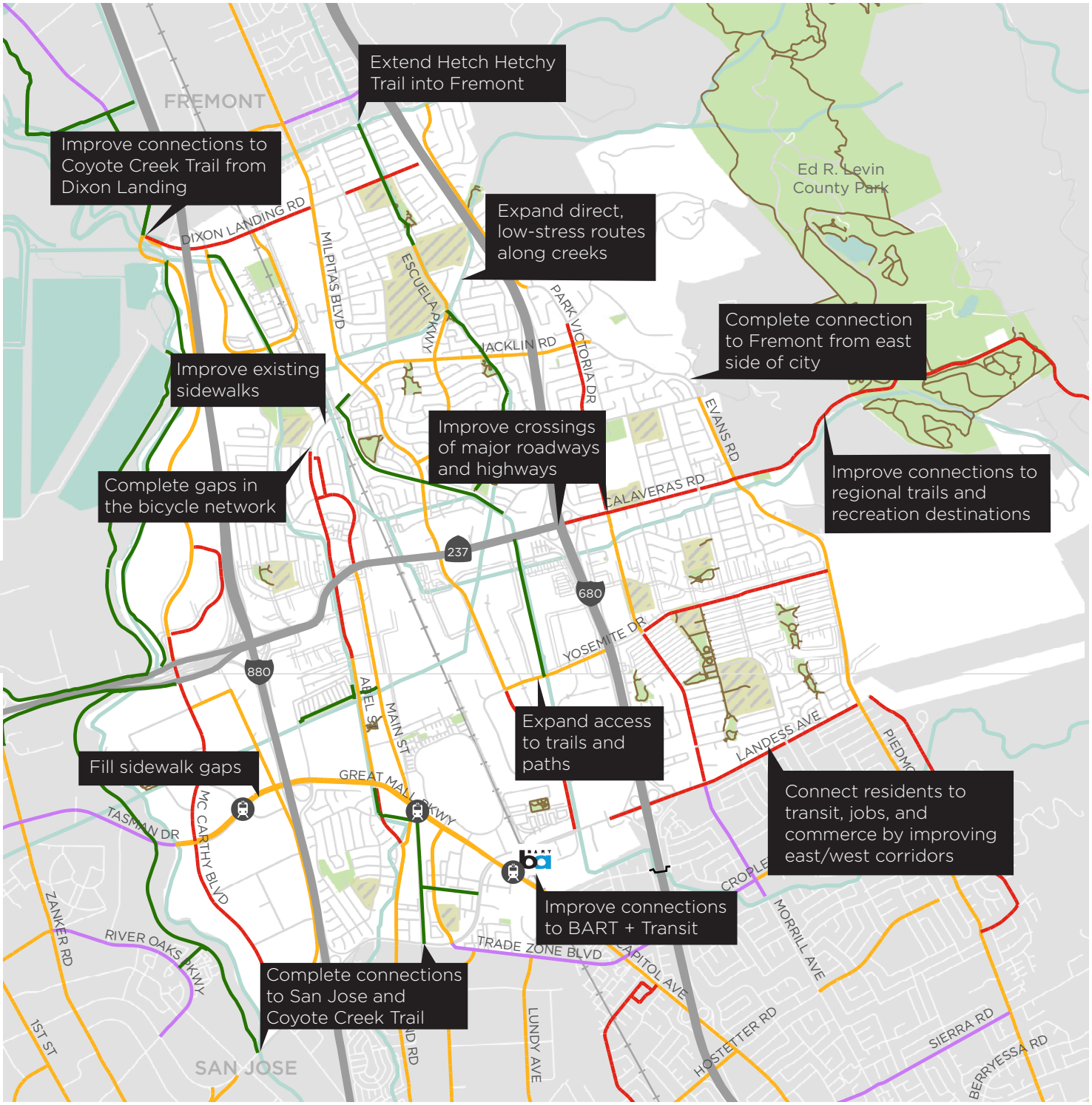


FIGURE 17
IMPROVEMENT OPPORTUNITIES

NORTH

0 0.5 1 Miles

EXISTING BIKEWAYS

- Class I: Paved Shared Use Path
- Class II: Bike Lane
- Class IIB: Buffered Bike Lane
- Class III: Bike Route
- Unpaved Trails

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Bike/Ped Bridge
- Railroad
- Public Parks
- Streets
- Water

PUBLIC ENGAGEMENT

Engagement activities provided opportunities for those who live, work, recreate, and learn in Milpitas to share about their experience traveling in the city. While network data provides insight into active transportation opportunities, experiences from people who navigate the city regularly support a clearer picture of challenges and opportunities for active transportation. In addition to public input, neighboring jurisdictions and other agency partners shared feedback throughout the process.

The COVID-19 pandemic created many challenges throughout the engagement process, requiring significant shifts in the approach during the final phases of the planning process. The following chapter summarizes engagement activities, key themes, and ways that outreach adapted to the pandemic.

Outreach Strategy

Community feedback was collected in a variety of formats at key points in the planning process. The two-phased approach focused on feedback about how people get around in the first phase and asked for input on recommended projects in the second phase. The strategy included both in-person and digital events and considered the active transportation system comprehensively. At each event or input opportunity, feedback on the bicycle, pedestrian, and trail networks was gathered to better understand how the networks work together. Participants provided more than 2,000 comments and points of feedback across all forms of outreach. In person and digital events were promoted through city channels, including the city website and social media pages; shared with the school district via printed fliers and digital communications; and were promoted by project partners, including the Silicon Valley Bicycle Coalition. The three main methods for collecting feedback included:

Pop Up Events include existing community events where project staff provide information about the plan, gather input on key questions, and answer questions about the process. Pop up events help project staff reach a broader range of people by being where people are.

Public Workshops provide a more traditional opportunity for public engagement. These events include a brief presentation followed by unstructured time to review project materials, ask questions about the planning process, and provide feedback. Workshops were held both in person and virtually.

Online Input asked participants to draw routes, identify points, and share other comments about what they would like to see or provide feedback on proposed recommendations and the draft plan. Participants can share feedback at any time of day and have the opportunity to share comments over a longer period of time..

MILPITAS FARMERS MARKET VISITORS PROVIDED FEEDBACK EARLY IN THE PLANNING PROCESS ABOUT THE CHALLENGES AND OPPORTUNITIES FOR WALKING AND BIKING IN THE CITY TODAY.

PUBLIC WORKSHOP PARTICIPANTS CONSIDER WHICH TYPES OF DESTINATIONS ARE MOST IMPORTANT TO CONNECT TO WHILE WALKING AND BIKING.

TABLE 9 *Phase 1 Public Outreach Events*

EVENT TYPE	EVENT LOCATION	EVENT DATE + TIME
Interactive Web Map	https://milpitas.altaplanning.cloud/#/	July 8, 2019 through October 8, 2019
Pop-up Event	Milpitas Farmers Market	July 27, 2019.
Pop-up Event	Hot August Bites	August 24, 2019
Public Workshop #1	Jose Higuera Adobe Building and Park	September 26, 2019
Public Workshop #2	Parks, Recreation, and Cultural Resources Commission; City Hall	October 7, 2019

Phase 1

GOALS

- Confirm understanding of existing network, including pedestrian facilities, on-street bikeways, and trails.
- Develop a more comprehensive understanding of where residents would like to walk, bike, or roll.
- Gain insight into current network challenges, such as network connectivity or safety concerns.
- Gain insight into current network barriers, such as locations where rail lines or fences impede travel.
- Learn which facility types and types of improvements are preferred by the public.
- Inform network recommendations.

KEY FINDINGS

- Safety was a common concern along major roadways and at crossings throughout the city.
- Trail safety was a common concern both in terms of safe access to trails and safe crossings where trails intersect with major roadways.
- Safe Routes to School was a specific safety concern identified by many; opportunities for more and improved routes to school are needed.
- Better access and connectivity to destinations is needed, specifically in the form of a complete and continuous network of safe routes for walking and bicycling.
- Roadway debris and gravel on the roadway and in the bike lane, especially major arterials, was identified as a concern.
- Participants requested additional bike parking at locations across the city such as shopping centers, schools, job centers, libraries, public parks, and transit stations.
- More access/entrance points to trails and better connectivity in the form of a complete and continuous network of trails were requested.
- Trail conditions, specifically where existing segments are incomplete, were identified as a concern.

TABLE 10 *Phase 2 Public Outreach Events*

EVENT TYPE	EVENT LOCATION	EVENT DATE + TIME
Interactive Web Map	https://milpitasphase2.altaplanning.cloud/	March 2, 2020 through May 3, 2020
City Council Meeting	Virtual	February 2, 2021
Parks, Recreation, and Cultural Resources Commission Presentation	City Hall	March 2, 2020
Public Workshop #3	Virtual	April 13, 2021
Virtual Open House	Virtual	February 2, 2021 through April 26, 2021
Public Draft Plan Comment Period	Virtual	February 2, 2021 through April 26, 2021

Phase 2

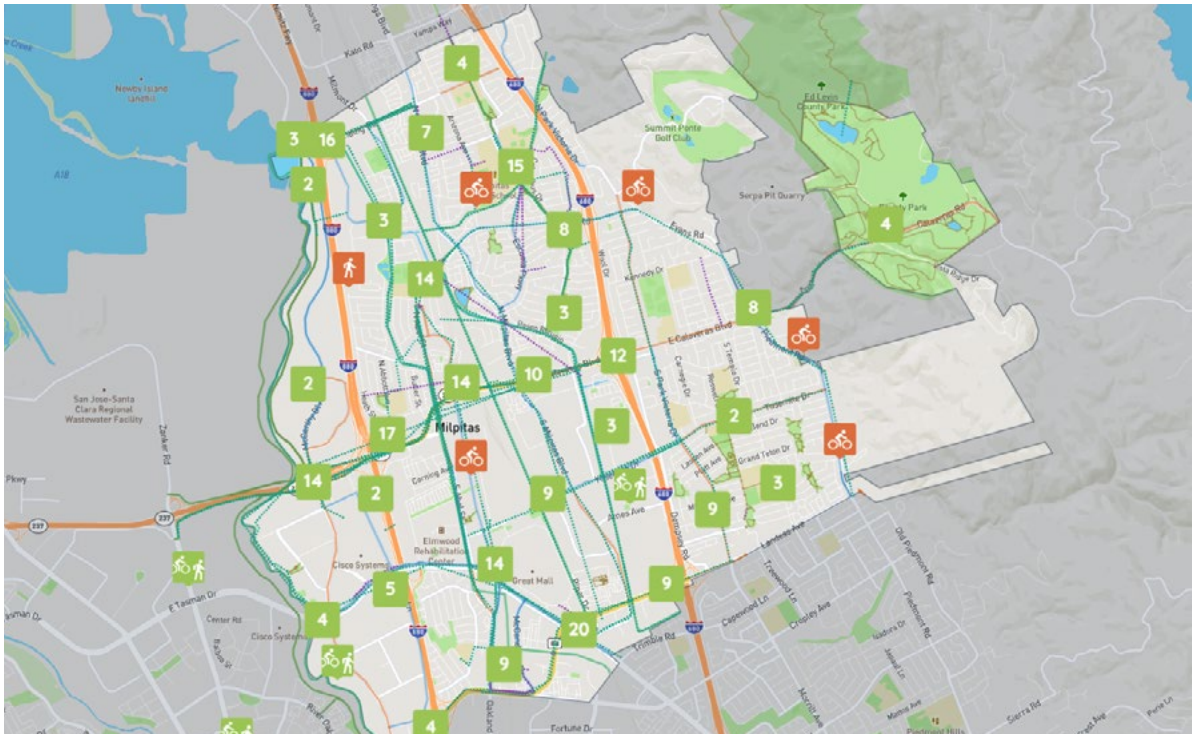
GOALS

- Gather feedback on draft recommendations for projects, programs, and prioritization.
- Gain further insight into the challenges and opportunities associated with plan implementation.
- Learn which project recommendations are priorities for the public.
- Inform the public and gather feedback on specific types of potential improvements including: intersection, connectivity, and crossing improvements for bicyclists and pedestrians; program recommendations; bicycle facility types; and streetscape improvements.
- Receive feedback on the Trail, Pedestrian, and Bicycle Master Plan

KEY FINDINGS

- Projects supporting safe routes to school received significant support from community members.
- Safety remained a primary concern among those providing feedback, including requests to slow vehicle speeds, improve crossings (including trail crossings), and reduce exposure. to motor vehicles
- Creating a complete and connected active transportation network supports participants' vision for active transportation, including connections with San Jose and Fremont.
- Connections to BART and other transit opportunities were frequently identified as a priority for many participants.
- Participants also supported better and new connections to recreation, particularly across major barriers in the city.

FIG. 18 *Phase 1 Public Input Map Results*



THE ONLINE INPUT MAP PROVIDED A DIGITAL OPPORTUNITY FOR THE PUBLIC TO SHARE IDEAS FOR IMPROVING ACTIVE TRANSPORTATION, IDENTIFY COMMON CHALLENGES, AND PROVIDE FEEDBACK ON RECOMMENDED IMPROVEMENTS.

COVID-19 Response

Outreach activities remained flexible and adaptive as the COVID-19 emergency response affected Phase 2 planned outreach events. For example, the recommendations comment period was extended an additional two months, through the month of April 2020, to provide additional opportunities for input. Scheduled in-person workshops were canceled and shifted to digital workshops and a Virtual Open House in the final phases of the plan. Further, City staff utilized various outreach channels to promote plan activities and expand the reach of virtual engagement. These outlets included NextDoor, outreach through major employers and schools, print newspaper information, and Facebook ads. Table 11 on the next page highlights these outlets.

Despite these challenges, participants provided more than 2,000 comments and points of feedback across online outlets, pop up events, and public workshops and supported a vision for a safe, complete, and connected approach to active transportation in Milpitas. During the Spring 2021 Draft Plan comment period alone, more than 1,500 people visited the Virtual Open House, and nearly 25,000 people learned about the plan through Facebook ads.

PARTICIPANTS SHARED MORE THAN 2,000 COMMENTS AND POINTS OF FEEDBACK ACROSS ALL ENGAGEMENT PLATFORMS

TABLE 11 *COVID-19 Outreach Outlets*

ORGANIZATION/ OUTLET	DESCRIPTION	DATES
NextDoor	Neighborhood based digital message board	March 30, 2020
Facebook Posts	Posts directed people to the interactive webmap.	March 6th, 19th, 25th, and 30th and April 2nd, 2020
Twitter Posts	Posts directed people to the interactive webmap.	March 6th, 19th, 25th, and 30th and April 2nd, 2020
Milpitas Post	Advertisement directing people to the interactive webmap link.	March 13, 2020
Facebook Ads	Ads promoting the Virtual Open House were provided in 4 languages: English, Spanish, Chinese, and Vietnamese.	March 24, 2021 through April 26, 2021

Outreach Summary

Despite the challenges faced throughout the development of the Trail, Pedestrian, and Bicycle Master Plan, Milpitas residents and visitors shared feedback that strongly supports an improved transportation network throughout the city. Improving infrastructure to support safer, more comfortable routes to common destinations has the opportunity to improve access to active transportation, expand mode choice, and support a broad range of trip purposes. Access to schools, transit, and recreation were commonly cited destinations, as were requests for improved connections to regional destinations beyond the city.

FACEBOOK ADS PROMOTED THE PUBLIC DRAFT PLAN FROM MARCH 24 THROUGH APRIL 26, 2021. ADS WERE SHARED IN FOUR LANGUAGES, INCLUDING ENGLISH, CHINESE, SPANISH, AND VIETNAMESE.

DURING PHASE 2 OF PUBLIC OUTREACH, OVER 1,500 PEOPLE VISITED THE VIRTUAL OPEN HOUSE, WHICH PROVIDED RESIDENTS THE OPPORTUNITY TO REVIEW THE COMPONENTS OF THE PLAN, COMMENT ON THE PROPOSED PRIORITY PROJECTS, AND SUBMIT GENERAL COMMENTS.

VISION, GOALS, AND POLICIES

The Trail, Pedestrian, and Bicycle Master Plan represents a vision for a transportation network that expands choice for how all people in Milpitas travel, improves safety for all roadways users, and expands access to destinations for people of all ages and abilities.

The Vision and Goals presented here were developed based on previous planning efforts, public engagement results, and analysis of existing conditions. Further, the Trail, Pedestrian, and Bicycle Master Plan seeks to closely align with the forthcoming General Plan Update and builds on the goals and policies presented in the updated Circulation Element.

VISION

The Milpitas Trail, Pedestrian, and Bicycle Master Plan is an action plan for the city to create a safe and convenient network of connected active transportation infrastructure for all residents. Through implementation of infrastructure improvements and policies and programs, Milpitas will:

- Support connectivity and access to destinations across the city and region, including employment and educational opportunities, recreation, services, and transit
- Expand choice for how people travel, including integration of active transportation with transit
- Improve safety for all modes of travel, particularly for people walking and biking
- Increase access to recreational opportunities, both locally and regionally
- Create an active transportation network that meets the needs of people of all ages and abilities

The focus of this plan is consistent with the Milpitas General Plan Circulation Element; specifically, the Trail, Pedestrian, and Bicycle Master Plan supports the following goals and policies stated in the Circulation Element:

GOAL CIR 1:

Provide a transportation system that efficiently, equitably, and effectively supports the City's land use vision, minimizes vehicle miles traveled (VMT), enhances connectivity of the existing network, and supports the use of all modes of transportation.

- **Policy CIR 1-1:** Prioritize and measure infrastructure and facility safety on streets and public rights-of-way.
- **Policy CIR 1-2:** Ensure that the City's transportation system supports planned land uses and removes barriers to all types of transportation options as envisioned in the Land Use Element.
- **Policy CIR 1-3:** Promote interconnectivity of the transportation network in existing and new developments and actively measure the quality of conditions in neighborhoods to better understand what barriers exist in order to support use of and access to the network.
- **Policy CIR 1-4:** Coordinate development of safe, inclusive, and health-promoting transportation infrastructure with local, county, regional, and state agencies to optimize efficiency of the transportation network for all users and increase opportunities for physical activity for all types of users.
- **Policy CIR 1-5:** Encourage reduced block size in new developments to develop a grid or modified grid network to enhance walkability.
- **Policy CIR 1-6:** Continue to participate in county and regional transportation processes through VTA and MTC to facilitate inter-agency coordination and education, maintain awareness of programmatic and funding opportunities, and advocate for the City's interests for the community.
- **Policy CIR 1-7:** Coordinate with neighboring jurisdictions regarding planned developments and transportation improvements that impact communities in both jurisdictions
- **Policy CIR 1-8:** Prioritize multi-modal infrastructure improvements that improve pedestrian, bicyclists, and transit user safety and equity for inclusion in the CIP.

GOAL CIR 2:

Provide safe, healthy, comfortable, equitable, and efficient transportation choices for all modes of transportation to enable people of all races, cultures, ethnicities, religions, sexual orientation, genders income levels, ages and abilities, especially people of color and those disproportionately affected by access to a personal vehicle, systemic transportation inequities, racism, oppression, and poverty to increase safe physical activity, reduce usage of personal vehicles, access to goods and services, employment opportunities, and for personal travel; to provide for efficient goods movement.

- **Policy CIR 2-1:** Promote multi-modal transportation options by developing an interconnected system of streets, roads, bridges, and highways that provides continuous, efficient, safe and convenient travel for all users regardless of mode, age or ability and encourage users to walk, ride a bicycle, or use transit for shorter, local trips.

- **Policy CIR 2-2:** Design intersections to safely and comfortably accommodate all transportation modes and users, especially those who are disproportionately impacted by health, income, or access disparities.
- **Policy CIR 2-3:** Seek opportunities to implement and assess traffic calming strategies to reduce vehicle speeds and establish a safer, more comfortable environment for pedestrians and bicyclists.
- **Policy CIR 2-4:** To enhance the City's multi-modal network in a cost-effective and forward-thinking manner, view all public capital improvement projects as opportunities to enhance mobility, access, health, and safety for all modes of transportation, especially for those who are more vulnerable.
- **Policy CIR 2-7:**Provide inclusive and diverse wayfinding measures to provide directional guidance for pedestrians, bicyclists, and transit riders.

GOAL CIR 3:

Support the development and maintenance of the public transit system to provide an integrated, accessible, convenient, safe, comfortable, and effective mobility option.

- **Policy CIR 3-1:** Coordinate with VTA and BART to design and implement capital improvements that support safety and access to rail stations and bus stops.
- **Policy CIR 3-4:** Ensure that all transit-supportive infrastructure, sidewalks, and bike lanes are adequately maintained to provide high-quality facilities for users.

GOAL CIR 4:

Promote, provide, and maintain an expanded, safe, convenient and comprehensive network of facilities for pedestrians and bicyclists of all ages and abilities to support walking and bicycling as viable modes of transportation, for recreational use, and to promote public health.

- **Policy CIR 4-1:** Encourage a shift to active transportation modes by expanding and enhancing current pedestrian and bicycle facilities to accommodate pedestrians and bicyclists of all ages and abilities and encourage all users to reduce vehicle trips and utilize active transportation options with an increase in density of pedestrian and bicycle-supportive infrastructure.
- **Policy CIR 4-2:** Link and expand City pedestrian and bicycle circulation facilities to existing and planned local and regional networks, with an emphasis on expanding infrastructure options near transit.
- **Policy CIR 4-3:** Encourage walking, biking and transit use by prioritizing and implementing "first-mile/last mile" improvements, wayfinding, and educational efforts in the vicinity of the Great Mall transit center, light rail stations, the BART station, and heavily used bus stops.
- **Policy CIR 4-4:** Provide secure bicycle parking and end-of-trip support facilities at centers of civic, retail, recreation, education, and work activity.
- **Policy CIR 4-5:** Support building bridges or under-crossings across creek channels, railroad lines and roadways to improve

network connectivity and facilitate bicycling and walking between high density residential developments, retail centers, civic buildings, and recreational centers.

- **Policy CIR 4-6:** Eliminate gaps in the pedestrian and bicycle network, especially between neighborhoods, trails that access schools, and areas with higher health disparities.
- **Policy CIR 4-7:** Work collaboratively with the community to discover and develop connections between the multi-use paths and the on-street bicycle system to support development of a comprehensive network, with an emphasis on areas with limited access and/or higher health disparities.
- **Policy CIR 4-8:** Preserve and enhance the natural environment of the creek corridors in conjunction with each trail project.
- **Policy CIR 4-9:** Identify and investigate the feasibility of trail development along rights-of-way including abandoned, unused, or active railroad corridors, utility corridors, and waterways.
- **Policy CIR 4-10:** Work and promote an active lifestyle that encourages walking, bicycling, and utilizing the trail network to support public health while reducing greenhouse gas emissions and other air pollutants.

GOAL CIR 5:

Implement measures that increase transit use and other non-motorized travel modes that lead to improved utilization of the existing transportation system, such as accessibility improvements to public transit stops and stations by walking and biking, and provide transit stops near employment centers and higher density residential developments and in areas where infrastructure is lacking and access without a car is unsafe.

- **Policy CIR 5-1:** Develop, implement, and monitor vehicle trip reduction requirements for large development projects – including all land use types – to minimize the impact of new development on traffic congestion and to reduce vehicle emissions.
- **Policy CIR 5-2:** Adopt a citywide TDM ordinance to require and encourage vehicle trip reduction at employment sites, businesses, and multi-unit residential facilities, and hire dedicated staff to work closely with communities throughout the City on ongoing education and encouragement efforts.
- **Policy CIR 5-3:** Encourage existing employers to adopt strategies to implement programs to reduce employee vehicle trips, including purchasing passes through VTA's annual transit pass program; providing facilities such as secure bike parking, lockers, changing rooms, and showers; telework, and flexible work schedules.

GOAL CIR 6:

Support and expand the City's efforts to promote economic, environmental and social sustainability through initiatives to reduce greenhouse gas emissions and other air pollutants, reduce runoff, promote public health, equity and engage the community in an inclusive planning process.

- **Policy CIR 6-1:** Develop guidelines for the inclusion of green infrastructure in the design of transportation improvements.
- **Policy CIR 6-2:** Support development of healthier communities through the use of lower- or non-polluting modes of transportation to reduce GHG vehicle emissions and local air pollution levels
- **Policy CIR 6-3:** Encourage walking and bicycling as strategies to promote public health and reduce the long-term transportation costs of owning and maintaining a vehicle.
- **Policy CIR 6-4:** Prioritize transportation improvements in part based on consideration of benefits to disadvantaged communities.
- **Policy CIR 6-5:** Include a robust, inclusive and interactive community engagement and educational process in transportation planning efforts to help ensure that the project will address the needs of local stakeholders, especially disadvantaged populations.
- **Policy CIR 6-7:** Develop impact fees to provide revenues to be used to construct pedestrian and bicycle infrastructure that will support new development.
- **Policy CIR 6-8:** Use repaving projects as an opportunity to cost-effectively implement new bicycle facilities in accordance with City plans.
- **Policy CIR 6-9:** Maximize efficient maintenance of transportation infrastructure of all modes, such as coordinating roadway paving or striping projects to include maintenance of pedestrian and bicycle infrastructure.

GOAL CIR 7:

Identify strategies and funding sources to implement the actions identified in this Circulation Element.

- **Policy CIR 7-1:** Proactively position the City to be competitive in pursuing grant funding for planning, design, and construction of transportation improvements.
- **Policy CIR 7-2:** Consider developing additional local sources of funding for trails and bikeways such as special assessment districts, nonprofit corporations and ballot initiatives.
- **Policy CIR 7-3:** Seek opportunities to develop public/private partnerships to provide transportation infrastructure and services.
- **Policy CIR 7-4:** Ensure that construction detour routes provide safe and convenient access for users of all modes of transportation, including people with disabilities.

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RECOMMENDATIONS

The recommended active transportation network seeks to improve safety for all users; support connections to schools, transit, employment, shopping, and recreation; and support an improved active transportation culture within Milpitas.

Enhanced crossings and sidewalks will provide a safer and more comfortable environment for pedestrians along commercial corridors and within neighborhoods.

On-street bikeways, including cycle tracks and bike boulevards, provide low-stress connections in conjunction with improved intersections and mid-block crossings.

New and extended paved shared use paths along creeks and adjacent to roadways help Milpitas residents and visitors navigate barriers while traveling along a low-stress, direct route. New access points and expanded trail heads increase visibility of the trail system and integration with other transportation systems.

Combined, these improvement support a comprehensive all ages and abilities network. The following chapter outlines the recommended project locations, associated treatments, and opportunities for further study.

Pedestrian Network

The Pedestrian Network Recommendations focus on opportunities to create a safer, more comfortable, and better-connected network for those who walk or use mobility devices in Milpitas. Pedestrian infrastructure improvements are focused in priority areas that aim to improve the comfort and safety of pedestrian travel and maximize pedestrian access to transit, schools, parks, and commercial centers. By filling sidewalk gaps, prioritizing pedestrian travel through safe crossings at major roadways, creating pedestrian-focused commercial corridors, and considering accessibility of pedestrian facilities, Milpitas can improve the safety and experience for those who walk.

The two focus areas shown in Figure 19 guide pedestrian improvements to areas that best support the goals of this plan while building on public feedback and previous planning efforts, including the Midtown Specific Plan and the Transit Area Specific Plan. Pedestrian improvements should be completed in coordination with other projects in the public right-of-way, including implementation of the bicycle network, paving projects, or other system improvements.

Commercial Pedestrian Improvement Areas: Reflect the areas addressed in the Midtown Specific Plan and the Transit Area Specific Plan, both of which identify a range of pedestrian improvements for areas with anticipated growth. Locations with a high number of reported collisions; key cross-town corridors that provide access across barriers; and high potential demand for active trips are also included. Refer to the Pedestrian Toolbox on page 89 and Appendix E for examples of recommended improvements, such as wayfinding, mid-block crossings, and transit waiting area improvements. Existing gaps in the sidewalk network should also be filled.

Neighborhood Pedestrian Improvement Areas: Support improved connections to schools, high frequency bus stops, and other neighborhood destinations. Traffic calming, street end connections, and enhanced crossing opportunities at major roadways are project types supported not only through the Needs Analysis of this plan but also public feedback. Improving safety and prioritizing pedestrians in these areas can support more trips by foot and improve community connections. Existing gaps in the sidewalk network should also be filled.

TABLE 12 *Example Streetscape Improvements*

TYPE	RECOMMENDED IMPROVEMENTS
Commercial Pedestrian Improvement Areas	• Transit waiting area improvements to increase comfort and safety for passenger • Increased vegetation improves comfort while traveling along the corridor • Wayfinding helps people navigate the common destinations, trails, and transit • Benches and lighting help create a sense of place, providing a place to rest and increasing visibility
Neighborhood Pedestrian Improvement Areas	• Wayfinding help people navigate to common destinations, trails, and transit • Traffic calming slows motor vehicle speeds and can discourage cut-through traffic • Shade trees and vegetation create a more comfortable pedestrian environment

FIG. 19 *Proposed Pedestrian Improvement Areas*

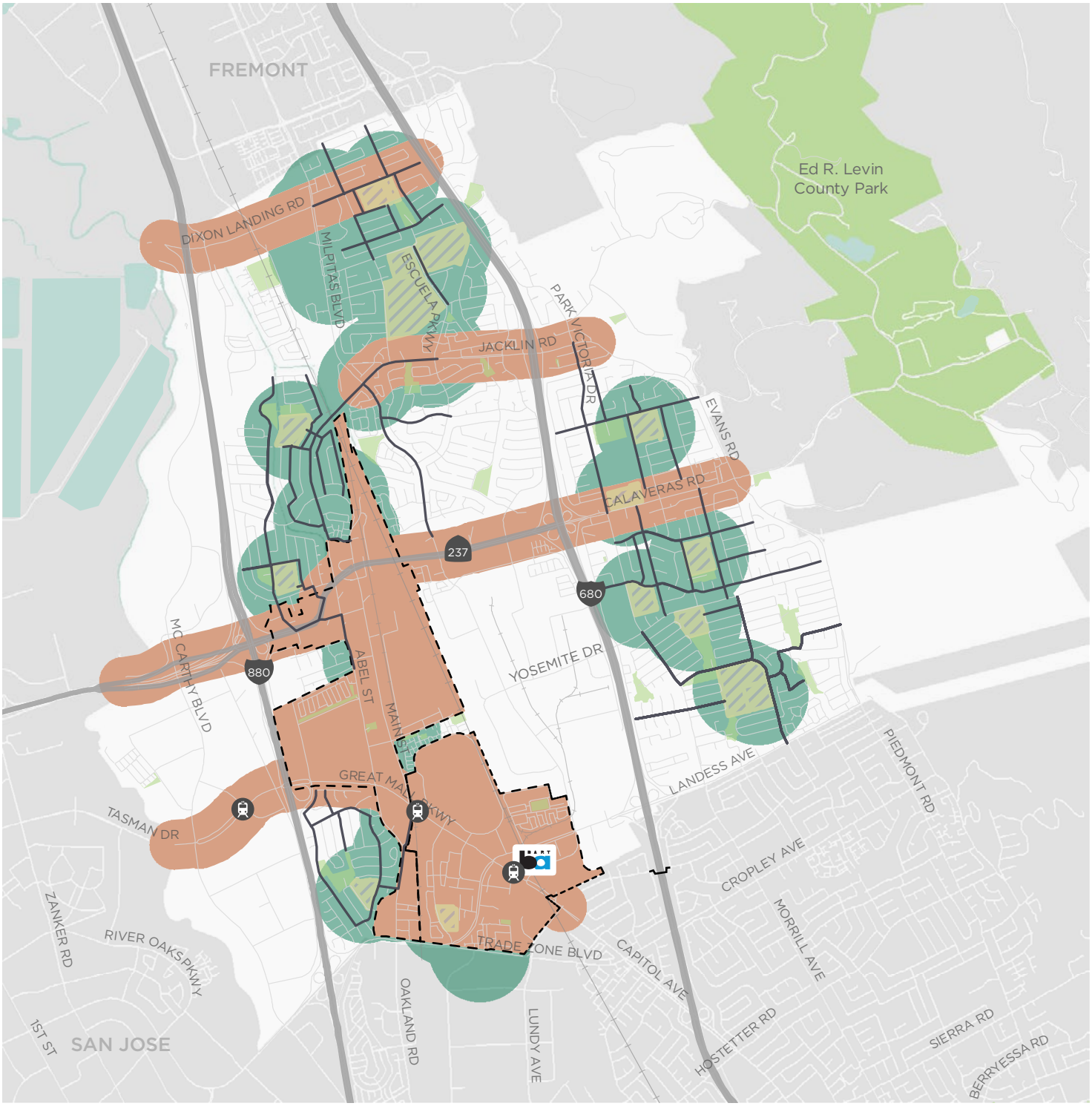


FIGURE 19
PROPOSED PEDESTRIAN IMPROVEMENT AREAS

NORTH

0 0.5 1 Miles

PEDESTRIAN RECOMMENDATIONS

- Commercial Priority Area
- Neighborhood Priority Area
- Specific Area Plan Boundary

BACKGROUND

- SRTS Route
- BART Station
- Light Rail Station
- Bike/Ped Bridge
- Schools
- Public Parks
- Water

Pedestrian Spot Improvements: Commercial

Within each focus area, specific opportunities to improve safety for pedestrian travel were identified through public input, collision history, and review of existing conditions. The following maps (Figures 20 and 21) identify the locations for these improvements and the range of associated improvements. For all project locations, additional study and data collection is required to determine the specific improvements required. This inventory should also confirm sidewalk completion.

Improvements in Commercial Priority Areas include the following types:

Signalized Crossing: Crossing of at least one major roadway with an existing traffic signal within the Commercial Priority Areas

Unsignalized Crossing: Major road crossings without an existing traffic signal or mid-block crossings of a major roadway within the Commercial Priority Areas.

Table 13 outlines the recommended improvements for each type.

TABLE 13 *Proposed Pedestrian Improvement Strategy: Commercial Priority Areas*

TYPE	RECOMMENDED IMPROVEMENTS
Commercial Priority Areas: Signalized Crossing	• Signal Improvements, including: pedestrian countdown signal, lengthening pedestrian crossing times and/or Leading Pedestrian Interval, No Right on Red, dedicated left turn phase • Upgrade curb ramps to comply with ADA standards as needed • Advanced stop bar • Improve visibility, through lighting and improved sight lines • Implement high visibility crosswalks, particularly in high use areas • Shorten crossing distances through pedestrian refuge islands, curb extensions, or other traffic calming features. • Reduce curb radius to slow turning speeds and explore reducing posted speeds through data collection and evaluation • Remove slip lanes
Commercial Priority Areas: Unsignalized Crossing	• Upgrade curb ramps to comply with ADA standards as needed • Improve visibility through lighting and improved sight lines, including restricting parking in advance of the intersection • Implement high visibility crosswalks, particularly in high use areas • Evaluate pedestrian hybrid beacon or Rectangular Rapid Flashing Beacon (RRFB) installation, especially for mid-block crossings • Install advanced yield/stop bars • Shorten crossing distances through pedestrian refuge islands, curb extension, or other traffic calming features. • Reduce curb radius to slow turning speeds and explore reducing posted speeds through data collection and evaluation

FIG. 20 *Proposed Commercial Priority Area Spot Improvement*

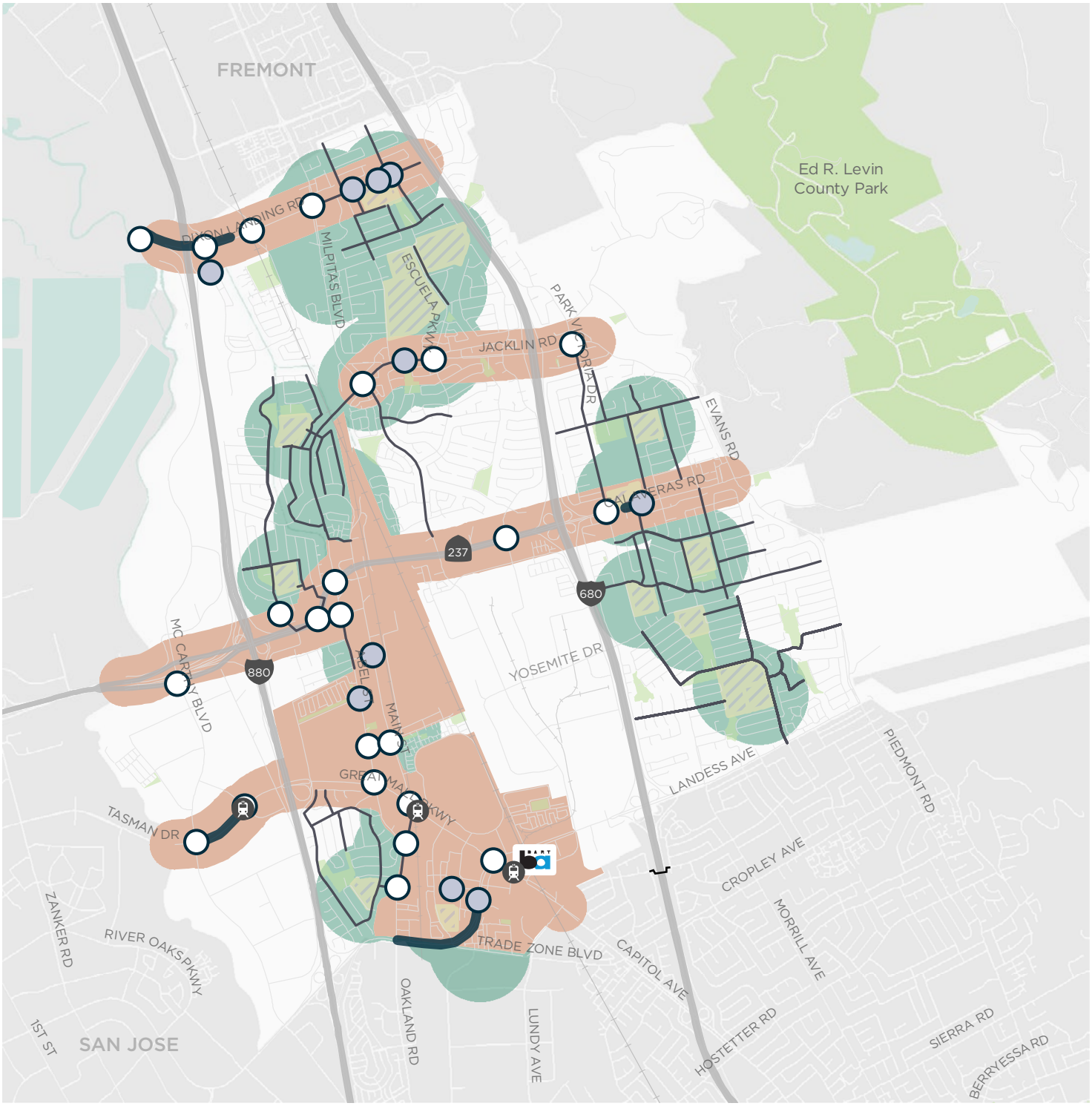


FIGURE 20
PROPOSED COMMERCIAL PRIORITY AREA SPOT IMPROVEMENTS

NORTH

0 0.5 1 Miles

PEDESTRIAN RECOMMENDATIONS

- Commercial Signalized
- Commercial Unsignalized
- Sidewalk Gap
- Commercial Priority Area
- Neighborhood Priority Area

BACKGROUND

- SRTS Route
- BART Station
- Light Rail Station
- Bike/Ped Bridge
- Schools
- Public Parks
- Water

Pedestrian Spot Improvements: Neighborhood

Neighborhood Priority Area improvements seek to improve safety, particularly along routes that provide access to schools, parks, and other neighborhood-based destinations. Improvements prioritize pedestrian travel and may also provide benefits for the bicycle network. Improvements should be coordinated with the recommended bicycle boulevard network.

Also included in the Neighborhood Spot Improvements are sidewalk gaps not located within either focus area but identified through comment. Improved sidewalks, including implementing missing sidewalks or enhancing existing sidewalks to support pedestrians will further enhance the pedestrian network.

Improvements in Neighborhood Priority Areas include the following types:

Signalized Crossing: Crossings located in Neighborhood Priority Areas that are signalized

Unsignalized Crossing: Crossings located in Neighborhood Priority Areas that are unsignalized. In nearly all instances, these correspond with designated Safe Routes to School preferred walking routes.

Table 14 outlines the recommended improvements for each type.

TABLE 14 *Proposed Pedestrian Improvement Strategy*

TYPE	RECOMMENDED IMPROVEMENTS
NEIGHBORHOOD PRIORITY AREAS: SIGNALIZED CROSSING	• Consider curb extensions, raised crosswalks, or medians to reduce vehicle speed and prioritize pedestrian movement • Install advanced yield/stop bars • Coordinate improvements with Class IIIB (Bicycle Boulevard), as applicable • Improve visibility through lighting and improved sight lines (restricting parking in advance of intersection, clearing vegetation) • Upgrade curb ramps to comply with ADA standards as needed • Install advanced stop bars • Remove slip lanes
NEIGHBORHOOD PRIORITY AREAS: UNSIGNALIZED CROSSING	• Install high visibility crossings and improved signage • Consider curb extensions, raised crosswalks, or medians to reduce vehicle speed and prioritize pedestrian movement • Install advanced yield/stop bars • Coordinate improvements with Class IIIB (Bicycle Boulevard), as applicable • Improve visibility through lighting and improved sight lines (restricting parking in advance of intersection, clearing vegetation) • Upgrade curb ramps to comply with ADA standards as needed • Where routes cross Commercial Priority Areas, consider improvements from Signalized Category above, including installation of RRFB or other stop control

FIG. 21 *Proposed Neighborhood Priority Area Spot Improvements*

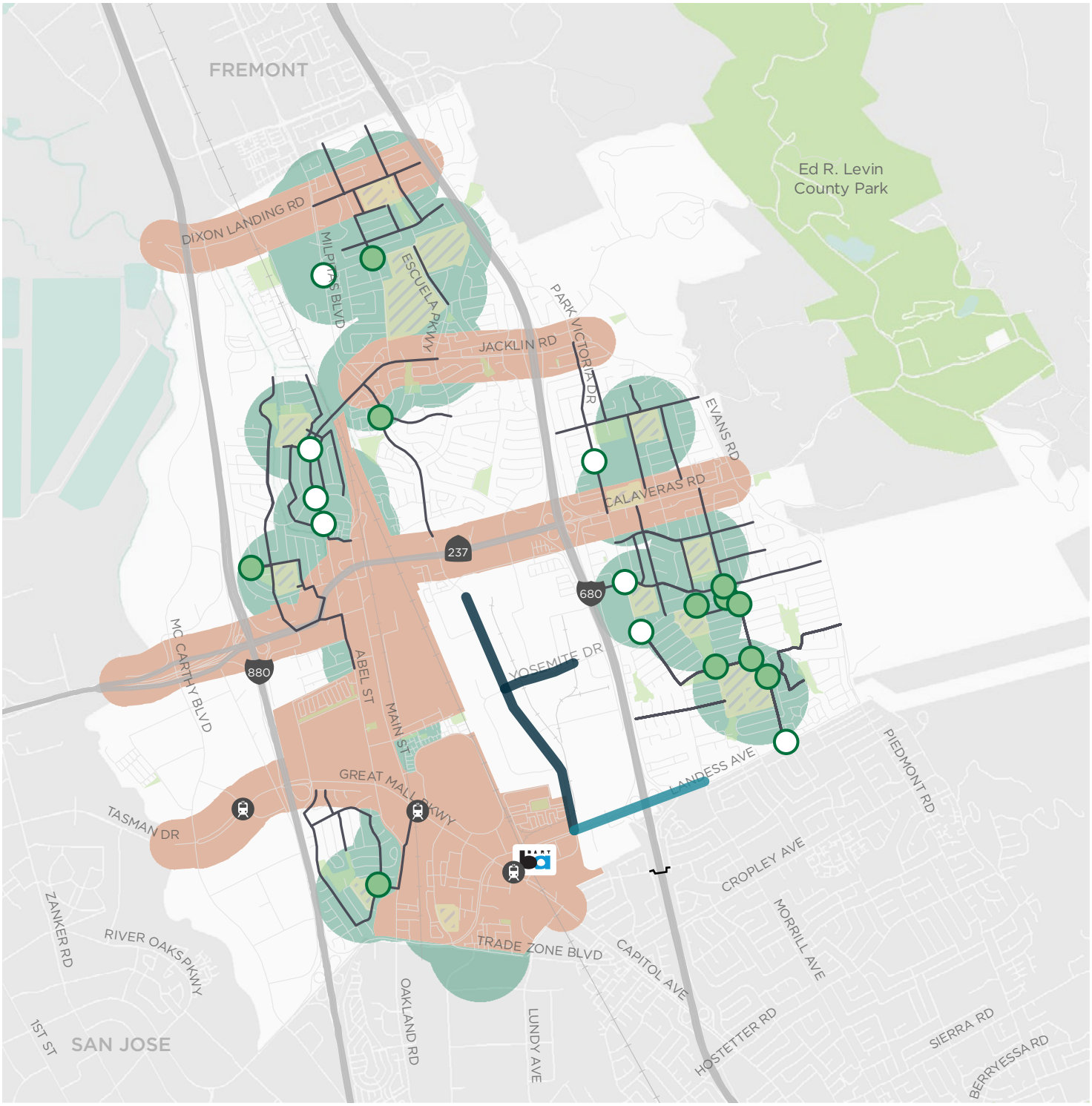


FIGURE 21 PROPOSED NEIGHBORHOOD PRIORITY AREA SPOT IMPROVEMENTS

NORTH

0 0.5 1 Miles

PEDESTRIAN RECOMMENDATIONS

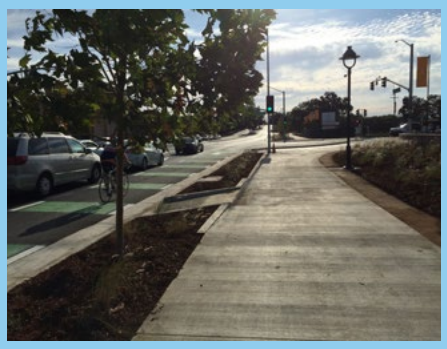
- Neighborhood Signalized
- Neighborhood Unsignalized
- Sidewalk Gap
- Enhance Sidewalk
- Commercial Priority Area
- Neighborhood Priority Area

BACKGROUND

- SRTS Route
- BART Station
- Light Rail Station
- Bike/Ped Bridge
- Schools
- Public Parks
- Water

Pedestrian Improvement Toolbox

Streetscape Improvements



Sidewalk Improvement

Sidewalk improvements can include a variety of measures such as general repaving to fix cracks and uneven pavement and widening to provide more space for pedestrians, landscaping, and commercial activity.

Sidewalk Amenities

Sidewalk amenities are placed either immediately adjacent to buildings or adjacent to the curb and street outside of the path of travel. These amenities can include cafe seating, public benches, trees and shade structures, bike racks, or similar items that support pedestrians and others. Sidewalk amenities should also include pedestrian-scale lighting to support increased visibility.

Transit Waiting Improvements

Transit waiting area improvements can increase pedestrian comfort, perceived safety, and protection from weather. These improvements can include bus shelters, benches, public art, and arrival information. Consider design and integrate art as one method of supporting district or community identity.

Wayfinding

Pedestrian wayfinding helps people walking navigate between different locations, reduces perceived trip distance, and encourages more walking trips. Consistent colors and branding can help create community or district identity.

Signal Improvements

Pedestrian Countdown Signal

Pedestrian countdown signals inform pedestrians of when and how long they have to cross the street. This increases certainty for both pedestrians and drivers.

Leading Pedestrian Interval

At signalized intersections, Leading Pedestrian Intervals give pedestrians a head-start crossing the street by activating the walking signal a few seconds before cars are permitted to go. This can dramatically improve visibility and predictability between vehicles and pedestrians, particularly for motor vehicle turning movements.

Right Turn Restrictions

In densely populated areas with high pedestrian volumes, allowing right turns on red can increase vehicle-pedestrian collisions. Eliminating right turns on red simplifies turning movements at intersections and can increase pedestrian safety through increased predictability.

All-way Crossing

All-way crossings, sometimes referred to as a pedestrian scramble, allow pedestrians to cross the street in any direction with a longer pedestrian interval at signalized intersections. This requires a dedicated crossing phase for pedestrians.

Crossing & Connectivity Improvements

ADA Curb Ramps

ADA curb ramps are required by the Americans with Disabilities Act to allow safe and easy crossing conditions for all users, especially people with disabilities. Curb ramps that are compliant with ADA standards include features such as detectable warnings, minimal slopes, and wide landing areas.

High Visibility Crosswalk

High visibility crosswalks use easy-to-see traffic markings to decrease vehicle encroachment and increase yielding behavior. High visibility crosswalks can be applied at intersections or for mid-block crossings. Mid-block crossings are also typically accompanied by pedestrian signage, median refuge islands, and/or curb extensions.

Curb Extensions

A curb extension expands the curb out into the street at intersections in order to shorten crossing distances, slow down turning vehicles, and create more visibility between vehicles and pedestrians. The geometry of the intersection is altered to reduce the curb radius.

Street End Connections

Street End Connections provide bicycle and pedestrian access in areas with limited roadway connectivity. Particularly in locations with cul-de-sacs, paths that connect dead-end streets can improve route directness, shorten trip distances, and support pedestrian access to destinations.

Median Refuge Island

Median refuge islands shorten crossing distances and reduce pedestrian exposure to motor vehicles by establishing a safe waiting space in the middle of a crossing. The minimum width of a median refuge island is 6 feet, but should be 10 feet or greater.

Raised Crosswalk

Raised crosswalks provide a continuous, level surface for pedestrians crossing the street from sidewalk to sidewalk. They increase visibility between vehicles and pedestrians and force cars to slowly pass through by raising the vehicle wheelbase.

Improved / Reduced Slip Lane

Slip lanes create conditions for fast-turning vehicles. People driving have lower visibility of their surroundings when traveling at higher speeds. Slip lanes also add more pedestrian exposure to vehicles at intersections by creating two crossing segments. Closing the slip lane or adding high visibility crossings and signage can improve crossing conditions for pedestrians.

Beacons

Beacons, including pedestrian hybrid beacons, provide highly visible flashing signals directly above crossings, usually placed on higher speed roads at uncontrolled marked crosswalks. These beacons are only activated when pedestrians press a button.

Bicycle Network

Bike network improvements support a better connected, more complete bike network in Milpitas. The identified improvements (Figure 22) create safer routing options and provide connections to transit, jobs, commercial centers, and educational opportunities. Neighborhood routes offer alternatives to high-speed roadways, while increased separation on key corridors support cross-town connections. Spot improvements identify opportunities to prioritize bicycle travel across the city. The shared use path network, also displayed in Figure 22, is a vital component of a low-stress network; more details on the proposed trail network begin on page 103 of this plan.

Some projects, including Calaveras Boulevard, will require additional coordination with other agencies. The recommendations for this segment support a more protected route for people biking; however, it is recommended through further study that alternate designs that support this goal are considered.

In addition to route recommendations, site-specific spot improvements are crucial to providing safe and connected routes. Intersections in particular can limit low-stress connectivity in a network when dedicated and separated bicycle facilities are not available. Varying lane configuration, turning movements, dropped bike lanes, and highway ramps lend to more potential points of conflict among bicycles and motor vehicles. While intersection improvements are recommended as bicycle facilities are implemented, the two categories of spot-specific improvements listed in Table 15 below identify both near-term projects to support network connectivity and safety and longer-term studies required to address some of Milpitas's biggest barriers. Additional detail can be found on page 99 and in Appendix E.

TABLE 15 *Proposed Bicycle Spot Improvement Strategy*

TYPE	RECOMMENDED IMPROVEMENTS
BIKE LANE CONNECTIVITY (SHORT TERM IMPROVEMENT)	• Complete bike lane striping through the intersection and approach • Install necessary signage and striping to clarify motor vehicle movement at the intersection and intersection approach, including yielding to bicyclists for right turn movements • Consider implementation of demonstration projects or other interim applications to shorten crossing distances for pedestrians
INTERSECTION CONNECTIVITY IMPROVEMENTS (LONG TERM IMPROVEMENTS)	• Improve visibility of bicyclists and pedestrians through signage, marked crossings, and similar mechanisms in advance of and at potential conflict points • Increase separation of bicyclists and pedestrians from motor vehicle traffic through wide sidewalks and separated bicycle facilities (sidepaths or cycle tracks) • Reconfigure interchanges to remove free-flowing ramps and replace with 90-degree intersections (preferred) • Implement signal or stop sign control on on-ramps and off-ramps • Consider over-crossings or under-crossings where intersection reconfiguration is not possible; roundabouts may also be considered

FIG. 22 *Proposed Bicycle Network*

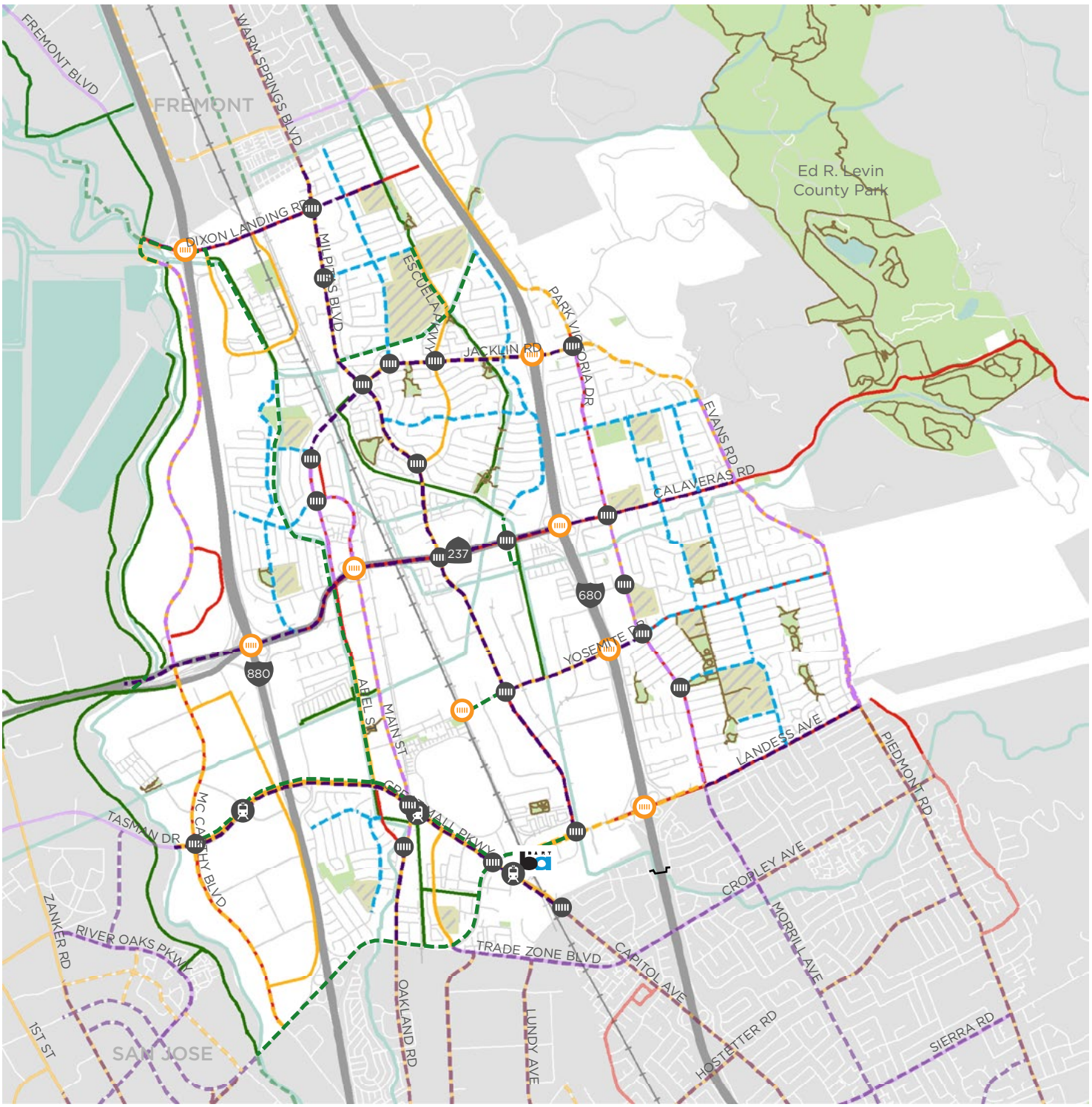


FIGURE 22
PROPOSED BICYCLE NETWORK

NORTH

0 0.5 1 Miles

PROPOSED BIKE FACILITIES
- Bike Lane Connectivity
- Intersection Connectivity
- Class I: Paved Shared Use Path
- Class II: Bike Lane
- Class IIB: Buffered Bike Lane
- Class IIIB: Bike Boulevard
- Class IV: Cycle Track

EXISTING BIKE FACILITIES
- Class I: Paved Shared Use Path
- Class II: Bike Lane
- Class IIB: Buffered Bike Lane
- Class III: Bike Route
- Unpaved Trails

BACKGROUND
- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water
- Bike/Ped Bridge

Milpitas BART Station

The Milpitas BART station opened in June 2020 and is projected to have 20,000 daily passengers by the year 2030. BART will improve connections between Milpitas and the region and has the potential to significantly alter transportation in the city and beyond.

Located in south Milpitas near San Jose, BART expands opportunities to connect to major employer in the area. In fact, with Milpitas's daytime population nearly doubling each day, the addition of BART can help reduce reliance on motor vehicles for accessing employment opportunities.

However, to successfully expand transportation options and encourage greater use of transit, it is important to consider how complete, connected, and comfortable the active transportation network near the station is. Low-stress infrastructure, including separated bikeways, safe crossings, complete and wide sidewalks, and direct routes are imperative to maximizing the benefit of BART.

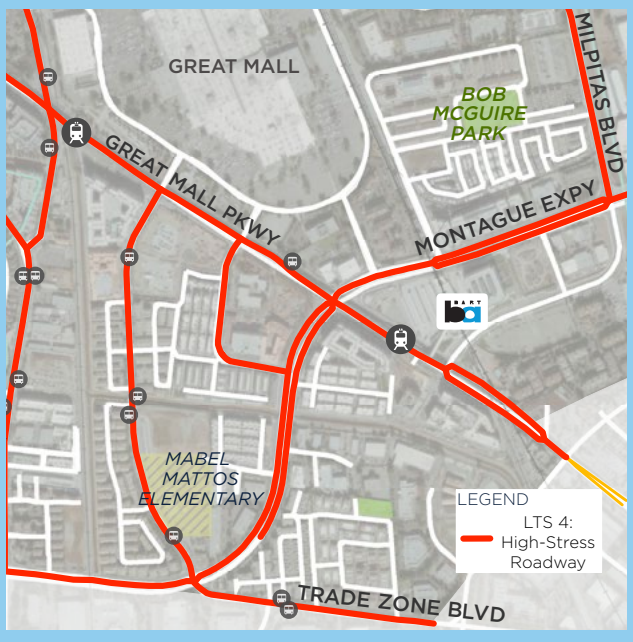
Existing Conditions

Existing active transportation infrastructure is currently limited near BART. However the area is rapidly changing. Known as Milpitas Metro District, there is continued investment in the transportation system, including VTA corridor improvements, and new development. The increased intensity of land uses and associated demand with the area will continue to shift transportation system needs in years to come.

As part of these changing conditions, a new grade-separated pedestrian crossing leading north from BART across Montague Expressway provides a safe connection across an otherwise high-stress roadway. With the station located at the intersection of two high-stress roadways, there are significant barriers to travel to and from the station; improvements such as this pedestrian bridge provide a vital link for people navigating this complex area.

In addition to limited existing pedestrian and bicycle infrastructure in the area, there are few alternate routes that can support lower stress travel in the area. Large parcels, limited safe crossing opportunities, and limited roadway connectivity impact connections to bus stops, employment opportunities, and commercial destinations.

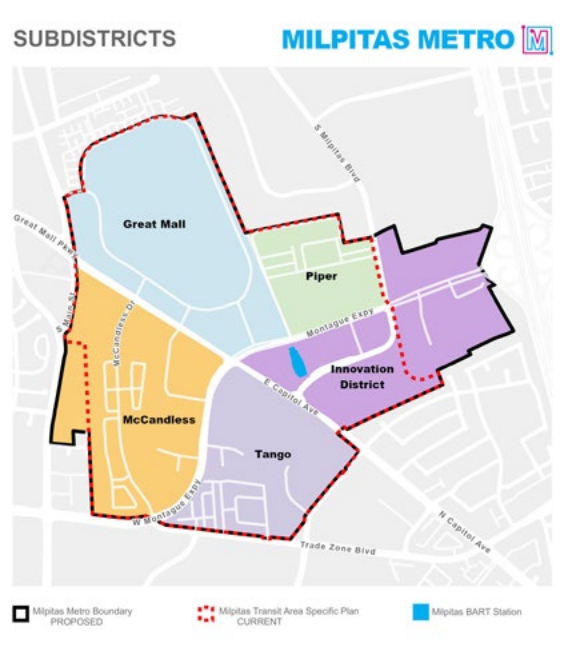
As Milpitas re-imagines this area, there are opportunities to explore new connections, separated active transportation infrastructure, and improved streetscape design to prioritize bicycle and pedestrian activity to and near the station.



Milpitas Metro Specific Plan

The Milpitas Metro Specific Plan establishes the city's vision for the future of the Milpitas Metro District. It outlines goals and policies aimed to guide the growth of the Milpitas and support improved connections among the City, BART, and VTA transit services.

Milpitas Metro will shape the rapidly changing area into a high-density, transit-oriented neighborhood with a mix of uses. Circulation in and around the district is an integral piece of the plan, including opportunities to reshape the roadway network, identify new active transportation connections, and secure access to new parks and other destinations. For example, planned opportunities to expand Milpitas Boulevard to Tarob Court can improve connections to the station for all modes. Milpitas Metro is currently being updated.



SOURCE: CITY OF MILPITAS, MILPITAS METRO

Recommendations

Specific recommendations for active transportation should be considered within the District as the vision for the area takes shape. New bikeways, sidewalks, and shared use paths should prioritize connections both within and external to the District to support access to the area for all. Specifically, Milpitas should work with incoming development to implement active transportation improvement. Improvements should advance the vision for a complete, connected, all ages and abilities network that expands access to and use of transit in Milpitas. .

Specifically, circulation in the Metro District should consider the following recommendations identified in the Trail, Pedestrian, and Bicycle Master Plan:

- Expansion of safe, comfortable, and direct routes from BART that leverage shared use path and cycle-track recommendations near the station.
- Implementation of safer pedestrian crossings, including prioritizing pedestrian and bicycle travel.
- Expand integration with transit and shared mobility options to improve utility for BART.
- Improved connections to bus stops and transit opportunities through improved pedestrian environments, wayfinding, and lighting.
- Support first-last mile connections by integrating end of trip facilities, such as long term bike parking, in the District.

Low-Stress Bike Network

When implemented, the proposed bike network will include 52 miles of connected, low-stress bikeways—17 existing and 35 proposed—that support travel to destinations across Milpitas. This system of cycle tracks, bike boulevards, and paved shared use paths—along with safe crossing opportunities—serves all areas in Milpitas.

Low-stress bikeways provide maximum separation from motor vehicles on major roads and support comfortable travel along neighborhood roadways where bicycle travel is prioritized. The proposed low-stress network provides direct connections within the city to transit, commercial areas, schools, parks, and residential areas.

For example, a person riding a bicycle could ride from Dixon Landing Road in the northern part of the city all the way down to the Milpitas BART Station using bikeways separated from motor vehicle traffic. The low-stress bikeways also connect to San Jose and Fremont, contributing to a regional network.

Investing in low-stress bikeways supports a broad range of people who bicycle, including the approximately 60% of the population who are interested in biking but have concerns about doing so safely, families with young children, and even more confident riders who prefer greater separation from motor vehicles.

THE PROPOSED BIKE NETWORK PROVIDES 35 MILES OF CONNECTED LOW-STRESS BIKEWAYS

FIG. 23 *Proposed Low-Stress Bicycle Network*

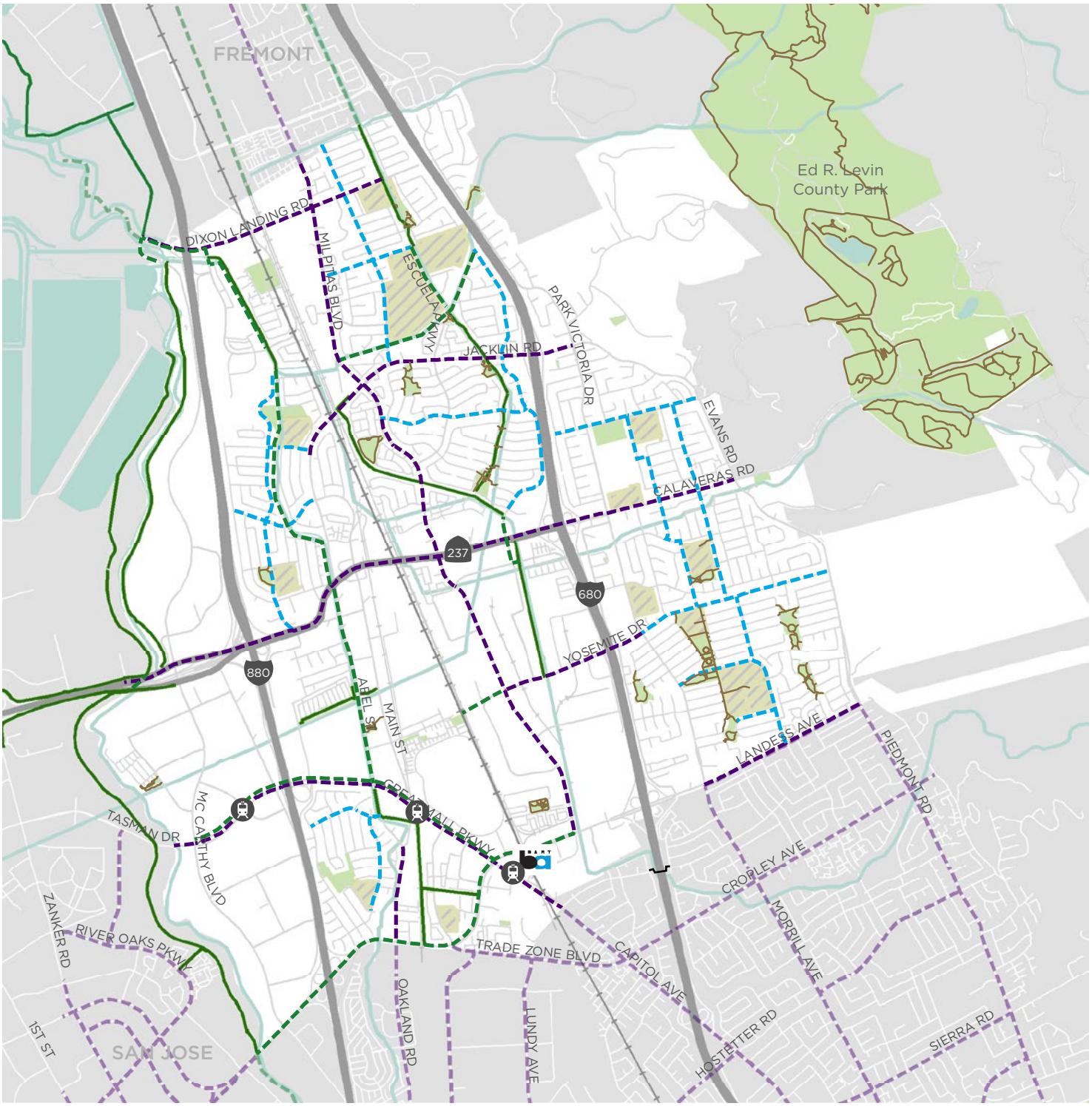


FIGURE 23 PROPOSED LOW STRESS BICYCLE NETWORK

NORTH

0 0.5 1 Miles

EXISTING BIKE FACILITIES
- Unpaved Trails
- Class I: Paved Shared Use Path

PROPOSED BIKE FACILITIES
- Class I: Paved Shared Use Path
- Class IIIB: Bike Boulevard
- Class IV: Cycle Track

BACKGROUND
- BART Station
- Light Rail Station
- Schools
- Bike/Ped Bridge
- Streets
- Railroad
- Public Parks
- Water

Intersection Improvement Toolbox

A low-stress network requires safe, comfortable ways for navigating an intersection by bike. With 55% of bicycle-involved collisions occurring at intersections, exploring opportunities to improve bicyclist safety and comfort at intersections is crucial to the effectiveness of the larger bicycle network. As described below, intersection improvements for bicyclists can include pavement markings, signal changes, signage, and even a physical redesign of the intersection. More information regarding intersection improvements are in the design guidelines, which can be found in the Appendix A: Design Guidelines.

Bike Signals

Bike signals provide a dedicated crossing signal that signifies when people on bicycles can cross. Typically they are used to separate the timing of bicycle and motor vehicle movements and can reduce opportunities for conflict in complex intersections.

No Turn on Red

No turn on red restrictions prevent turns during the red signal to reduce motor vehicle conflicts with bicyclists and pedestrians. This restriction is commonly established at bicycle box installations, cycle tracks, and where bicycle signals are used to separate bicycle traffic from motor vehicles.

Protected Intersection

Protected intersections maintain physical separation between motor vehicles and people bicycling. Signals and positioning of the bike lane in the intersection limit opportunities for conflict between motor vehicles and bicycles.

Transit Integration

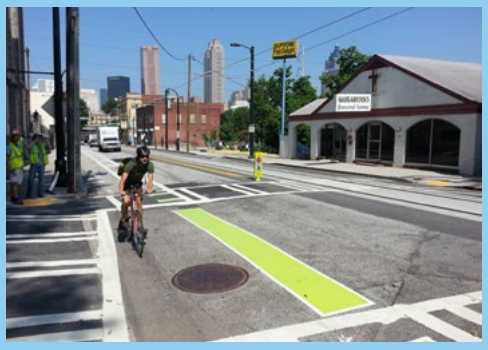
Bikeway design should consider locations of bus and other transit stops to reduce conflict both between bus and bike and with pedestrians accessing the transit stop. Signage and separating the bikeway from the transit stop support these goals.

Intersection Crossing Marking

Safer bicycle networks require bicycle lane markings to continue through intersections. Because these improvements simply require paint, they are relatively low-cost projects that can support network connectivity in the near term.

Bike Lane Connectivity

Existing bicycle lane striping often disappears as the lane approaches an intersection, typically to accommodate right turning movements for motor vehicles. This presents challenges at signalized intersections, unsignalized crossings of major roadways, and at connections with adjoining existing bikeways. Completing the bicycle lane striping through the approach and to the intersection is a low-cost project that supports network connectivity in the near term while funding and design for more intensive network improvements is secured. Further, it is recommended that city design guidance is updated to require bicycle lane markings to be continue through the intersection. Additional guidance can be found in Appendix A: Design Guidelines.



Bicycle Lane Striping

Bicycle lane striping should be applied along an entire roadway segment, including through the approach and up to the intersection. Striping designates space for bicycle travel and can help people bicycling and people driving better navigate the shared spaces at an intersection.

Conflict Marking and Signage

Where right turn only lanes are present, striping should clearly indicate where people driving can merge into the turn lane. This should include a dashed lane marking, other conflict markings as applicable, and related signage. Cross sections that require bicycles and motor vehicles to share the right turn lane should implement the recommended best practices outlined in Section 5 of VTA's *Bicycle Technical Guidelines*.

Pedestrian Opportunity Improvements

Consider opportunities to implement low-cost interim treatments to help slow traffic speeds and support safer pedestrian travel in the corridor in conjunction with bike lane connectivity projects. These treatments may include curb extensions, reconfiguration of intersection geometry, temporary plazas, or similar improvements.

Intersection Connectivity

Travel east or west in the city requires use of corridors that interface with highways. On- and off-ramps create significant safety concerns for those walking or biking along these roadways as the interchange configuration creates more potential points of conflict among active modes and motor vehicles. While at least one of these locations was identified for improvement at the regional scale (Calaveras and I-880), the other locations identified represent specific challenges to low-stress connectivity across the network. Additional study will be required to develop context-sensitive solutions that support safe routes for active travel and should be considered as part of roadway reconfiguration that supports Complete Streets. Additional guidance for interchange design can be found in VTA's *Bicycle Technical Guidelines*.

Remove Free Flowing Ramps

On- and off-ramps should meet local roadways at 90-degree angles (preferred) or limit turning speeds when perpendicular crossings are not possible. Free-flowing ramps encourage higher travel speeds for people driving, creating conditions with high potential for conflict with people walking and bicycling.

Signal Control

On- and off-ramps should be controlled through traffic signals or stop signs. Stop bars should be placed in advanced of the intersection to improve visibility for people walking and biking across the intersection. Crosswalks should be well-marked.

Over and Under Crossings

In locations with significant safety concerns or limited right-of-way, over or under crossings may be considered. Implementation of these facilities should consider connectivity with the adjoining bikeways and sidewalks; maintain visibility for those traveling through these crossings; and have a maximum slope of 5%.

Trail Network

The recommended trail network is the foundation for a more comprehensive, connected, and comfortable active transportation system in Milpitas. Paved shared use paths located along creeks and roadways, support more direct routes and improved recreational opportunities, while connecting to on-street bicycle and pedestrian facilities that link to transportation, commercial centers, and other community destinations.

The proposed path network considers recommendations included in previous Milpitas plans, including the previous Trail Master Plan; county and district plans; and public feedback. However, it should be noted the several alignments previously recommended are not included in this plan; in coordination with city staff, Valley Water, and other project partners, changing conditions along Milpitas's creeks and rails have reduced the feasibility of new trail alignment. These routes are explored further on page 105.

While the existing network has grown in recent years, particularly along Berryessa Creek and Penitencia Creek, today's trail system remains incomplete and disconnected. Previously-proposed networks and public input provide strong support for a more complete, connected, and easier to navigate system that helps people reach transit, parks, employment, and commercial destinations.

The proposed network shown in Figure 24 expands existing paths along creek corridors and adjacent to major roadways to support a comprehensive, connected active transportation system. The path network in particular can help trail users navigate barriers in the city, including high-stress corridors.

To better support transportation connections and provide for all ages and abilities access, it is recommended that all paths are paved and implemented as Class I facilities. Further, path design should comply with standards from Santa Clara County, Valley Water, and local requirements. More information regarding these standards can be found in the Design Guidelines (Appendix E).

As projects are implemented, roadway crossings and access points should be improved and expanded. Where paths cross major roadways, it is important to include features such as high visibility crosswalks, clear signage, and bulb out or median refuge islands to support shorter crossing distances. Signals, including RRFBs or Pedestrian Hybrid Beacons, as well as raised crossings should also be considered.

Shared use paths along creeks will require coordination with Valley Water for permitting and design. While the proposed segments have been reviewed in coordination with Valley Water, it is recommended that the City engages the water district early in the implementation process to best explore opportunities for coordination with maintenance or other projects planned for these corridors.

Finally, while public input indicates that surface quality along existing paths required maintenance, comprehensive data to support a specific maintenance plan is not available. It is recommended that a complete inventory of existing trails and paths, including surface type and quality, is completed to inform a systematic maintenance approach. Additional recommendations about system maintenance can be found on page 123.

FIG. 24 *Proposed Trail Network*

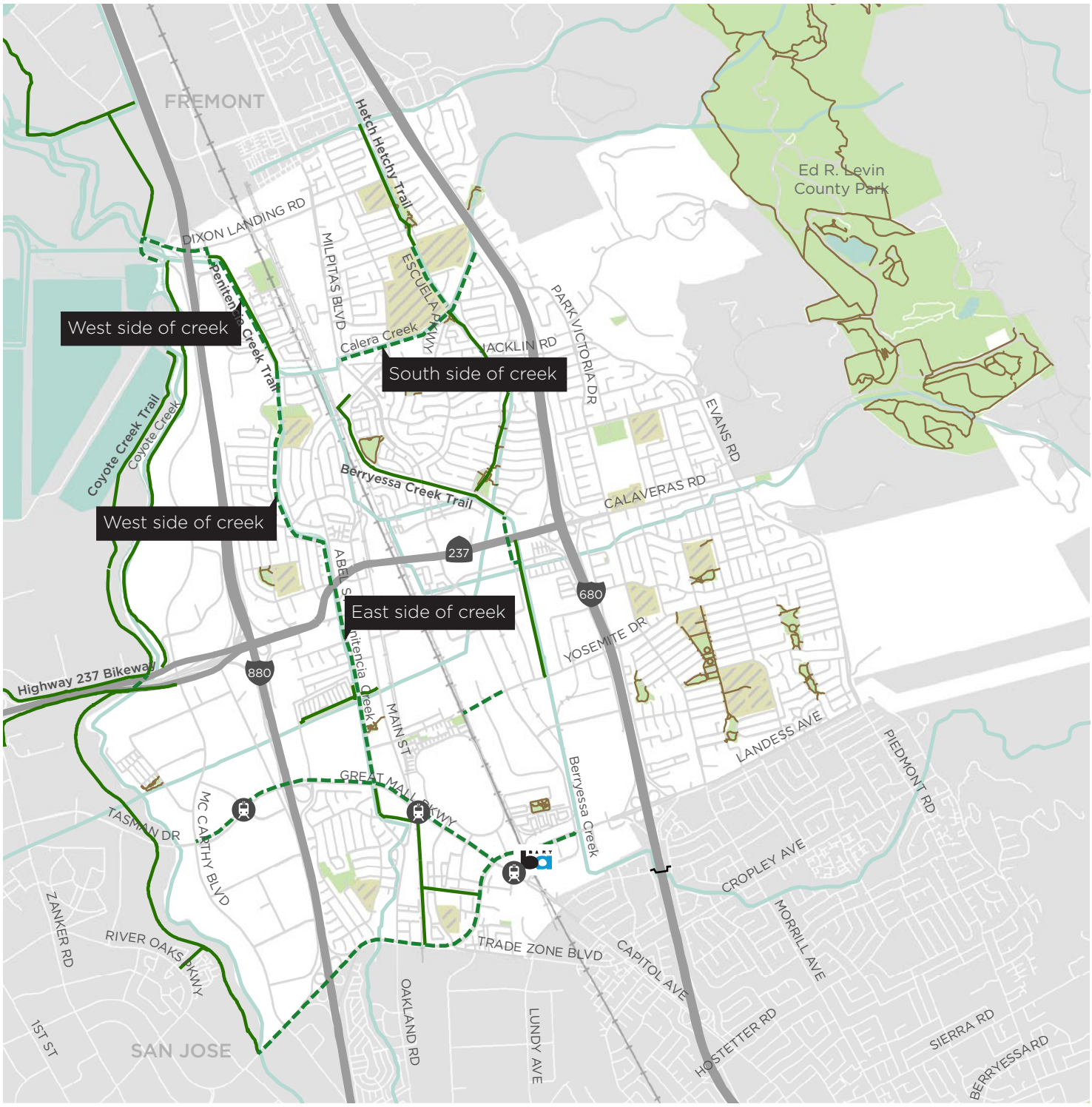


FIGURE 24
PROPOSED TRAIL NETWORK

NORTH

0 0.5 1 Miles

TRAILS
- Existing
- Proposed
- Unpaved Trails

BACKGROUND
- BART Station
- Light Rail Station
- Schools
- Bike/Ped Bridge
- Railroad
- Public Parks
- Streets
- Water

Previously-Proposed Trail Alignment Summary

The Trail Master Plan (2007) proposed a network of paved paths along Milpitas's creek system, trail alignments in and near neighborhood parks, and a paved path along the BART railway. Since these alignments were proposed in 2007, conditions along Milpitas's creek system, development standards guiding trail alignments near rail, and opportunities to advance on-street bikeways have all shifted. As part of the Trail, Pedestrian, and Bicycle Master Plan, City of Milpitas staff coordinated among departments and with other agencies to evaluate the feasibility of previously-proposed trail alignments. The results of this coordination concluded that several previously-proposed alignments are no longer considered feasible and are not recommended for inclusion in this plan. The following pages summarize the trail location and associated rationale for determining their feasibility. Where possible, alternate alignments are indicated.

BART Corridor - between BART Station and Fremont City Limits

While this route would provide direct access from the BART station to northern areas of the city and into neighboring jurisdictions, updated guidance from BART restricts trail development within the available right-of-way. Further, an improved understanding of existing conditions, including available right-of-way and adjacent development, limits trail implementation in this corridor. To support access north from the BART station, alternate alignments along Abel Street and Penitencia Creek are included.

Calera Creek - between I-680 and Ed R. Levin County Park

A trail located along Calera Creek leading east from I-680 would support a direct and continuous connection to the county park separate from motor vehicles. This would provide a safer, more comfortable route and expand access for northern areas of Milpitas. However, opportunities to connect the trail across I-680 limits a continuous route, and the conditions along the creek heading east from the city are generally steep and not viable for trail implementation.

Calera Creek - west of Milpitas Boulevard

The presence of the railway west of Milpitas Boulevard is a barrier to continued travel west; potential for crossing is limited due to similar concerns as the BART trail alignment discussed above. To better support travel west of Milpitas, this plan recommends exploring low-stress connections to Jacklin Road and Abel Street. This alignment would include a combination of on-street separated bikeways, sidepaths, and an enhanced sidewalk along Jacklin Road across the railway.

Berryessa Creek - between Yosemite and San Jose City Limits

A trail along Berryessa Creek south of Yosemite would provide additional options for connections to and from BART; however, limited space along the creek does not support a trail alignment adjacent to the creek. Further, a railroad spur crosses the creek between Yosemite and Montague; per California Public Utilities Commission (CPUC), no new at-grade railroad crossings are permitted.

Penitencia Creek - Dixon Landing to Coyote Creek

Extension of the existing trail along Penitencia Creek to connect to Coyote Creek is limited by the available space along the creek and clearance under I-880. This connection as a creek-side trail is not feasible; however, it is recommended that options to connect the existing Penitencia Creek Trail to Coyote Creek be explored further. Implementation of sidepath along DIxon Landing can support connections between Penitencia Creek access along California Circle, and Coyote Creek Trail west of McCarthy Boulevard.

Neighborhood Trails near Sinnott Park and Robert E. Browne Park

The previous Trail Master Plan identified neighborhood trails around Sinnot Park, Robert E. Browne Park, and John Sinnott Elementary School. These parks presently include trails and paths that connect alongside and through the park. Due to limited right-of-way and integration with the on-street bicycle network, these trail alignments are no longer proposed. Where applicable, proposed bicycle boulevards will support travel in the areas.

Trail Features

Paved Shared Use Paths along Creeks

Shared use paths are routes completely separated from motor vehicles and are often independent from the roadway network. Proposed paths in Milpitas primarily follow creeks, including Penitencia Creek, Calera Creek, and Berryessa Creek. Creek alignments support more direct, low-stress connections among destinations while supporting lengths of uninterrupted recreational space. Paths should be at least 8 feet wide, with a preferred width of 12 feet; for additional design guidance, please see Appendix A.

Implementation requires coordination and permitting with Valley Water. While Chapter 8 outlines the recommended phasing for proposed trails, coordination with Valley Water projects should also be considered when determining implementation timelines. For all identified alignments, at least one side of the creek should include a paved shared use path. Opportunities should be considered to provide a path along both sides where space and demand allow.

Supporting Amenities

Shared use paths are more than just a way to travel from one point to another. Park elements and other amenities can create a sense of place and support a wider range of recreational opportunities while encouraging a greater sense of security through increased activity and use of the trail. Where applicable, trails should consider surrounding land uses and integrate with the nearby community. Where space permits, selection of amenities and other trail features should be done in coordination with the neighboring communities. The following are examples of items to consider:

Bike repair stations, drinking fountains, and bike parking located along the trail can support active trips and recreation. Bike repair stations should include air pumps and other common tools. Consider integrating these amenities with shade structures and opportunities for rest, such as benches.

Benches and shade provide an opportunity to rest, socialize, and enjoy the surroundings. Benches, shade, and site furnishing also create an opportunity to integrate art and sculpture, as well as opportunities for play, such as through swings or other interactive elements.

Wayfinding along the trail will help direct people to common destinations, connections with other trails, or other attractions. It also can help orient people to where they are in the city and provide an indication of how far they have traveled. The system should be consistent with other city wayfinding signs; interpretive signs may also be considered.

Interactive elements along the trail, such as play features or exercise equipment, provide additional opportunities to recreate along the trail. These features support the recreational purpose of the trail system.

Community gardens, habitat restoration, or other opportunities to add more vegetation along the trail can increase comfort along the trail, improve aesthetics, and support a sense of place.

Where applicable, integration with nearby land uses can help the trail be an extension of the area, provide greater visibility on the trail to increase a sense of security, and support travel to destinations through active modes.

Sidepath

Sidepaths are located adjacent and parallel to a roadway. Located within the right-of-way, sidepaths are separated from motor vehicle travel by an unpaved buffer or other physical barrier. Sidepaths accommodate bicycle and pedestrian travel and can help connect share-used paths and other low-stress bicycling facilities. Recommended links in Milpitas should provide for two-way travel and follow design guidance specified in Appendix A.

Supporting Amenities

Unlike shared use paths, sidepaths should primarily serve travel from one point to another. Opportunities for placemaking are available in wayfinding, other signage, and integration with nearby land uses, including parks. Examples of these elements are included below:

Wayfinding supports navigation across the trail system and can support transitions among sidepaths, shared use paths, and the on-street network. The wayfinding system will help orient people to where they are in the system and support a greater sense of comfort in navigating to their destination. Wayfinding will be particularly important for supporting connection to BART and other transit opportunities.

Vegetation can improve comfort along side paths, particularly when located between the path and general purpose travel lanes. In addition to providing additional separation and improved aesthetics of the facility, consider options for bioswales to improve storm water management along the corridor.

Adequate lighting should be included along all trail segments; however, along sidepaths lighting should consider clear visibility at intersections, other conflict points, and the approach to these locations. Lighting selection can be integrated into trail or area branding.

Bike parking should be clearly available near the trail alignment. Consider co-locating with bike repair stations. Not only will these features support trips by bicycle, they can also encourage more people to travel to the park by bike. Consider use of a corral as well as opportunities to provide shelter.

Trail design should consider clear connections to nearby land uses that are distinct from vehicular routes. Consider connections that provide direct access to destinations with minimal exposure to motor vehicles in parking lots or driveways. Bike parking and other end of trip facilities should be located along this route. Also consider crossings or other links to destinations on the opposite side of the roadway and make the preferred route clear through signage and striping.

Consider options to clearly define space if conflict among modes is anticipated. Pavement markings or material selection can clearly mark spaces for pedestrian and spaces for bicycles. This is particularly pertinent where sidepaths connect to nearby land uses.

Trail Spot Improvements

When designing functional, attractive, and inviting trails, the small details matter. Essential elements, including clear access points, wayfinding, trail system information, bike parking, comfort stations, and items like a bike repair station help orient people to the trail system, support their selected activities, and create a welcoming environment for all trail users. The following recommendations include spot improvements that consider both **how people access trails** and **how they navigate barriers,** such as major roadway crossings.

Access points can include both designated trailheads and secondary connections located in neighborhoods or at trail crossings. In all forms, access point make it clear that trail access is permitted at this location. This may include signage, such as a trail name or system information and maps. Access points are recommended wherever the trail crosses a roadway, and new trail connections should be explored where current access is limited.

Expanding opportunities to access the trail is an important component of a comprehensive trail system; with more opportunities to access the trail, more people can benefit from a system of low-stress corridors.

Highly-visible locations, such as parks, or other locations that are anticipated to provide access to a larger number of people should be designated as trailheads. Trailheads offer greater visibility for the trail system and include a wider range of amenities, such as end-of-trip facilities. In some cases, these locations may also support motor vehicle parking to access the trail system.

Spot improvements are grouped into three main categories:

- **Trail Access Improvement:** Opportunities for new connections and access to the trail network, as well as improvements to roadway crossings to prioritize low-stress travel along trails.
- **Trailhead Improvements:** Frequently in existing parks or at key entry points for existing trails, trailhead improvements identify locations where amenities such as restrooms, bicycle storage, maps, and wayfinding can improve user experience accessing the trail network.
- **New trail connections:** These locations represent opportunities for new connections to the trail network. These locations should include amenities such as those listed above for Trailhead Improvements.

These recommendations are depicted in Figure 25. More information about spot improvement elements are included in the Trail Improvement Toolbox beginning on page 113. More detail regarding trail improvements can also be found in Appendix E: Design Guidelines.

FIG. 25 *Trail Spot Improvements*

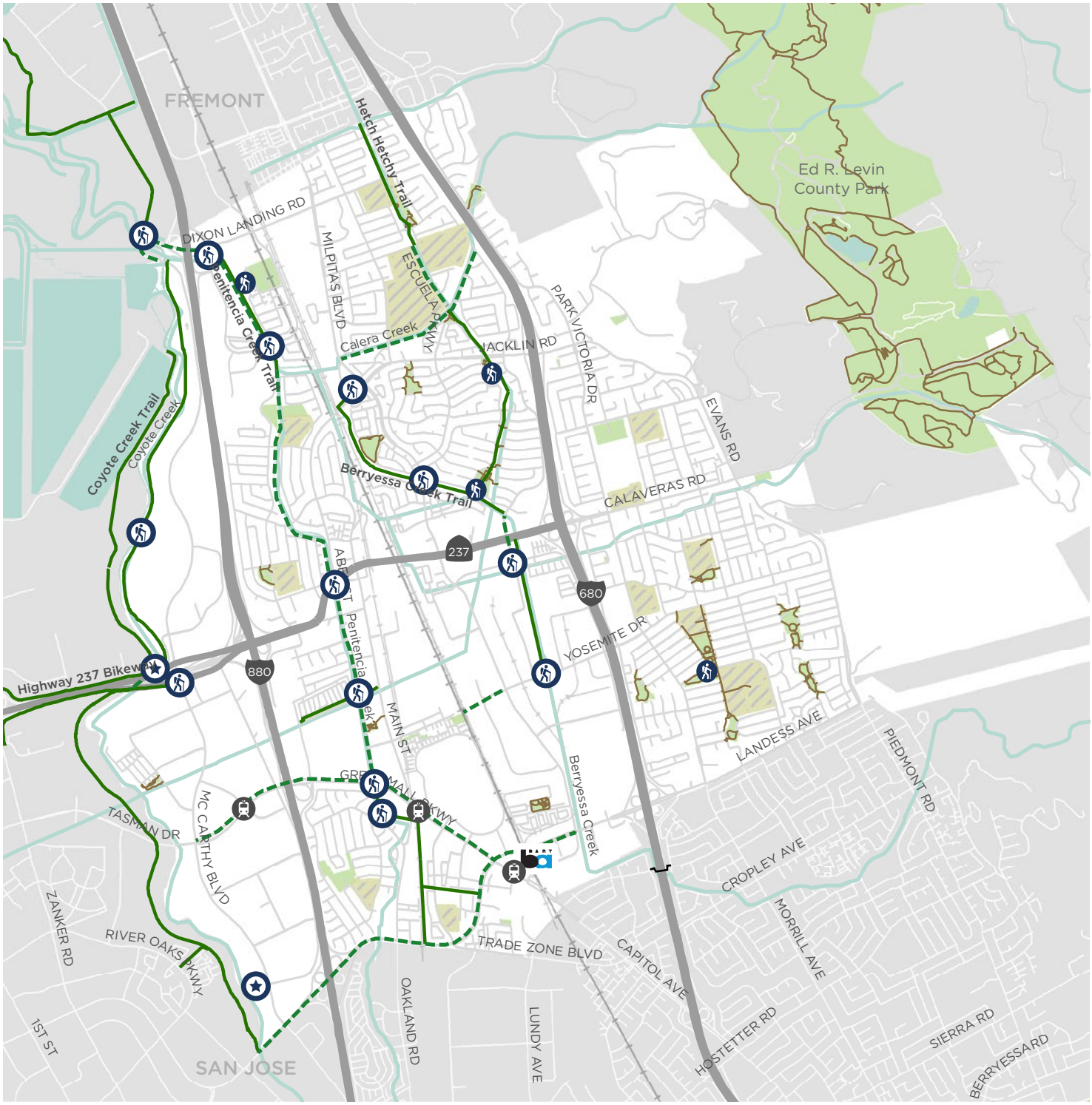


FIGURE 25
TRAIL SPOT IMPROVEMENTS

NORTH

0 0.5 1 Miles

TRAIL SPOT IMPROVEMENTS
- New Trail Connection
- Trail Access Improvements
- Trailhead Improvements

TRAILS
- Existing
- Proposed
- Unpaved Trails

BACKGROUND
- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water
- Bike/Ped Bridge

Trail Improvement Toolbox

Trail Access Improvements

Roadway Crossing

Where trails cross roadways, treatments ranging from pavement markings and signage to signals may be used to support safe crossings. The type of treatment depends on the width, traffic volume, and travel speed of the roadway; more details can be found in Appendix A. Crossings should also consider other features to increase safety and comfort for people walking and biking. Raised crossings, median refuge islands, and/or bulb outs may further prioritize trail users.

Trail Access Point

Access points connect trail users to the network at locations other than a trailhead. Opportunities include major roadway crossings, neighborhoods and parks, or through parcels that connect high-densities of residents and employees directly to the trail network. These location should be well-marked with signs and a clear entry point.

Intersecting Trails

Where high-use corridors connect, elements that clearly define the path of travel and encourage slow speeds can reduce conflict among user groups and improve wayfinding along the trail network.

Trailhead Amenities

Bike Amenities

Bike amenities at entry points to trails can include a bike repair station and short-term or long-term bike parking. These amenities allow people to conveniently stop and store their bikes and repair them if needed

Wayfinding & Signage

Wayfinding and signage can provide trail users with information regarding nearby destinations and rules of the trail to enhance the route's predictability. Wayfinding elements should be consistent across the system and consider how they integrate with on-street and regional wayfinding systems.

Lighting

Lighting enhances visibility and perceptions of safety for trail users at night. Distinct, pedestrian-oriented lighting also adds to the trail's sense of place. Lighting should be installed as trails are implemented to help trail users better navigate the trial system; lighting should also be installed on all existing trails that do not currently have adequate lighting..

Comfort Station

A comfort station provides a place for people to stop and rest at a trail entrance. They can provide shade, seating, garbage cans, restrooms, a water fountain, etc.

Projects for Further Study

The projects identified through the Milpitas Trail, Bicycle, and Pedestrian Master Plan support a more complete and connected active transportation network across the city. Seeking to maximize the use of existing rights-of-way, these projects focus on opportunities to improve and expand low-stress routes, enhance safe crossings, and extend the shared use path network.

However, the City recognizes that the challenge of today's network extends beyond the local street network and instead requires consideration of more complex projects to provide solutions to the barriers created by rail lines, highways, and more. This section identifies specific projects or locations for further study that advance the City's vision for a complete and connected active transportation network. While not included in the prioritized project list, the following projects and categories of improvements are included as part of this plan for further study.

Project Sources

The projects listed here come from several sources. First, the Santa Clara County Bicycle Plan identifies a number of project opportunities to advance countywide connectivity. This list notes specific barriers requring new crossings or configuration and areas with limited connectivity. Second, public feedback throughout the planning process has indicated support for new and improved routes over major barriers across the city, including new trail connections, pedestrian crossings over highways and rail, and more direct routes connecting important regional destinations. Finally, the City has identified additional project locations based on coordination with other planning efforts, ongoing development, and other project opportunities.

Additional Study Required

These projects are identified for additional study due to the complex nature of the improvements. Reasons for additional study include, but are not limited to: identification of additional funding opportunities, coordination among multiple agencies, identification of right-of-way needs, and coordination with ongoing studies, plans, and development.

For example, the overcrossings for major barriers such as I-680 or the BART rail line refrence general locations or areas where a new crossing is needed. However, the precise locations along these corridors will require consideration for site constraints, right-of-way availability, regulations governing crossing locations and qualities, and more.

As opportunities arise, whether through specific funding mechanisms or coordination with development and other projects, the City should continue ti explore implementation of these projects. In the absence of a direct implementation mechanism, the City should continue to advance review and study of these projects, as is feasible, so that specific projects can be included in future implementation plans.

Figure 26 on the next page identifies known locations of improvements requiring further study.

FIG. 26 *Projects for Further Study*

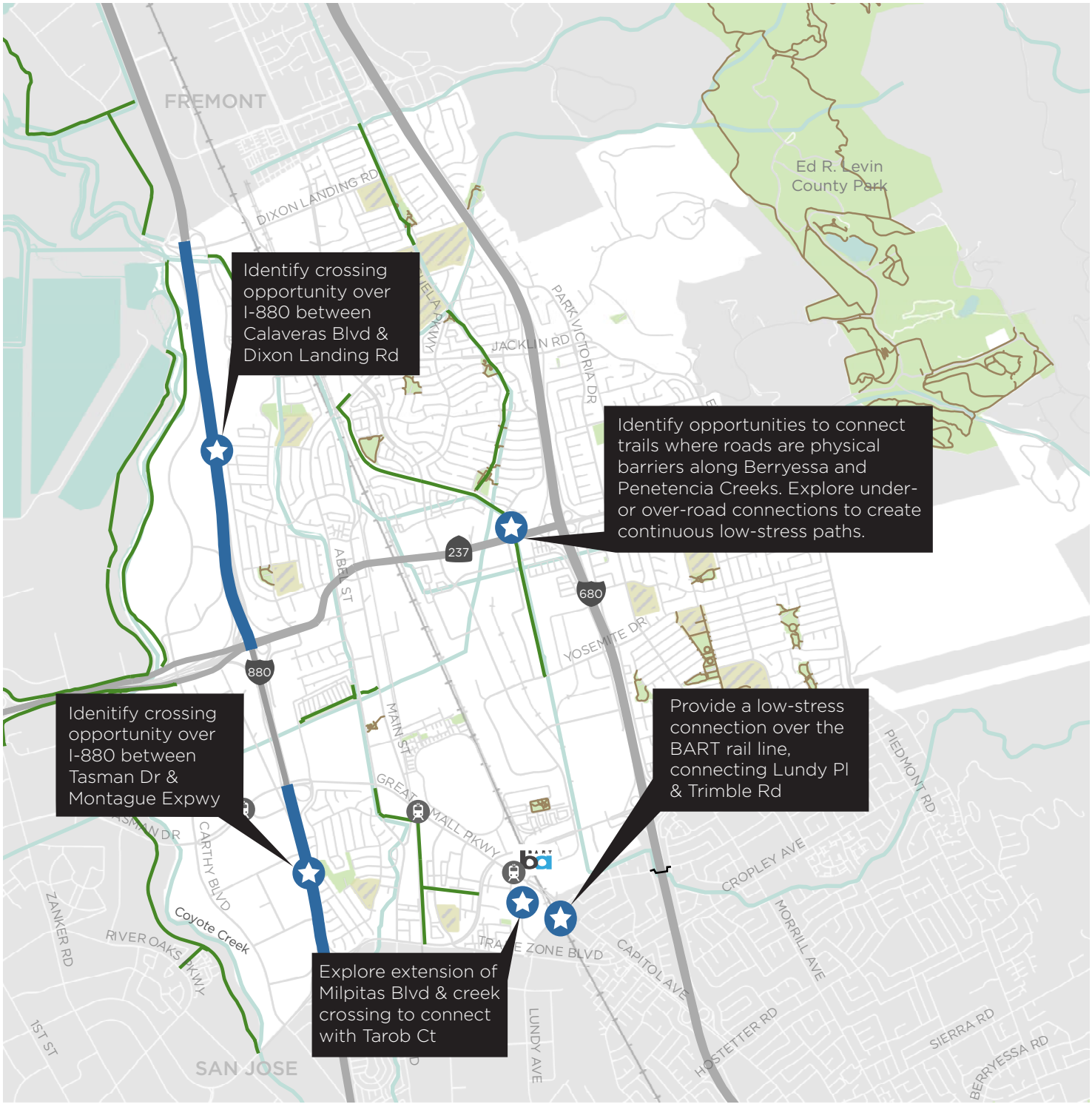


FIGURE 26
PROJECTS FOR FURTHER STUDY

NORTH

0 0.5 1 Miles

Projects for Further Study

EXISTING TRAILS
- Class I: Paved Shared Use Paths
- Unpaved Trails

BACKGROUND
- BART Station
- Light Rail Station
- Schools
- Bike/Ped Bridge
- Railroad
- Public Parks
- Streets
- Water

Program Recommendations

Programs refer to non-infrastructure efforts that support walking, bicycling, and other mobility options in the city. Programs supplement infrastructure improvements by helping connect residents and visitors to these new ways to get around. Programs can provide education about how to get around by bike or by foot, including route options, safety tips, and how to connect with other modes, like transit. Programs also provide encouragement, whether it's helping connect people through walking or bicycling groups, incentives for trying out other ways to get around, or supporting the choice to walk or bike more generally. In conjunction with the improvements outlined above, the City should consider the following programs:

- Safe Routes to School
- Wayfinding
- Bicycle Parking
- Encouragement and Education Programs
- Shared Mobility Program
- Bicycle and Pedestrian Advisory Committee
- Comprehensive Data Collection, including improved safety and health data, user counts, and infrastructure inventories
- Vision Zero

In order to successfully implement the above program recommendations, investments in City staff, including increasing the number of staff dedicated to bicycle and pedestrian issues, may be required. Dedicated staff are crucial to ensuring the success and longevity of these programs.

SAFE ROUTES TO SCHOOL PROGRAMS ENCOURAGE MORE STUDENTS TO WALK OR BIKE TO SCHOOL THROUGH INFRASTRUCTURE IMPROVEMENTS AND EDUCATION PROGRAMS.

Safe Routes to School: Safe Routes to School connect students with information about how to travel to school safely by foot or by bike. Often implemented in conjunction with an infrastructure program, Safe Routes to School efforts can include celebration of Walk and Bike to School Days, hosting walking school buses and bike rodeos, and teaching students about how to walk and bike safely in their neighborhoods. Safe Routes to School programs can cover a broad range of topics and approaches but generally focus on supporting students in getting to school in a safe and active way.

Santa Clara County Public Health Department, with support from VTA, hosts a range of Safe Routes to School programs and has a number of resources available for schools on their website, including an annual Walk and Bike to School Week celebration. The City of Milpitas should consider implementing a Safe Routes to School program, in coordination with the Milpitas School District and other schools operating in the City. Coordination with the county and VTA can help connect the City with existing resources and funding opportunities.

Wayfinding: Wayfinding systems include signs, kiosks, pavement medallions, and other indicators that direct people walking and bicycling to their destinations. A comprehensive wayfinding system helps people navigate the city confidently and can direct people to preferred routing options.

Signs typically include information such as a destination or district name, an arrow indicating direction of travel, and a measure of distance and/or time to that destination. Kiosks can include a district or city map to help orient people to where they are in the city, the available bike and trail networks, and major destinations.

Wayfinding systems also offer an opportunity to convey city and district identity. For example, different colors or icons can help distinguish one area of the city from another and provide visual cues to people navigating the system. Given Milpitas's potential to connect with local and regional trail systems, it is important to consider how these networks can work together and include complementary signage to support connected travel in the city. Improved wayfinding should also be considered to improve travel to the new BART station and from BART to the bike and trail system.

Adult Bicycling Skills Courses: Bicycle skills courses can help adults who have never received training on how to ride a bike safely or may want a refresher to learn how to more safely and comfortable navigate the city by bike. As bicycle infrastructure increases and bike share is added to the city, this can help support a more vibrant bicycling culture in Milpitas.

The City should explore options for partnership with bicycling courses offered through the League of American Bicyclists, Silicon Valley Bicycle Coalition, or VTA.

Employer-Based Encouragement Programs: The City should support employers in connecting employees with information about and opportunities to try new transportation options. The opening of the BART station provides additional opportunity for employers to host bicycle challenges, connect experienced riders with novice bicyclists, or participate in Bike to Work Day. The City can provide information or help employers connect with other information that supports these efforts.

Community Walks, Rides, and Education Events: Milpitas regularly participates in Bike to Work day to celebrate those commuting by bike. Opportunities to host other community walk, rides, or educational events can encourage continued support beyond May. Milpitas should partner with local and regional groups to identify opportunities for new community events.

Comprehensive Data Collection Program: Data regarding all active transportation facilities and activity should be collected regularly. Three primary areas for data collection that should be explored and expanded include:

- **Safety:** To better understand crash patterns and who is affected, opportunities to record additional information on crash types and parties should be explored.
- **User Counts:** Implement an annual counts program to track use of existing facilities and identify areas for future facility implementation. Counts programs can rely on permanent automatic counters, temporary counters, or manual counts completed in coordination with local volunteers. Counts should be collected annually, utilizing consistent locations and methodology. The National Bicycle and Pedestrian Documentation project provides information on how to get started.
- **Infrastructure Inventory:** Project implementation and maintenance is best supported when location and quality of assets is known. To better track implementation progress and identify locations for new crosswalks, maintenance needs, or other project opportunities, the city should develop a comprehensive database that documents existing infrastructure, such as: signal locations; crosswalk locations and quality; sidewalk and bikeway location, quality, and width; pedestrian-scale lighting location; traffic calming locations; and similar. The data plan should include considerations for regular updates to the data set and protocols for integrating new projects.

Bicycle and Pedestrian Advisory Committee: The City should re-convene a Bicycle and Pedestrian Advisory Committee to support the city in implementing programs and infrastructure. This committee, comprised of interested residents and stakeholders, can provide resident oversight on implementation of the Trail, Pedestrian, and Bicycle Master Plan, support the city in understanding identified needs for walking and biking, and provide recommendations to the city on how to best support walking and biking in Milpitas.

Expanded Public Engagement:

The City should explore opportunities to more regularly engage with residents and visitors regarding the active transportation network. Regular opportunities for feedback and event participation, in addition to expanded opportunities for reporting maintenance concerns, can support the City's understanding of resident and visitor needs, challenges, and opportunities for enhancing the active transportation culture in Milpitas.

MANUAL COUNTS COLLECTED BY VOLUNTEERS OR CITY STAFF ALONG KEY CORRIDORS IN THE CITY CAN PROVIDE A BASELINE UNDERSTANDING OF CURRENT BICYCLE AND PEDESTRIAN USE. INTERCEPT SURVEYS CONDUCTED DURING THIS TIME CAN PROVIDE GREATER INSIGHT INTO NEEDED IMPROVEMENTS OVER TIME.

Bicycle Parking: Bicycle parking and related trip end facilities complete the bicycle network. A convenient and secure location to store a bicycle while at a destination is necessary trips made by bike, especially when connecting to transit. While bicycle parking is available in many locations around Milpitas, requests for more parking options was one of the most frequent comments provided during public engagement activities. Figure 27 identifies possible locations for new bike parking opportunities.

Bike parking can provide both short-term and long-term options, and the city should consider the context when selecting and implementing new bike parking locations:

- **Short Term Bicycle Parking:** These parking options support relatively short trips to destinations such as shopping, errands, dining, or recreation. Bicycle racks are the most common type of short-term parking and can be grouped to provide for higher volumes of bicycle parking. Racks provide convenient parking options with moderate levels of security. Selected racks should be consistent with bicycle parking guidelines outlined in VTA's Bicycle Technical Guidelines (2012) and consider rack recommendations as outlined in the Association of Pedestrian and Bicycle Professionals' (APBP) Essentials of Bike Parking manual (2015). The following racks are recommended for use in Milpitas.

INVERTED U RACKS PROVIDE A MORE SECURE AND STABLE OPTION FOR SHORT TERM BIKE STORAGE.

IN LOCATIONS WITH HIGHER DEMAND, BIKE CORRALS CAN CREATE MORE PARKING OPTIONS FOR BICYCLES. IF IMPLEMENTED ON STREET, AS SHOWN ABOVE, THEY ALSO CAN PROVIDE TRAFFIC CALMING AND ENHANCE THE PEDESTRIAN ENVIRONMENT.

- **Long Term Bicycle Parking:** These options support trips where people intend to leave their bicycles for longer periods of time. This can include during the work day, at transit stations as part of a first-last mile connection, or similar. These facilities provide for higher levels of security, may protect bicycles from the elements, and include a number of storage options.
  Bicycle lockers are an option rented to an individual, with options for longer-term rentals (annual or monthly) or on-demand hourly rentals. BikeLink lockers currently located throughout Milpitas are one example.
  Secure parking areas are another common option and feature bike racks located in a secure room or cage. These rooms can be controlled through access cards, keypads, or attendants .

Bike parking options should include locations that accommodate bikes of differing sizes, such as cargo bikes, or support e-bikes and charging locations, particularly within secure parking areas.

To support a robust bike parking program, Milpitas should review and update its development standards as necessary to encourage greater provision of bicycle parking both within private developments and public areas.

BICYCLE LOCKERS PROVIDE A SECURE LOCATION FOR INDIVIDUAL BICYCLES FOR LONGER-TERM STORAGE.

SECURE PARKING AREAS, AS SHOWN ABOVE, CAN ACCOMMODATE A GREATER NUMBER OF BICYCLES WITHIN A MORE SECURE, LONGER-TERM STORAGE AREA.

FIG. 27 *Proposed Bike Parking Locations*

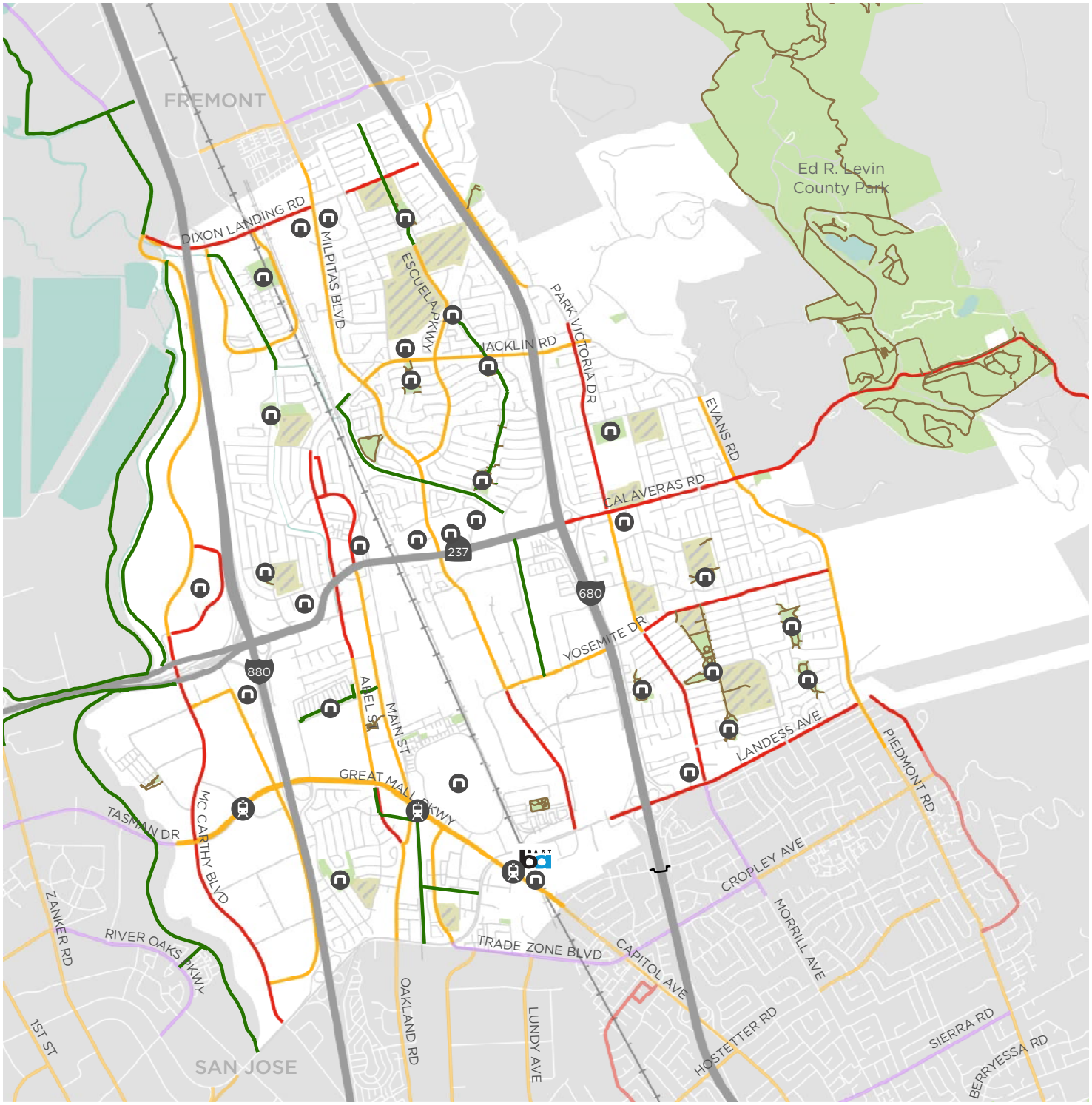


FIGURE 27
PROPOSED BIKE PARKING LOCATIONS

NORTH

0 0.5 1 Miles

BIKE PARKING RECOMMENDATIONS

EXISTING BIKEWAYS

- Class I: Paved Shared Use Path
- Class II: Bike Lane
- Class IIB: Buffered Bike Lane
- Class III: Bike Route
- Unpaved Trails

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Public Parks
- Bike/Ped Bridge
- Railroad
- Streets
- Water

Policy Recommendations

As biking, walking, and rolling in Milpitas grows, it is important to identify opportunities within City policy and practice to better support development of the active transportation network. The following recommendations consider both the longevity of the City's investment in the active transportation network as well as considerations for improving access and use of the network.

Shared Mobility: Bike and scooter share programs can support first- and last-mile connections between transit and other destinations. As active transportation infrastructure grows along with transit opportunities, the City should explore a bike and/or scooter share program. A successful program will require close coordination with city policy, neighboring jurisdictions, and program vendors to create a program that is responsive to resident and employee needs, consistent with other programs in the region, and meets the City's goals and objectives for the program. A more comprehensive review of program opportunities is found in the next chapter.

Staff Trainings: Both internal and inter-departmental staff trainings can increase understanding of active transportation design and guidance and support a shared understanding of active transportation needs across city staff. In addition to trainings regarding city policy and preferred practice, technical trainings on guidance from the American Association of State Highway and Transportation Officials (AASHTO), National Association of City Transportation Officials (NACTO), Federal Highway Administration (FHWA), and others can support city staff as Milpitas seeks to support a network that meets the needs of all users.

Facility Design,The City should review and update all relevant policy and design guidance regarding bikeway and sidewalk design, materials, and supporting amenities to be consistent with regional guidance. The City should clearly define opportunities for relevant departments to coordinate on design, implementation, and maintenance of the network so that it can best serve the needs of all users.

Maintenance

Routine maintenance can prolong the life of surface materials, increase the utility of the system, and encourage greater use of the network. This includes maintaining bike lanes, protected facilities, trails and sidewalks by keeping them clear of debris, surfaces free from obstructions, and crossings well-marked. For trails, maintaining access points, trail surface, and crossings are important components to a well-functioning and effective system that supports trips of all types.

It is recommended that the City develop a routine maintenance schedule and track maintenance over time. These activities should include all components of the bicycle, pedestrian, and trail networks.

In addition to routine maintenance, the City should track more significant maintenance needs and integrate these improvements into annual budgeting. This information should be tracked in a manner consistent with the system inventory recommended as part of this plan.

Complete Streets + Vision Zero

Adopting Complete Streets and Vision Zero Policies can support a more balanced transportation system with a commitment to improving safety of all roadway users. Both policies are identified in the Circulation Element of the General Plan (Goal CIR-1 and Goal CIR-2). Existing streets and any future street reconstruction projects should be reviewed for their compatibility with the goals and objectives of the Complete Streets policy. Education and encouragement programs should integrate Vision Zero principles.

Trail Use

The trail system supports both recreational and transportation trips in Milpitas. With an increasing number of personal e-bikes and e-scooters—as well as the potential for a future shared mobility program—the City should develop clear policy regarding the use of shared use paths by these modes. This guidance should be consistent with county, regional, and state guidance. Information regarding this policy should be made available through educational and encouragement materials, including at trailheads and other key access points. This information can provide guidance to users about trail etiquette and help reduce potential conflicts along the pathway.

Trail Access Points

The City should review and update any relevant policy and design guidance regarding trails and access points. Specifically, the City should establish standards for consistent design of access points that help people better understand where and how to access trails. The City should coordinate with Valley Water regarding any restrictions or considerations for maintenance activities. Access points should be clearly marked and provide for all ages and abilities access, including compliance with ADA guidelines.

Trail Design, Maintenance, and Operation

The City should review and update any relevant policy and design guidance regarding trail design, materials, and supporting amenities to be consistent with regional guidance. As trails provide for both recreation and transportation uses, the City should clearly define opportunities for relevant departments to coordinate on design, implementation, and maintenance of the network so that it can best serve the needs of all users.

SIGNAGE AT KEY ACCESS POINTS CAN INCLUDE WAYFINDING INFORMATION, OUTLINE GUIDELINES FOR USE, AND PROVIDE INFORMATION REGARDING USER GROUP RIGHT-OF-WAY ON THE TRAIL.

BIKE AND SCOOTER SHARE

Bike and scooter share systems are designed to provide a cost-effective, environmentally-friendly, and convenient travel option for short trips within the city. Although bike share systems have been present in North America for many years, the introduction of e-bikes and more recently e-scooters have led to a rapidly changing and growing industry.

In Milpitas, bike and e-scooter share systems have the opportunity to support connections to transit, major employers, and other destinations. Specifically, these programs can help reduce reliance on private automobiles, extend the reach of transit as a first-last mile connection, and improve access to active transportation options.

Shared Mobility

Bike and e-scooter share, or shared mobility, refer to a system of shared vehicles that are available for short-term rental in the city. These options help residents and visitors connect to transit, reach nearby destinations, or support other short trips that would otherwise be completed by car. Systems may include standard or e-bikes, e-scooters of various shapes and sizes, and a number of options for locking the vehicle at the end of the trip.

Many cities across the Bay Area have implemented shared mobility systems, and as of July 2019, there were close to 300 systems in place across the United States. A review of neighboring and peer systems as well as current industry practices were reviewed to develop recommendations for implementation of a system in Milpitas.

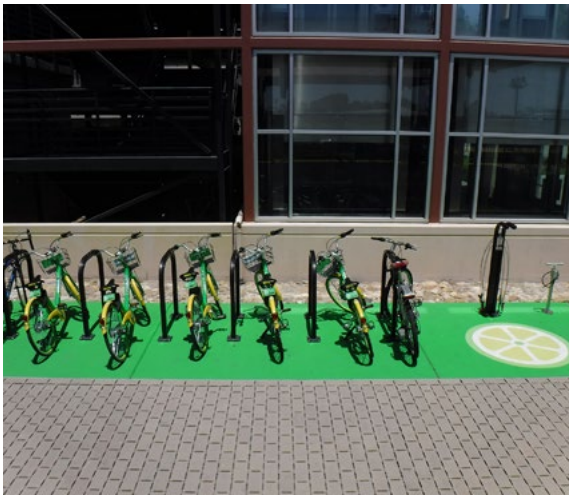
TABLE 16 *Shared Mobility Systems in the United States*

SYSTEM TYPE	NUMBER
Docked Bike Share	108
Dockless Bike Share	46
E-Scooter	142

Milpitas Program Objectives

In considering a shared mobility system for Milpitas, the City established the following objectives:

- The system should support connection to **transit opportunities** and **major employers**
- The system should establish clear guidelines that **support safety** while increasing use and visibility of active transportation
- The system should follow industry best practices for **equitable access** to shared mobility and provide opportunities for all residents to benefit from the system
- The system should outline a process for program evaluation, including opportunities to expand or modify approach over time.



DESIGNATED PARKING AREAS FOR BIKE SHARE AND SCOOTER SHARE ENCOURAGE COMPLIANCE WITH PARKING REQUIREMENTS, INCLUDING PROVIDING LOCATIONS TO LOCK BIKES AND SCOOTERS.

System Recommendations

Milpitas should implement a one year pilot program for bike and e-scooter share to evaluate the potential for a more robust program. This program will include the following elements:

- E-Bikes and E-Scooters: Electric-assist bikes and scooters can support a wider range of potential users reach a wider range of locations.
- Hybrid System: The system will feature hubs where parking is encouraged. Hubs will include racks or other locking mechanisms and help increase visibility of the system.
- Parking Requirements: The system should require all users to end their trip by locking to a designated fixed object so as to reduce impact to paths of travel.
- Focused Service Area: The service area represents the recommended operating locations for bikes and scooters. The recommended service areas can be seen in Figure 28.

Service Area

Service Area selection considered several factors, including potential demand for use, existing infrastructure, and existing network barriers. Potential for demand considered where people live, work, access transit, and shop.

The recommended bike share service area focuses on connections among employers and the BART station in the southern area of Milpitas. Calaveras Boulevard and the two interstates form barriers to safe and comfortable travel and form the boundaries for the pilot program service area. An expansion area covering much of the city is recommended for consideration as understanding of program demand grows and bicycle infrastructure improvements are completed. Hubs are located primarily in parks and other public facilities; additional hubs can be selected in coordination with private property owners.

The recommended scooter share service area focuses on two areas of Milpitas: along McCarthy Boulevard north of Tasman Road and in the southeast area of the city, south of Calaveras Road and east of the interstate. These two areas represent differing land use contexts and can provide greater insight into program specifications as the city looks to expand the program.

For both bikes and scooters, Calaveras Boulevard and Montague Expressway are identified as restricted roadways. Details of the service areas and recommended hubs are shown in Figure 28 on the next page.

FIG. 28 *Recommended Service Areas and Hub Locations*

FIGURE 28
RECOMMENDED SERVICE AREAS & HUB LOCATIONS

NORTH

0 0.5 1 Miles

SHARED MOBILITY
- Bikeshare Pilot
- Bikeshare Expansion
- Scooter Share Pilot
- Hub Locations
- Restricted Roadway

BACKGROUND
- BART Station
- Light Rail Station
- Streets
- Railroad
- Bike/Ped Bridge
- PublicParks
- Schools
- Water

Other Considerations

As the City looks to develop a pilot program and associated permit requirements, specifications for fleet size, safety, maintenance and re-balancing requirements, user education, data sharing, and equity programs should be considered. An overview of these recommendations is included below:

- Pricing Structure: The system should provide for single trip, day pass, and monthly and annual membership options. Additional fees should also be considered as a mechanism for enforcing parking requirements and service area restrictions.
- Equity Programs: Pricing should include income-based discounts, mechanisms for cash payments, and alternative payment structures. Reduced liability and elimination of hidden fees should also be considered. Adoption of the regional Bike Share for All model can support these efforts.
- Data Sharing: Milpitas should require vendors to share system data to support program evaluation and compliance. Data should be shared in the Mobility Data Specification (MDS) and General Bike Feed Specifications (GBFS).
- User Education: Vendors should provide user education supporting parking requirements, where to operate the vehicle, and other rules of the road.
- Parking: Users should be require to lock to designated hubs or other approved fixed objects when at the end of the trip. Vehicles should not obstruct pedestrian pathways.

Further, it is recommended that Milpitas coordinate closely with neighboring jurisdictions and VTA to identify opportunities to partner on program requirements and features. Implementing a consistent program that can exist across city boundaries with San Jose, for example, could support trips made to and from the BART station and other destinations along the city boundaries. Consistency in program elements can increase predictability for system users. Information regarding vendor requirements, city policy, and liability and enforcement should be shared with neighboring jurisdictions. It should also be noted that Milpitas's program requirements should consider overlap with other jurisdictions;. For example, vendors must secure a permit from VTA if the system is to operate on VTA property, including the Milpitas Transit Center. These requirements should be clearly reflected and communicated in Milpitas's shared mobility approach.

Collaboration with private employers can further support program goals and use through opportunities to locate hubs on employer campuses and promote programs through employer transportation programs.

IMPLEMENTATION

The following chapter outlines the proposed prioritization strategy for implementation of the Trail, Pedestrian, and Bicycle Master Plan and identifies potential funding sources. This approach is intended to establish a framework that guides implementation over time and can be adjusted to account for future changes as Milpitas continues to grow.

Prioritization

While the Trail, Pedestrian, and Bicycle Master Plan recommends a series of projects that support a complete and connected low-stress network, limited resources require an action plan that identifies which projects may have the greatest impact. The prioritization framework seeks to evaluate projects based on which projects provide the greatest benefit. Projects are evaluated based on measures of both community need and project feasibility:

Community Need evaluates which projects help address safety concerns, improve high stress network links, connect people to destinations, and expand the reach of transit. These factors are intended to represent community values and needs and include consideration of community support through the engagement process.

Project feasibility provides insight into which projects may take additional time and/or resources to complete. For example, projects that require coordination among multiple agencies may require additional time and staff resources, whereas projects that require roadway reconstruction will be more costly. These measures offer a quick assessment of feasibility; however, other factors may also affect project readiness and should be considered as the implementation plan advances over time.

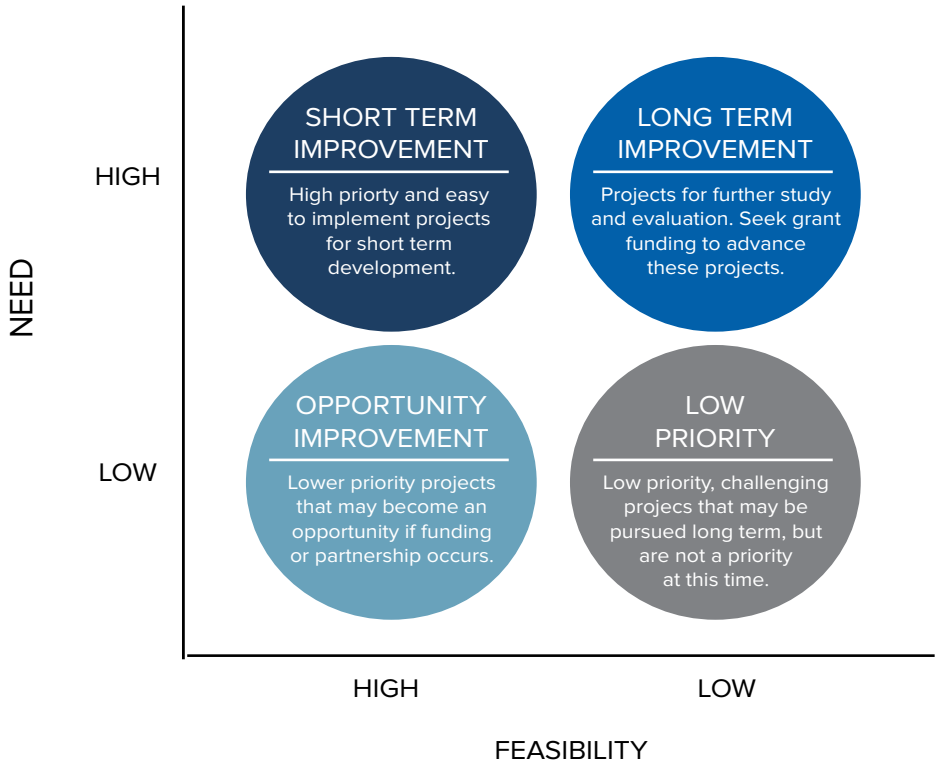
Specific criteria are listed for each project type in the pages that follow.

Project Categories

Community need and project feasibility are considered together to determine the overall priority of a project. The results of this evaluation group projects into four main categories, also shown in Figure 29:

- **Short term improvements** are rated high need and high project feasibility; these projects should be prioritized for implementation
- **Long term improvements** are rated high need and low project feasibility . These projects provide community benefit but may require additional funding, study, or agency coordination.
- **Opportunity improvements** are rated low need and high project feasibility. These projects should be considered in coordination with development or as funding becomes available.
- **Low priority projects** are rated low need and low project feasibility. These projects should be pursued in the long term but do not represent an immediate priority for the community.

FIG. 29 *Prioritization Categories*



Project Evaluation

The sections that follow outline the prioritization process used for each project type, including linear bikeway improvements, spot bikeway improvements, and pedestrian spot improvements. Each project type includes more information on how project need was evaluated as well as specific considerations for feasibility. Project need was evaluated based on considerations for safety, connectivity, and public support. Opportunities for project coordination were also considered for spot improvements. Project lists follow each section.

Project Costs

Planning level costs estimates are provided for each project in the project table. This amount is intended to provide only an estimate based on the project type. Specific site conditions and location needs may require different project components. More detailed cost estimates should be completed based on an engineering review and further analysis of the site context. See Appendix F for more detail on the planning- level cost estimates used to inform this plan.

Evaluation Criteria: Pedestrian Spot Improvements

Table 17 and Table 18 list the evaluation criteria for project priority and project feasibility. Projects were scored for each criteria listed in the tables. Project need was determined by the criteria listed in Table 17, while project feasibility was determined using the criteria in Table 18.

TABLE 17 *Project Priority*

CATEGORY	CRITERIA	DESCRIPTION
Connectivity	Connectivity to Transit, Schools, Parks, and Employment Centers	Project provides connections to transit, including frequent local bus, BART, and light rail; schools (adjacent to school or along identified walking route); parks; or employment centers.
Bicycle Improvement	Bicycle Improvement	Project is located coincident with a bicycle improvement, indicating an opportunity for coordination among project types.
SAFETY	Previous Collision	Project provides safety improvement near reported crash location. Collision occurred at the project intersection.
Project Support	Public Support	Project was supported by the public through this Plan's public engagement activities

TABLE 18 *Project Feasibility*

CATEGORY	DESCRIPTION
Agency Coordination	Requires coordination among multiple agencies (water district, state, VTA, etc.)

FIG. 30 *Priority Pedestrian Spot Improvements*

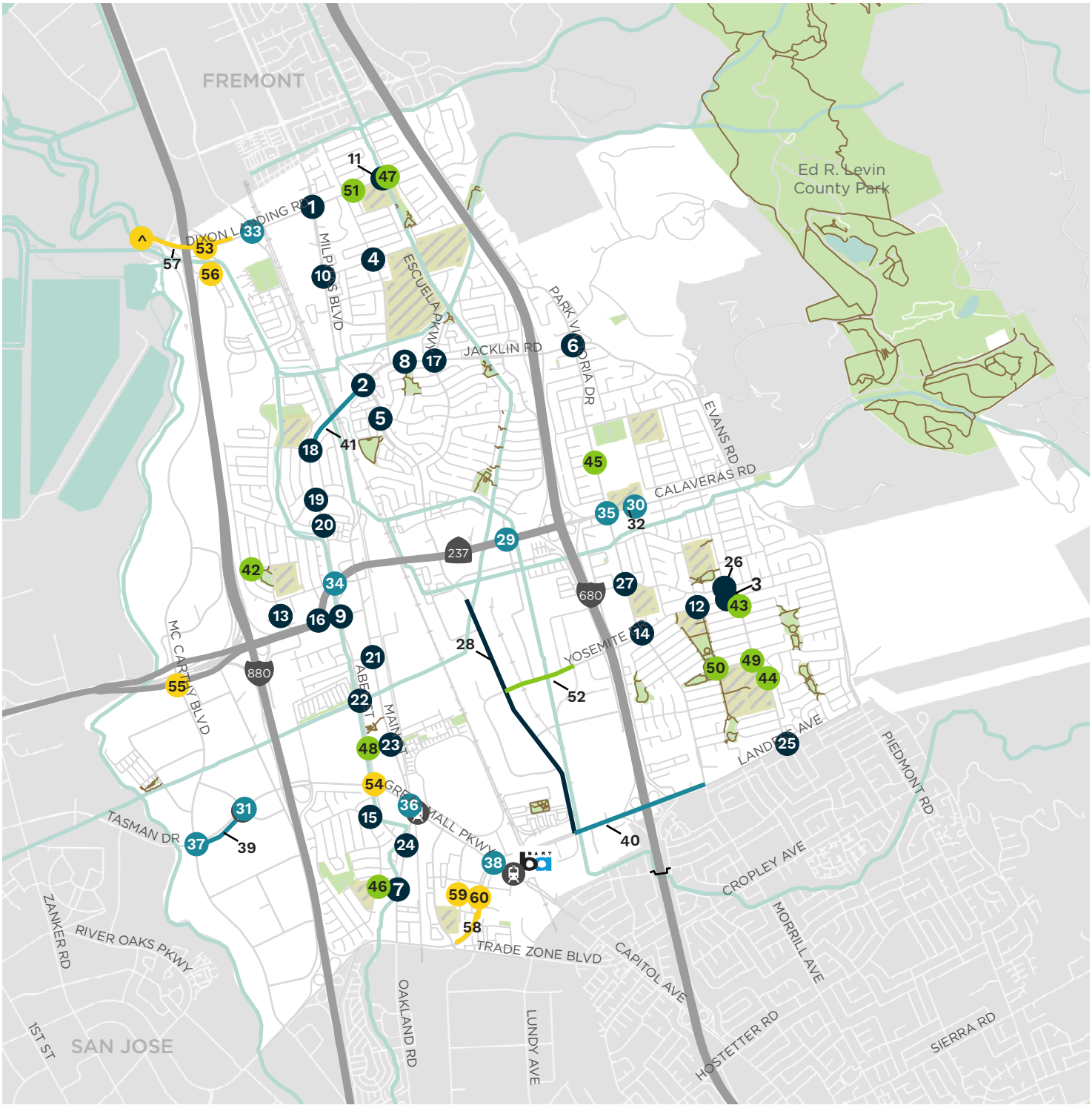


FIGURE 30
PRIORITY PEDESTRIAN SPOT IMPROVEMENTS

NORTH

0 0.5 1 Miles

PRIORITY PEDESTRIAN SPOT IMPROVEMENTS

- HIGH NEED, HIGH FEASIBILITY
- HIGH NEED, LOW FEASIBILITY
- LOW NEED, HIGH FEASIBILITY
- LOW NEED, LOW FEASIBILITY

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water

Pedestrian Spot Improvement Project List

TABLE 19 *Priority Pedestrian Spot Recommendations: Short Term Improvements*

NUMBER	PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
1	Commercial Signalized	Milpitas Blvd	Dixon Landing Rd	HIGH	HIGH	$4,400,000
2	Commercial Signalized	Abel Street	Milpitas Blvd	HIGH	HIGH	$4,400,000
3	Neighborhood Unsignalized	Yosemite Dr	S Temple Dr	HIGH	HIGH	$250,000
4	Neighborhood Unsignalized	Arizona Avenue	Washington Drive	HIGH	HIGH	$250,000
5	Neighborhood Unsignalized	Milpitas Blvd	Tramway Dr	HIGH	HIGH	$250,000
6	Commercial Signalized	Jacklin Rd.	Park Victoria Dr	HIGH	HIGH	$4,400,000
7	Commercial Signalized	Main St	Cedar Way	HIGH	HIGH	$4,400,000
8	Commercial Unsignalized	Jacklin Rd	Foothills Square	HIGH	HIGH	$1,300,000
9	Commercial Signalized	Abel St	Serra Way	HIGH	HIGH	$4,400,000
10	Neighborhood Signalized	Milpitas Blvd	Washington Dr	HIGH	HIGH	$3,000,000
11	Commercial Unsignalized	Dixon Rd	Hetch Hetchy Trail	HIGH	HIGH	$1,300,000
12	Neighborhood Unsignalized	Yosemite Dr	Roswell Dr	HIGH	HIGH	$250,000
13	Neighborhood Unsignalized	Abbott Avenue	Valley Way	HIGH	HIGH	$250,000
14	Neighborhood Signalized	S Park Victoria	Yosemite Dr	HIGH	HIGH	$800,000
15	Neighborhood Unsignalized	Capitol Ave	Fallen Leaf Way	HIGH	HIGH	$250,000
16	Commercial Signalized	Calaveras Blvd	Serra Way	HIGH	HIGH	$4,400,000
17	Commercial Signalized	Jacklin Rd	Escuela Parkway	HIGH	HIGH	$4,400,000
18	Neighborhood Signalized	Abel St	Redwood Ave	HIGH	HIGH	$800,000
19	Neighborhood Signalized	Abel St	Marilynn Dr	HIGH	HIGH	$800,000
20	Neighborhood Signalized	Abel St	Penitencia St	HIGH	HIGH	$800,000

**For more information regarding Pedestrian Project Types, please see pages 77 and 79.*
***For more information regarding Project Categories, please see Figure 28 on page 124.*

Pedestrian Spot Improvement Project List

TABLE 19 *Priority Pedestrian Spot Recommendations: Short Term Improvements (continued)*

NUMBER	PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
21	Commercial Unsignalized	Main St	Corning Ave	HIGH	HIGH	$1,300,000
22	Commercial Unsignalized	Abel St	Machado Ave	HIGH	HIGH	$1,300,000
23	Commercial Signalized	Main St	Curtis Ave	HIGH	HIGH	$4,400,000
24	Commercial Signalized	Abel St	Main St	HIGH	HIGH	$4,400,000
25	Neighborhood Signalized	Landess Ave	Yellowstone Ave	HIGH	HIGH	$800,000
26	Neighborhood Unsignalized	Edsel Dr	Temple Dr	HIGH	HIGH	$250,000
27	Neighborhood Signalized	Park Victoria Dr	Edsel Dr	HIGH	HIGH	$800,000
28	Sidewalk Gap	Milpitas Blvd	Montague Expwy to Los Coches St	HIGH	HIGH	$360,000

TABLE 20 *Priority Pedestrian Spot Recommendations: Long Term Improvements*

NUMBER	PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
29	Commercial Signalized	Hillview Dr	Calaveras Blvd	HIGH	LOW	$4,400,000
30	Commercial Unsignalized	Calaveras Blvd	Carnegie Dr	HIGH	LOW	$1,300,000
31	Commercial Signalized	Tasman Dr	Alder Dr	HIGH	LOW	$4,400,000
32	Sidewalk Improvement	Calaveras Blvd	Carnegie Dr to Protected Crossing	HIGH	LOW	$30,000
33	Commercial Signalized	Dixon Landing Rd	Milmont Dr	HIGH	LOW	$4,400,000
34	Commercial Signalized	Abel St	Calaveras Blvd	HIGH	LOW	$4,400,000
35	Commercial Signalized	Park Victoria Dr	Calaveras Blvd	HIGH	LOW	$4,400,000
36	Commercial Signalized	Main St	Great Mall Parkway	HIGH	LOW	$4,400,000

Pedestrian Spot Improvement Project List

TABLE 20 *Priority Pedestrian Spot Recommendations Long Term Improvements (Continued)*

NUMBER	PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
37	Commercial Signalized	Tasman Dr	McCarthy Blvd	HIGH	LOW	$4,400,000
38	Commercial Signalized	Great Mall Parkway	Montague Expressway	HIGH	LOW	$4,400,000
39	Sidewalk Gap	Tasman Dr	Alder Dr to McCarthy Blvd	HIGH	LOW	$80,000
40	Sidewalk Improvement	Landess Ave / Montague Expwy	S Park Victoria Dr to Milpitas Blvd	HIGH	LOW	$250,000
41	Sidewalk Improvement	Abel St	Milpitas Blvd to Redwood Ave	HIGH	LOW	$120,000

TABLE 21 *Priority Pedestrian Spot Recommendations: Opportunity Improvements*

NUMBER	PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
42	Neighborhood Unsignalized	Smithwood St	Rudyard Dr	LOW	HIGH	$250,000
43	Neighborhood Unsignalized	Shenandoah Ave	Sequoia Dr	LOW	HIGH	$250,000
44	Neighborhood Unsignalized	Yellowstone Ave	Westridge Drive	LOW	HIGH	$250,000
45	Neighborhood Unsignalized	Park Victoria Dr	Park Heights Dr	LOW	HIGH	$250,000
46	Neighborhood Unsignalized	Fallen Leaf Way	Cedar Way	LOW	HIGH	$250,000
47	Commercial Unsignalized	Dixon Rd	Vegas Ave	LOW	HIGH	$1,300,000
48	Commercial Signalized	Abel St	Curtis Ave	LOW	HIGH	$4,400,000
49	Neighborhood Unsignalized	Yellowstone Ave	Sequoia Dr	LOW	HIGH	$250,000
50	Neighborhood Unsignalized	Yellowstone Ave	Murphy Park	LOW	HIGH	$250,000
51	Commercial Unsignalized	Dixon Rd	Conway St	LOW	HIGH	$2,100,000
52	Sidewalk Gap	Yosemite Dr	Milpitas Blvd to Vista Way	LOW	HIGH	$80,000

**For more information regarding Pedestrian Project Types, please see pages 77 and 79.*
***For more information regarding Project Categories, please see Figure 28 on page 124.*

Pedestrian Spot Improvement Project List

TABLE 22 *Priority Pedestrian Spot Recommendations: Low Priority Improvements*

NUMBER	PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
53	Commercial Signalized	Dixon Landing Rd	California Circle	LOW	LOW	$4,400,000
54	Commercial Signalized	Abel Street	Great Mall Parkway	LOW	LOW	$4,400,000
55	Commercial Signalized	McCarthy Blvd	Highway Ramp	LOW	LOW	$4,400,000
56	Commercial Unsignalized	California Circle	Off Ramp	LOW	LOW	$2,100,000
57	Sidewalk Gap	Dixon Landing Rd	McCarthy Blvd to Milmont	LOW	LOW	$150,000
58	Sidewalk Gap	Montague Expressway	Berryessa Creek to Trade Zone Blvd	LOW	LOW	$80,000
59	Commercial Unsignalized	Berryessa Creek	Coffee Berry Lane	LOW	LOW	$2,100,000
60	Commercial Unsignalized	Montague Expressway	Berryessa Creek	LOW	LOW	$2,100,000
^	Commercial Signalized	Dixon Landing Rd	McCarthy Blvd			

^THE CITY OF MILPITAS SUPPORTS THIS PROJECT; HOWEVER, THE INTERSECTION IS LOCATED OUTSIDE OF CITY LIMITS.

Evaluation Criteria: Linear Bikeway Improvements

Table 23 and Table 24 list the evaluation criteria for project priority and project feasibility. Projects were scored for each criteria listed in the tables. Project need was determined by the criteria listed in Table 23, while project feasibility was determined using the criteria in Table 24.

TABLE 23 *Project Priority*

CATEGORY	CRITERIA	DESCRIPTION
Connectivity	Connectivity to Transit or Schools	Project provides connections to transit (bus, BART, and light trail) or schools. Project should be located within ¼ mile of transit or schools to qualify.
	Connectivity to Parks or Trails	Project provides connections to trails or parks. Project should be located within ¼ mile of a trailhead or park to qualify.
	Connectivity to Employment Centers or Services	Project provides connections to employment or commercial centers. Project should be located within ¼ mile of employment or commercial centers to qualify.
Gap Closure	Gap Closure	Project closes network gap between two existing facilities, or across a challenging crossing. Gap closure should consider neighboring jurisdiction's existing and proposed networks.
SAFETY	Safety	Project provides safety improvement near reported crash location. Collision occurred at the project intersection or along the identified project segment.
	Safety	Project improves a high stress roadway (LTS 3 or 4 network link)
Project Support	Public Support	Project was supported by the public through this Plan's public engagement activities
	Previous Plan	Project identified in previous planning efforts.

TABLE 24 *Project Feasibility*

CATEGORY	DESCRIPTION
Agency Coordination	Requires coordination among multiple agencies (water district, state, VTA, etc.)
Project Complexity	Project requires significant roadway reconfiguration or ROW acquisition.

FIG. 31 *Priority Linear Bikeway Improvements*

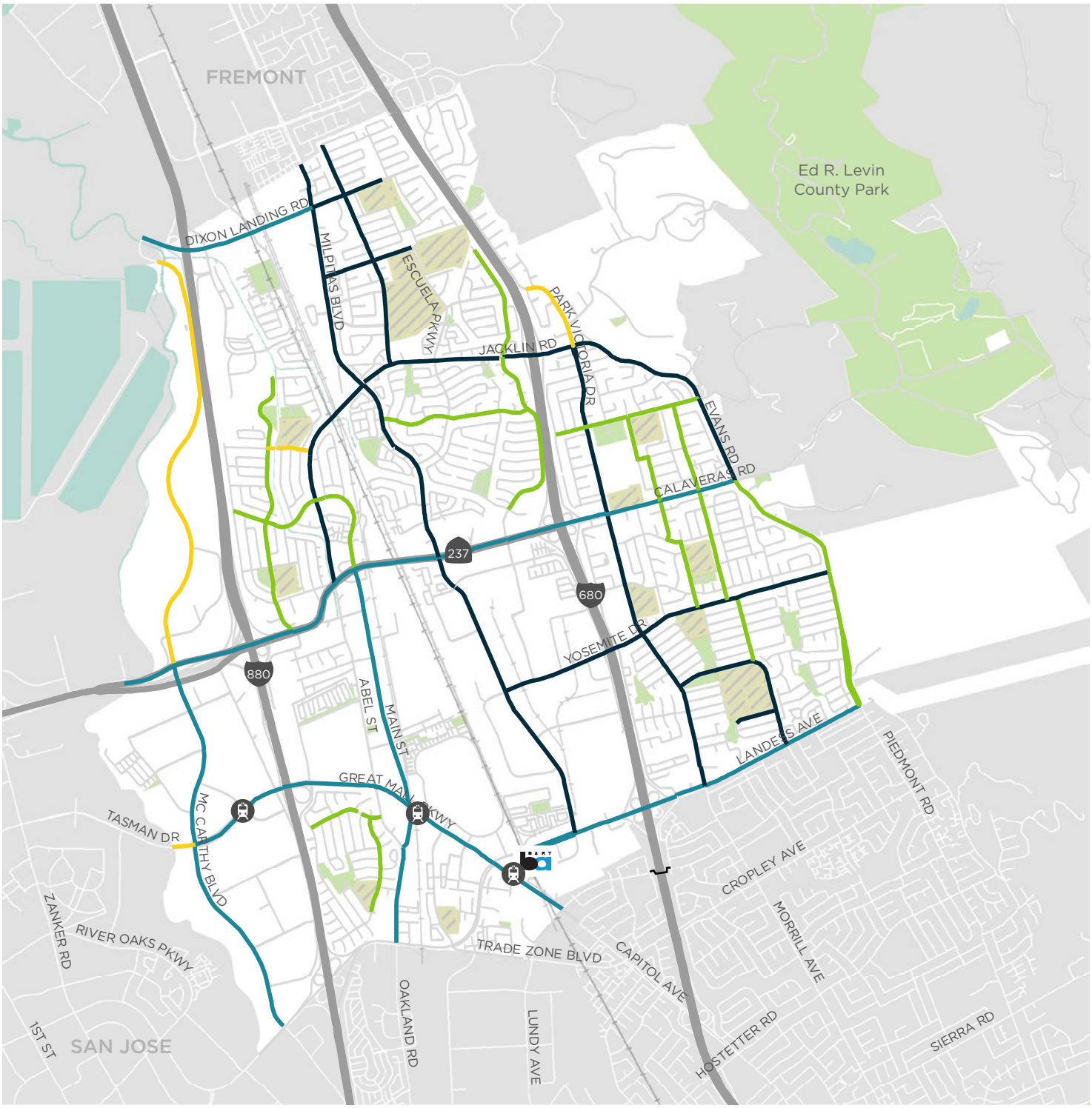


FIGURE 31
PRIORITY LINEAR BIKEWAY IMPROVEMENTS

NORTH

0 0.5 1 Miles

PRIORITY BIKEWAY IMPROVEMENTS

- HIGH NEED, HIGH FEASIBILITY
- HIGH NEED, LOW FEASIBILITY
- LOW NEED, HIGH FEASIBILITY
- LOW NEED, LOW FEASIBILITY

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water
- Bike/Ped Bridge

Priority Linear Bikeway Improvements

TABLE 25 *Priority Bikeway Recommendations: Short Term Improvements*

ROADWAY	FROM	TO	RECOMMENDED BIKEWAY*	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Abel Street	Milpitas Blvd	Redwood Ave	Class IV	HIGH	HIGH	$600,000
Abel Street	Redwood Ave	Calaveras Blvd	Class IIB	HIGH	HIGH	$200,000
Evans Road	S Park Victoria Dr	Kennedy Dr	Class II	HIGH	HIGH	$200,000
S Park Victoria Dr	Calaveras Blvd	Landess Ave	Class IIB	HIGH	HIGH	$400,000
S Park Victoria Dr	Jacklin Rd	Calaveras Blvd	Class IIB	HIGH	HIGH	$300,000
Milpitas Blvd	City Limit	Jacklin Rd	Class IV	HIGH	HIGH	$1,500,000
Jacklin Rd	Milpitas Blvd	S Park Victoria Dr	Class IV	HIGH	HIGH	$1,400,000
Milpitas Blvd	Jacklin Rd	Calaveras Blvd	Class IV	HIGH	HIGH	$1,300,000
Yosemite Dr	S Park Victoria Dr	Piedmont Rd	Class IIIB	HIGH	HIGH	$500,000
Yosemite Dr	Milpitas Blvd	S Park Victoria Dr	Class IV	HIGH	HIGH	$1,000,000
Arizona Avenue	Buskirk St	Jacklin Rd	Class IIIB	HIGH	HIGH	$600,000
Yellowstone Ave	S Park Victoria Dr	Landess Ave	Class IIIB	HIGH	HIGH	$500,000
Washington Dr	Milpitas Blvd	Escuela Parkway	Class IIIB	HIGH	HIGH	$300,000
Dixon Land Rd	Milpitas Blvd	Hetch Hetchy Trail	Class IV	HIGH	HIGH	$500,000
Milpitas Blvd	Calaveras Blvd	Yosemite Dr	Class IV	HIGH	HIGH	$1,000,000
Milpitas Blvd	Yosemite Dr	Landess Ave	Class IV	HIGH	HIGH	$1,000,000
Tahoe Dr	Sinnott Park	Yellowstone Ave	Class IIIB	HIGH	HIGH	$100,000
Evans Rd	Calaveras Blvd	Kennedy Dr	Class IIB	HIGH	HIGH	$100,000

**For more information regarding Bikeway Types, please see page 27.*
***For more information on Project Categories, please see Figure 28 on page 124.*

Priority Linear Bikeway Improvements

TABLE 26 *Priority Bikeway Recommendations: Long Term Improvements*

ROADWAY	FROM	TO	RECOMMENDED BIKEWAY*	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Calaveras Blvd	Coyote Creek Trail	Abel St	Class IV	HIGH	LOW	$1,600,000
Calaveras Blvd^	Abel St	Milpitas Blvd	Class IV	HIGH	LOW	$80,000,000
Calaveras Blvd	Milpitas Blvd	Evans Rd	Class IV	HIGH	LOW	$2,000,000
Dixon Land Rd	McCarthy Blvd	Milpitas Blvd	Class IV	HIGH	LOW	$1,200,000
Landess Ave/ Montague Expressway	Piper Dr	S Park Victoria Dr	Class II	HIGH	LOW	$300,000
S Main Street	S Abel St	Montague Expressway	Class IV	HIGH	LOW	$600,000
McCarthy Blvd	Calaveras Blvd	Montague Expressway	Class II	HIGH	LOW	$500,000
E Capitol Avenue	Montague Expressway	Trimble Rd	Class IV	HIGH	LOW	$500,000
Great Mall Pkwy	S McCarthy Blvd	Montague Expressway	Class IV	HIGH	LOW	$2,220,000
Landess Ave	Piedmont Rd	S Park Victoria Dr	Class IV	HIGH	LOW	$1,100,000
S Main Street	Calaveras Blvd	S Abel St	Class IIB	HIGH	LOW	$400,000

^ Cost estimate reflects City estimate for bridge expansion/upgrades, which include bikeway improvements.

Priority Linear Bikeway Improvements

TABLE 27 *Priority Bikeway Recommendations: Opportunity Improvements*

ROADWAY	FROM	TO	RECOMMENDED BIKEWAY*	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Marylinn Dr/ Main Street	N Abel Street	Calaveras Blvd	Class IIB	LOW	HIGH	$200,000
Marylinn Drive	Heath Street	N Abel Street	Class IIIB	LOW	HIGH	$300,000
Kennedy Dr	Wool Dr	Evans Rd	Class IIIB	LOW	HIGH	$400,000
Hillview Dr	Jacklin Rd	Calera Creek	Class IIIB	LOW	HIGH	$300,000
Sequoia Dr	Yosemite Dr	Yellowstone Ave	Class IIIB	LOW	HIGH	$200,000
N Abbott Avenue	San Andreas Dr	Calaveras Blvd	Class IIIB	LOW	HIGH	$800,000
Tramway Dr	Milpitas Blvd	Hillview Dr	Class IIIB	LOW	HIGH	$400,000
Fallen Leaf Drive	W Capitol Ave	Greenwood Way	Class IIIB	LOW	HIGH	$300,000
Temple Dr	Calaveras Blvd	Yosemite Dr	Class IIIB	LOW	HIGH	$300,000
Temple Dr	Kennedy Dr	Calaveras Blvd	Class IIIB	LOW	HIGH	$200,000
Piedmont Rd	Yosemite Dr	Landess Ave	Class IIB	LOW	HIGH	$300,000
Hillview Dr	Jacklin Rd	Berryessa Creek Trail	Class IIIB	LOW	HIGH	$500,000
Piedmont Rd	Calaveras Blvd	Yosemite Dr	Class IIB	LOW	HIGH	$200,000
W Capitol Ave	Starlite Drive	S Abel Street	Class IIIB	LOW	HIGH	$200,000
Gadsden Dr/Canton Dr/Roswell Dr	Calaveras Blvd	Yosemite Dr	Class IIIB	LOW	HIGH	$300,000
Fanyon St/Dennis Ave/Gadsden Dr	Kennedy Dr	Calaveras Blvd	Class IIIB	LOW	HIGH	$300,000

**For more information regarding Bikeway Types, please see page 27.*
***For more information regarding Project Categories, please see Figure 28 on page 124.*

Priority Linear Bikeway Improvements

TABLE 28 *Priority Bikeway Recommendations: Low Priority Improvements*

ROADWAY	FROM	TO	RECOMMENDED BIKEWAY*	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Redwood Avenue	N Abbott Ave	N Abel Street	Class IIIB	LOW	LOW	$100,000
McCarthy Blvd	Dixon Landing Rd	237/Calaveras	Class IIB	LOW	LOW	$600,000
N Park Victoria Dr	Nicklaus Ave	Jacklin Rd	Class II	LOW	LOW	$100,000
E Tasman Drive	Coyote Creek Trail	McCarthy Blvd	Class IV	LOW	LOW	$200,000

Evaluation Criteria: Bicycle Spot Improvements

Table 29 and Table 30 list the evaluation criteria for project priority and project feasibility. Projects were scored for each criteria listed in the tables. Project need was determined by the criteria listed in Table 29, while project feasibility was determined using the criteria in Table 30.

TABLE 29 *Project Priority*

CATEGORY	CRITERIA	DESCRIPTION
Connectivity	Connectivity to Transit, Schools, Parks, and Employment Centers	Project provides connections to transit, including frequent local bus, BART, and light rail; schools (adjacent to school or along identified Suggested Walking Route); parks; or employment centers.
Pedestrian Improvement	Pedestrian Improvement	Project is located in a Pedestrian Priority Improvement Area, indicating an opportunity to introduce traffic calming or other safety improvement measures for pedestrian travel.
Safety	Previous Collision	Project provides safety improvement near reported crash location. Collision occurred at the project intersection.
Project Support	Public Support	Project was supported by the public through this Plan's public engagement activities

TABLE 30 *Project Feasibility*

CATEGORY	DESCRIPTION
Project Complexity	Project requires significant roadway reconfiguration or ROW acquisition.

FIG. 32 *Priority Bicycle Spot Improvements*

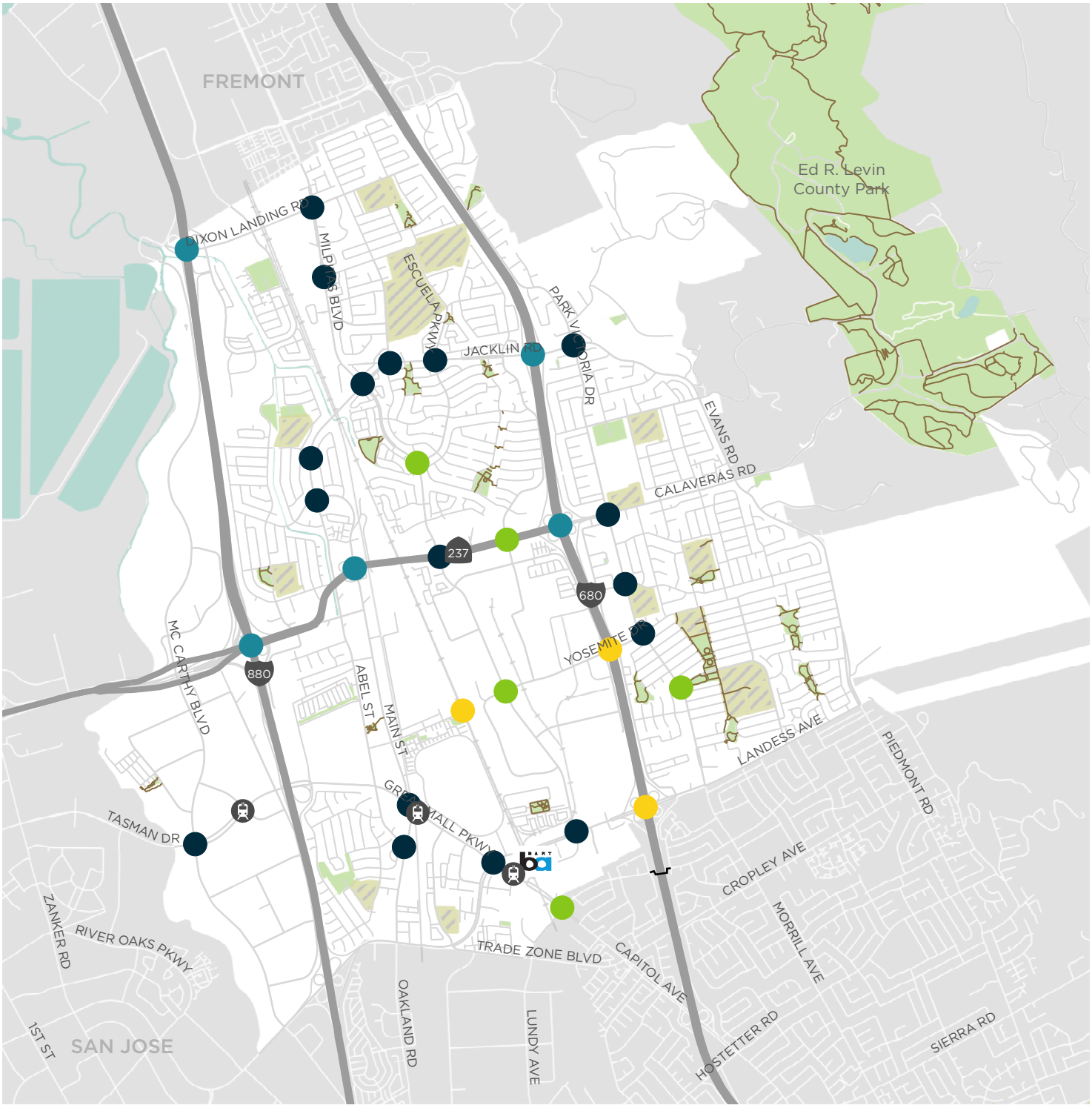


FIGURE 32
PRIORITY BICYCLE SPOT IMPROVEMENTS

NORTH

0 0.5 1 Miles

PRIORITY BIKE SPOT IMPROVEMENTS

- LOW NEED, LOW FEASIBILITY
- HIGH NEED, LOW FEASIBILITY
- LOW NEED, HIGH FEASIBILITY
- HIGH NEED, HIGH FEASIBILITY

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water

Priority Bicycle Spot Improvements

TABLE 31 *Priority Bike Spot Recommendations: Short Term Improvements*

PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Bike Lane Connectivity	Milpitas Boulevard	Jacklin Road	HIGH	HIGH	$40,000
Bike Lane Connectivity	Dixon Landing Rd	Milpitas Blvd	HIGH	HIGH	$80,000
Bike Lane Connectivity	Jacklin Road	Arizona Avenue	HIGH	HIGH	$40,000
Bike Lane Connectivity	Milpitas Boulevard	Calaveras Boulevard	HIGH	HIGH	$80,000
Bike Lane Connectivity	Abel Street	Marilynn Drive	HIGH	HIGH	$80,000
Bike Lane Connectivity	Montague Expressway	E Capitol Avenue	HIGH	HIGH	$80,000
Bike Lane Connectivity	Milpitas Blvd	Washington Dr	HIGH	HIGH	$40,000
Bike Lane Connectivity	Jacklin Road	Escuela Parkway	HIGH	HIGH	$40,000
Bike Lane Connectivity	Jacklin Road	Park Victoria Drive	HIGH	HIGH	$110,000
Bike Lane Connectivity	Park Victoria Drive	Calaveras Boulevard	HIGH	HIGH	$40,000
Bike Lane Connectivity	Abel Street	Redwood Avenue	HIGH	HIGH	$80,000
Bike Lane Connectivity	Park Victoria Drive	Edsel Drive	HIGH	HIGH	$80,000
Bike Lane Connectivity	Park Victoria Drive	Yosemite Drive	HIGH	HIGH	$80,000
Bike Lane Connectivity	Milpitas Boulevard	Montague Expressway	HIGH	HIGH	$40,000
Bike Lane Connectivity	Main Street	Great Mall Parkway	HIGH	HIGH	$80,000
Bike Lane Connectivity	Tasman Drive	McCarthy Boulevard	HIGH	HIGH	$80,000
Bike Lane Connectivity	Abel St	Main St	HIGH	HIGH	$110,000

**For more information regarding Bicycle Spot Improvement Types, please see pages 93-94.*
***For more information regarding Project Categories, please see Figure 28 on page 124.*

Priority Bicycle Spot Improvements

TABLE 32 *Priority Bike Spot Recommendations: Long Term Improvements*

PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Intersection Connectivity	Calaveras Boulevard	Main Street	HIGH	LOW	*Varies*
Intersection Connectivity	Jacklin Road	Sinclair Freeway	HIGH	LOW	*Varies*
Intersection Connectivity	Calaveras Boulevard	Nimitz Freeway	HIGH	LOW	*Varies*
Intersection Connectivity	Calaveras Boulevard	Sinclair Freeway	HIGH	LOW	*Varies*
Intersection Connectivity	Dixon Landing Rd	Nimitz Freeway	HIGH	LOW	*Varies*

TABLE 33 *Priority Bike Spot Recommendations: Opportunity Improvements*

PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Bike Lane Connectivity	Park Victoria Drive	Yellowstone Avenue	LOW	HIGH	$80,000
Bike Lane Connectivity	Capitol Avenue	Trimble Road	LOW	HIGH	$80,000
Bike Lane Connectivity	Hillview Dr	Calaveras Blvd	LOW	HIGH	$80,000
Bike Lane Connectivity	Milpitas Boulevard	Yosemite Drive	LOW	HIGH	$110,000
Bike Lane Connectivity	Milpitas Boulevard	Escuela Parkway	LOW	HIGH	$110,000

TABLE 34 *Priority Bike Spot Recommendations: Low Priority Improvements*

PROJECT TYPE*	LOCATION	CROSS STREET	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Intersection Connectivity	Yosemite Drive	Sinclair Freeway	LOW	LOW	*Varies*
Intersection Connectivity	Yosemite Drive	Rail Line	LOW	LOW	*Varies*
Intersection Connectivity	Landess Avenue	Sinclair Freeway	LOW	LOW	*Varies*

Evaluation Criteria: Trail Improvements

Table 35 and Table 36 list the evaluation criteria for project priority and project feasibility. Figure 33 shows the resulting priority trail network. Projects were scored for each criteria listed in the tables. Project need was determined by the criteria listed in Table 35, while project feasibility was determined using the criteria in Table 36.

TABLE 35 *Project Priority*

CATEGORY	CRITERIA	DESCRIPTION
Connectivity	Connectivity to Transit or Schools	Project provides connections to transit (bus, BART, and light trail) or schools. Project should be located within ¼ mile of transit or schools to qualify.
	Connectivity to Parks or Trails	Project provides connections to parks. Project should be located within ¼ mile of a park to qualify.
	Connectivity to Employment Centers or Services	Project provides connections to employment or commercial centers. Project should be located within ¼ mile of employment or commercial centers to qualify.
Gap Closure	Gap Closure	Project closes network gap between two existing facilities, or across a challenging crossing. Gap closure should consider neighboring jurisdiction's existing and proposed networks.
Safety	Previous Collision	Project provides safety improvement and/or alternate routing near reported crash location.
Project Support	Public Support	Project was supported by the public through this Plan's public engagement activities

TABLE 36 *Project Feasibility*

CATEGORY	DESCRIPTION
Project Complexity	Project requires significant roadway reconfiguration, ROW acquisition, or significant construction to overcome existing barriers.

FIG. 33 *Priority Trail Improvements*

FIGURE 33
PRIORITY TRAIL IMPROVEMENTS

NORTH

0 0.5 1 Miles

PRIORITIZED TRAIL RECOMMENDATIONS
- HIGH, HIGH
- HIGH, LOW
- LOW, HIGH
- LOW, LOW

EXISTING TRAILS
- Existing
- Unpaved Trails

BACKGROUND
- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water
- Bike/Ped Bridge

Priority Trail Improvements

TABLE 37 *Priority Trail Recommendations: Short Term Improvements*

ROADWAY	FROM	TO	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Penitencia Creek	San Andreas Dr	Calaveras Blvd	HIGH	HIGH	$1,800,000
Calera Creek	Milpitas Blvd	Hillview Dr	HIGH	HIGH	$1,400,000
Escuela Pkwy	Russell Ln	Roger St	HIGH	HIGH	$500,000
Hillview Dr / Los Coches St	Berryessa Creek	Berryessa Creek	HIGH	HIGH	$400,000

TABLE 38 *Priority Trail Recommendations: Long Term Improvements*

ROADWAY	FROM	TO	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Abel St	Calaveras Blvd	Great Mall Pkwy	HIGH	LOW	$1,500,000
Dixon Landing Rd	California Circle	N McCarthy Blvd	HIGH	LOW	$500,000
Montague Exp	Piper Dr	Coyote Creek Trail	HIGH	LOW	$3,200,000
N McCarthy Blvd	Dixon Landing Rd	Coyote Creek Trail	HIGH	LOW	$300,000
Great Mall Pkwy / Tasman Dr	McCarthy Blvd	Montague Exp	HIGH	LOW	$2,600,000
Coyote Creek	Calaveras Blvd & Coyote Creek Trail (North)	Calaveras Blvd & Coyote Creek Trail (South)	HIGH	LOW	$200,000

***For more information regarding Project Categories, please see Figure 28 on page 124.*

TABLE 39 *Priority Trail Recommendations: Low Priority Improvements*

ROADWAY	FROM	TO	PRIORITY CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Yosemite Dr	Parc East	Milpitas Blvd	LOW	LOW	$300,000
Penitencia Creek	Milmont Dr	California Circle	LOW	LOW	$800,000

Evaluation Criteria: Trail Spot Improvements

Trail spot improvements should be implemented in coordination with new shared use path development. Proposed trail access improvements or new trailhead improvements located along existing paths should be considered for more immediate development, particularly where the City owns the land. Other locations are considered higher priority due to collision history and the ability of these locations to connect existing trails to destinations and other transportation corridors.

Tables 40 and 41 below outline the criteria for both need and feasibility of Trail Spot Improvement projects; Figure 34 reflects the prioritized spot improvements. Projects were scored for each criteria listed in the tables. Project need was determined by the criteria listed in Table 40, while project feasibility was determined using the criteria in Table 41.

TABLE 40 *Project Need`*

CATEGORY	DESCRIPTION
Connectivity to Parks or Trails	Project supports connections to existing trails, paths, and parks.
Previous Collision	Project provides safety improvement and/or alternate routing near reported crash location.
Public Support	Project was supported by the public through this Plan's public engagement activities

TABLE 41 *Project Feasibility*

CATEGORY	DESCRIPTION
Project Complexity	Project requires coordination among multiple agencies, acquisition of ROW, or other

FIG. 34 *Priority Trail Spot Improvements*

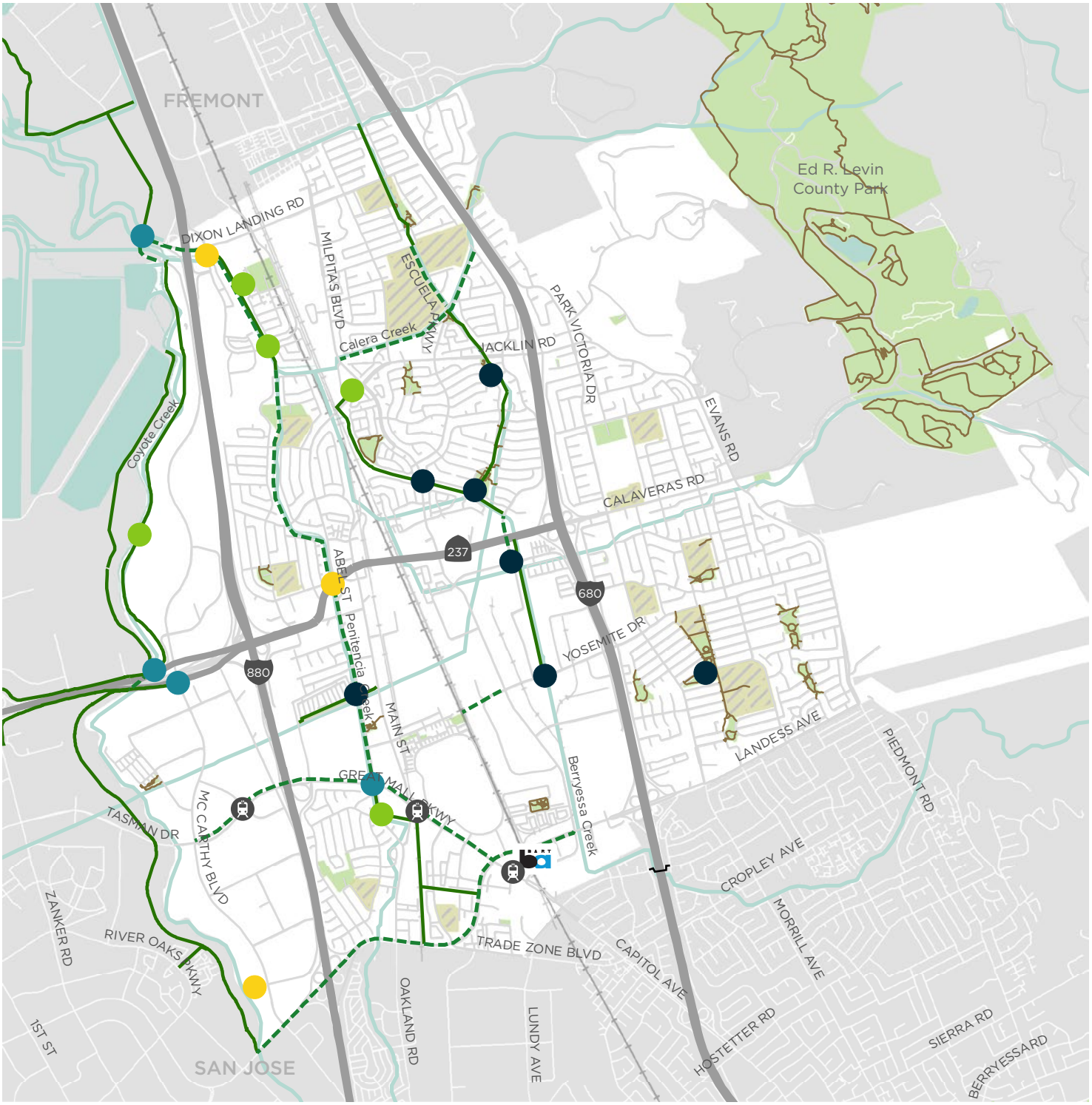


FIGURE 34
PRIORITY TRAIL SPOT IMPROVEMENTS

NORTH

0 0.5 1 Miles

PRIORITIZED TRAIL SPOT RECOMMENDATIONS

- HIGH NEED, HIGH FEASIBILITY
- HIGH NEED, LOW FEASIBILITY
- LOW NEED, HIGH FEASIBILITy
- LOW NEED, LOW FEASIBILITY

TRAILS

- Existing
- Proposed
- Unpaved Trails

BACKGROUND

- BART Station
- Light Rail Station
- Schools
- Public Parks
- Water
- Bike/Ped Bridge

Priority Trail Spot Improvements

TABLE 42 *Priority Spot Recommendations: Short Term Improvements*

TYPE*	LOCATION	CROSS STREET	NEED CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Trail Access Improvements	Berryessa Creek	Yosemite Dr	HIGH	HIGH	$3,200,000
Trail Access Improvements	Berryessa Creek	N Milpitas Blvd	HIGH	HIGH	$3,200,000
Trailhead Improvements	Hetch Hetchy Trail	Oliver W. Jones Park	HIGH	HIGH	$140,000
Trailhead Improvements	Robert E. Browne Park	Yellowstone Ave	HIGH	HIGH	$140,000
Trailhead Improvements	Hetch Hetchy Trail	Paseo Refugio	HIGH	HIGH	$140,000
Trail Access Improvements	S Hillview Dr	Los Coches St	HIGH	HIGH	$3,200,000
Trail Access Improvements	Tom Evatt Park	S Abel St	HIGH	HIGH	$3,200,000

TABLE 43 *Priority Spot Recommendations: Long Term Improvements*

TYPE*	LOCATION	CROSS STREET	NEED CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Trail Access Improvements	N McCarthy Blvd	Dixon Landing Rd	HIGH	LOW	$3,200,000
New Trail Connection	Coyote Creek	Alviso Milpitas RD	HIGH	LOW	$3,200,000
Trail Access Improvements	S Abel St	Great Mall Pkwy	HIGH	LOW	$3,200,000
Trail Access Improvements	Coyote Creek	S McCarthy Blvd	HIGH	LOW	$3,200,000

**For more information regarding Trail Spot Improvement Types, please see page 103.*
***For more information regarding Project Categories, please see Figure 28 on page 124.*

TABLE 44 *Priority Spot Recommendations: Opportunity Improvements*

TYPE*	LOCATION	CROSS STREET	NEED CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Trail Access Improvements	Penitencia Creek	W Capitol Ave / S Abel St	LOW	HIGH	$3,200,000
Trail Access Improvements	Coyote Creek	McCarthy Creekside Industrial Center	LOW	HIGH	$3,200,000
Trailhead Improvements	Penitencia Creek	Alegra Terrace / Dixon Landing Park	LOW	HIGH	$140,000
Trail Access Improvements	Abel St/Jacklin Rd	Milpitas Blvd	LOW	HIGH	$3,200,000
Trail Access Improvements	Penitencia Creek	Milmont Dr/ California Circle	LOW	HIGH	$3,200,000

TABLE 45 *Priority Spot Recommendations: Low Priority Improvements*

TYPE*	LOCATION	CROSS STREET	NEED CATEGORY**	FEASIBILITY CATEGORY	COST ESTIMATE
Trail Access Improvements	Penitencia Creek	California Circle	LOW	LOW	$3,200,000
New Trail Connection	Coyote Creek	Barber Ln	LOW	LOW	$3,200,000
Trail Access Improvements	Penitencia Creek	Calaveras Blvd	LOW	LOW	$3,200,000

Funding Opportunities

The following section identifies potential funding opportunities as part of the Trail, Pedestrian, and Bicycle Master Plan. The document identifies potential funding opportunities from local, regional, and state sources. The funding opportunities are briefly introduced along with the agency or organization that administers each source. Finally, a table is provided (Table 46) that clearly summarizes all of the funding sources as well as their purpose. This section will help guide the implementation of the recommendations provided in the Trail, Pedestrian, and Bicycle Master Plan.

Local and Regional Funding Sources

Transportation Fund for Clean Air (BAAQMD & VTA)

Assembly Bill 434 established a $4 vehicle registration surcharge in the Bay Area counties to be used on projects that reduce vehicle emissions, including bicycle and pedestrian projects. Funds can also be used as a match for competitive state or federal programs.

Funds are administered by the Bay Area Air Quality Management District (BAAQMD) and Santa Clara Valley Transportation Authority (VTA).

One Bay Area Grant (MTC)

The second round of the One Bay Area Grant program provides $916 million for projects through 2021-2022 and is divided into a regional program managed by MTC and a county program administered by the nine Bay Area Congestion Management Agencies. Projects are focused in the Priority Development Areas and can invest in bicycle, pedestrian, Safe Routes to School, and transportation planning projects.

Funds are administered by the Metropolitan Transportation Commission (MTC) and Santa Clara Valley Transportation Authority (VTA).

Transportation Development Act Article 3 (MTC & VTA)

Transportation Development Act Article 3 provides annual funding to counties for bicycle and pedestrian projects, which are reviewed by the City or County Bicycle Advisory Committee.

Funds are administered by the Metropolitan Transportation Commission (MTC) and programmed by the Santa Clara Valley Transportation Authority (VTA).

2016 Measure B (VTA)

Measure B is a one-half cent sales tax in Santa Clara County to fund transportation projects and is expected to raise $250 million for bicycle and pedestrian improvements.

Funds are administered by the Santa Clara Valley Transportation Authority (VTA).

Regional Measure 3 (MTC)

Regional Measure 3 uses toll revenue from the Bay Area's seven state-owned toll bridges, which can be used for safe routes to transit projects.

Funds are administered by Metropolitan Transportation Commission (MTC).

Vehicle Emissions Reductions Based at Schools (MTC & VTA)

The Vehicle Emissions Reduction Based at Schools (VERBS) has a goal of reducing greenhouse gases by promoting walking, biking, transit, and carpooling to school with an additional focus on reducing collisions. These funds come from the Metropolitan Transportation Commission's Climate Initiative

Safe Routes to School Program and are allocated to each county based on school enrollment.

Funds are administered by the Metropolitan Transportation Commission (MTC) and programmed by the Santa Clara Valley Transportation Authority (VTA).

Lifeline Transportation Program (MTC & VTA)

The Lifeline Transportation Program uses state and federal money to fund community-based transportation projects in low-income neighborhoods that address a gap or barrier identified in local transportation plans.

Funds are administered by the Metropolitan Transportation Commission (MTC) and the Santa Clara Valley Transportation Authority (VTA).

Transportation for Livable Communities (MTC & VTA)

MTC allocates funding to cities, counties, or transit operators for projects in Priority Development Areas that promote transit-oriented development. These projects can include multi-modal streetscape improvements.

Funds are administered by the Metropolitan Transportation Commission (MTC).

Climate Initiative Grants (MTC)

MTC uses federal funds for two competitive grant programs aimed at funding innovative ways to reduce greenhouse gas emissions in the Bay Area. The two grants include innovative grants, funding high- impact projects of $1 million or more, and Safe Routes to Schools Creative Grants, which allocates $500,000 to implement and evaluate creative emissions-reducing safe routes to school projects.

Funds are administered by the Metropolitan Transportation Commission (MTC).

Priority Development Area Planning Program (MTC)

MTC provides grants to cities and counties to develop plans for areas surrounding future rail stations, which must include multi-modal connectivity.

Funds are administered by the Metropolitan Transportation Commission (MTC).

Program for Arterial System Synchronization (MTC)

MTC provides financial and technical assistance to cities and counties to improve and coordinate signal timing across jurisdictions on multi-city corridors.

Funds are administered by the Metropolitan Transportation Commission (MTC).

State Funding Sources

Active Transportation Program (CTC)

The California Transportation Commission's Active Transportation Program provides annual funding to public agencies, schools, nonprofit organizations and others for active transportation projects, programs, and plans.

Funds are administered by the California Transportation Commission (CTC).

California Office of Traffic Safety (CA OTS)

Fixing America's Surface Transportation (FAST) Act allocates five percent of Section 405 funds to addressing non-motorized safety, which can include law enforcement training related to pedestrian and bicycle safety, enforcement campaigns, and public education and awareness campaigns.

Funds are administered by the California Office of Traffic Safety (CA OTS)

Sustainable Transportation Planning Grant Program (Caltrans)

Caltrans Sustainable Transportation Planning Grants funds plans that align with state goals outlined in the Regional Transportation Plan Guidelines adopted by the California Transportation Commission as well as fund projects that address deficiencies in the state highway system. *Funds are administered by Caltrans.*

Highway Safety Improvement Program (Caltrans)

Caltrans Sustainable Transportation Planning Grants funds plans that align with state goals outlined in the Regional Transportation Plan Guidelines adopted by the California Transportation Commission as well as fund projects that address deficiencies in the state highway system. *Funds are administered by Caltrans.*

Solutions for Congested Corridors Program (CTC)

The California Transportation Commission provides funds to regional transportation planning agencies for projects on high-traffic corridors in order to improve congestion and the environment. These projects can include bicycle and pedestrian enhancements. *Funds are administered by Caltrans.*

Urban Greening Grant (CA NRA)

Urban Greening Grants fund green infrastructure projects that include the goal of reducing commute vehicle miles traveled through the construction of bicycle or pedestrian infrastructure and trails. *Funds are administered by the California Natural Resources Agency.*

Local Partnership Program (CTC)

The Local Partnership Program provides local and regional agencies that have passed sales tax measures, developer fees or other transportation-imposed fees to fund a wide variety of transportation improvement projects including roadway rehabilitation and construction, transit capital and infrastructure, bicycle and pedestrian improvements, and green infrastructure. *Funds are administered by the California Transportation Commission.*

Road Maintenance & Rehabilitation Program (State Controller's Office)

The Road Maintenance and Rehabilitation Program (RMRP) provides funds cities and counties to address deferred maintenance on state highways and local road systems for both design and construction efforts and can include active transportation-related maintenance projects. *Funds are administered by the State's Controller's Office.*

State Highway Operation and Protection Program (Caltrans)

State Highway Operation and Protection funds projects that maintain and enhance the state highway system through a wide variety of infrastructure improvements including bicycle and pedestrian projects. *Funds are administered by Caltrans.*

FTA 5310 - Enhanced Mobility of Seniors & Individuals with Disabilities Program (Caltrans)

This program provides funds to non-profit corporations and public agencies for projects that improve mobility for seniors and individuals with disabilities, particularly related to public transportation. *Funds are administered by Caltrans.*

Wildlife Conservation Board Public Access Program (WCB)

State Highway Operation and Protection provides funds to public agencies and nonprofits for projects that promote wildlife-oriented recreation and can include trail and trailhead construction. *Funds are administered by the Wildlife Conservation Board.*

TABLE 46 *Funding Sources*

	PEDESTRIAN INFRASTRUCTURE	BICYCLE INFRASTRUCTURE	TRAILS	SAFE ROUTES TO SCHOOL	SAFE ROUTES TO TRANSIT	PROGRAMS	PLANS / STUDIES
LOCAL & REGIONAL PROGRAMS							
Transportation Fund for Clean Air (BAAQMD & VTA)	x	x	x	x	x		
One Bay Area Grant (MTC)	x	x	x	x	x		
Transportation Development Act Article 3 (MTC & VTA)	x	x	x	x	x		
Measure B (MTC)	x	x	x	x	x	x	x
Regional Measure 3 (MTC)					x		
Vehicle Emissions Reductions Based at Schools (MTC & VTA)	x	x	x	x	x		
Lifeline Transportation Program (MTC & VTA)	x	x	x	x	x	x	
Transportation for Livable Communities (MTC & VTA)	x	x	x	x	x		
Climate Initiative Grants (MTC)	x	x	x	x	x		
Priority Development Area Planning Program (MTC)							x
Program for Arterial System Synchronization (MTC)							
STATE PROGRAMS							
Active Transportation Program (CTC)	x	x	x	x	x	x	
California Office of Traffic Safety (CA OTS)						x	
Sustainable Transportation Planning Grant Program (Caltrans & VTA)							x
Highway Safety Improvement Program (Caltrans)	x	x		x	x		
Solutions for Congested Corridors Program (CTC)	x	x	x				
Urban Greening Grant (CA NRA)	x	x	x	x	x		
Local Partnership Program (CTC)	x	x		x	x		
Road Maintenance & Rehabilitation Program (State Controller's Office)	x	x		x	x		
State Highway Operation and Protection Program (Caltrans)	x	x		x	x		
FTA 5310 - Enhanced Mobility of Seniors & Individuals with Disabilities Program (Caltrans)	x				x		
Wildlife Conservation Board Public Access Program (WCB)			x				

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