

Unincorporated San Mateo County Active Transportation Plan



TOOLE
DESIGN

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HOW TO NAVIGATE THE PLAN

The following chapters present key information related to the plan-making process; goals and objectives; the recommended projects, policies and programs; and the methods for funding and implementing these recommendations to achieve the Plan's goals.

Chapter 1: Introduction

Chapter 1 provides an overview of the Plan, included why and how it was developed. This chapter also provides an overview of unincorporated communities and demographics.

Chapter 2: Project Goals and Objectives

Chapter 2 identifies adopted plans and policies as well as ongoing regional planning efforts. In addition, this chapter outlines the goals and objectives of the Plan, along with process and performance metrics to ensure progress is tracked over time.

Chapter 3: Bicycle Recommendations

Chapter 3 presents the Proposed Bicycle Network as well as related network enhancements and support facilities. This chapter also synthesizes the analyses, guidance, and public input that informed the development of the Proposed Bicycle Network.

- » See the Proposed Bicycle Network Maps in Appendix D for maps showing bike network improvements, and see the Detailed Bicycle Network Project List in Appendix D for a full list of these projects

Chapter 4: Pedestrian Recommendations

Chapter 4 presents Pedestrian Focus Areas along with Community-Identified Gaps and Priority Destination Recommendations. In addition, this chapter details the analyses and public input that informed pedestrian recommendations. This chapter also identifies supportive pedestrian network enhancements.

- » See the Pedestrian Focus Area Maps in Appendix D to see where we're planning to prioritize pedestrian improvements
- » See the Pedestrian Priority Destination Recommendations in Appendix D to see examples of the types of pedestrian improvements we're planning to make

Chapter 5: Support Programs and Policies

Chapter 5 provides an overview of existing programs and policies in the county and includes an overview of recommendations for programs and policies that will support infrastructure improvements. This chapter also provides a shortlist of five key program and policy recommendations to be prioritized for implementation.

- » See Appendix E for details on all of our proposed programs and policies

Chapter 6: Implementation and Funding

Chapter 6 includes an overview of methods and criteria used to prioritize bicycle and pedestrian projects. Implementation and funding strategies, as well as planning-level costs, are also provided in this chapter.

EXECUTIVE SUMMARY

Purpose

The Unincorporated San Mateo County Active Transportation Plan provides a framework to improve active transportation conditions for people walking and biking throughout unincorporated county communities. The Plan presents a framework of implementable and visionary projects, programs, and policies to work towards making that vision a reality.

Vision and Goals

The Plan is oriented around five goals: access, safety, equity, mode share, and flexibility. These goals were integrated into the Plan development process and will help guide the implementation of Plan recommendations to improve walking and bicycling conditions throughout the unincorporated areas of the county.

Stakeholder and Public Involvement

The Plan process was shaped by stakeholder and public engagement that occurred at each stage of Plan development. A Technical Advisory Committee (TAC) composed of representatives from various departments and agencies in the County played a key role in the Plan development process. Input from the San Mateo County Bicycle and Pedestrian Committee (BPAC), community councils, and community members from across the unincorporated areas guided the development and prioritization of this Plan's recommendations.

Project, Policy, and Program Recommendations

This Plan seeks to improve walking and bicycling in unincorporated San Mateo County by identifying hundreds of projects, as well as accompanying policies and programs. The project recommendations connect various destinations and respond to community needs to create a safe and connected on-street active transportation network. The following page summarizes some of the types of recommendations in the Plan. Other important initiatives referenced in the Plan that will contribute to a comprehensive active transportation network include the completion of county active transportation projects already underway, as well as supporting Safe Routes to School improvements and connecting to county and regional trail planning efforts that serve unincorporated county areas.

Implementation and Funding

The Plan also provides a framework for implementation of the many projects, policies, and programs through prioritization criteria, implementation methods and considerations, planning-level cost estimates, and a list of potential funding sources. Bikeway projects and pedestrian destination area recommendations prioritized for implementation include those that address the Plan goals and offer the greatest opportunities for a connected, comfortable network of walking and biking facilities. Many of these priority projects are located in some of the county's most populous areas as well as historically underserved unincorporated communities such as North Fair Oaks, Broadmoor, and the coastside communities, representing key areas for future investment. Priority policies and programs seek to support some of the County's most immediate needs in terms of implementation, safety, and equity.



UNINCORPORATED SAN MATEO COUNTY ACTIVE TRANSPORTATION PLAN RECOMMENDATIONS SUMMARY

24

pedestrian focus
areas

52

miles of protected bikeways and
off-street trails

33

unincorporated areas served

11

priority destination areas

29

programs and policies



CHAPTER 1: INTRODUCTION



UNINCORPORATED SAN MATEO COUNTY OVERVIEW

Unincorporated San Mateo County is characterized by a variety of land uses and urban forms, with more populated areas in the eastern part of the county and more rural areas in the western part of the county. With beaches, redwood groves, varied topography, a mild climate, and major employment centers and regional transit hubs, San Mateo County contains many natural assets and opportunities for active transportation.

“Unincorporated” refers to areas in San Mateo County that are located outside of city or town borders where the County government provides services, including operation and management of the public right of way. San Mateo County’s unincorporated areas encompass a wide range of communities, each with unique community priorities, distribution of land uses and physical challenges, and engineering constraints. This plan will address walking and bicycling in all unincorporated areas within San Mateo County, including the 33 named communities that are unincorporated:

- Broadmoor
- Burlingame Hills
- California Golf Club
- Colma (unincorporated)
- Country Club Park
- Devonshire
- El Granada
- Emerald Lake Hills
- Harbor/Industrial
- Kensington Square
- Ladera
- La Honda
- Loma Mar
- Los Trancos Woods
- Menlo Oaks
- Miramar
- Mobile Home Parks
- Montara
- Moss Beach
- North Fair Oaks
- Olympic Country Club
- Palomar Park
- Peninsula Golf and Country Club
- Pescadero
- Princeton-by-the-Sea
- San Bruno Mountain Park
- San Francisco International Airport
- San Gregorio
- San Mateo Highlands
- Sequoia Tract
- Sky Londa
- Stanford Lands
- West Menlo Park

Unincorporated San Mateo County includes two densely populated communities –Broadmoor and North Fair Oaks–, unincorporated pockets of suburban areas, such as West Menlo Park and Emerald Lake Hills, coastal communities like El Granada and Montara, and more remote inland communities like La Honda and Pescadero. There are a few major employment centers in unincorporated parts of San Mateo County, pockets of industrial land near the Half Moon Bay Airport and unincorporated Belmont, neighborhood commercial areas in some communities, and large agricultural areas between Highway 1 and the Santa Cruz Mountains.

DEMOGRAPHICS

The population in unincorporated San Mateo County has been steadily increasing in recent years, and reached 65,000 people in 2017.¹ The racial breakdown of unincorporated parts of San Mateo County is similar to that of the county as a whole. About 68 percent of the population is White, 13 percent Asian, one percent Black, and 14 percent Some Other Race, with about four percent identifying as two or more races. But there are significant differences among communities. In Broadmoor, about half the population identifies as Asian, and in North Fair Oaks, 37 percent identify as Some Other Race.

The US Census describes people of Hispanic or Latino descent as an ethnicity, not a race. Therefore, people who identify as Hispanic may also describe themselves with one or more racial categories. Throughout the county, people of Hispanic ethnicity are generally evenly split between those identifying as White and those identifying as Some Other Race; 70 percent of the population in North Fair Oaks is Hispanic.

¹ American Community Survey Five-year Estimates, 2017.

Only three percent of households in unincorporated San Mateo County do not own a vehicle, while 75 percent of households own two or more vehicles. Of Census-designated places, North Fair Oaks has the highest rate of car-free households in the County at 3.4 percent. While vehicle ownership is often correlated with income, it can also reflect communities where walking, biking, and transit infrastructure is insufficient to provide other transportation options.

Approximately 11 percent of unincorporated San Mateo County residents walk, bike, or take transit to work. Commute trips only comprise around 15 percent of household trips, per the California Household Travel Survey (CHTS), but they are nonetheless important to understand. Although CHTS cannot be analyzed separately for unincorporated San Mateo County, non-work trips are more likely to be made using active transportation.

PLAN PURPOSE

The purpose of the Plan is to build on the potential for walking and biking in unincorporated San Mateo County by defining a community-driven vision for the future of active transportation in unincorporated San Mateo County and developing a framework for the implementation of projects, programs, and policies to turn the vision into a reality. This is the first Active Transportation Plan for unincorporated San Mateo County.



COUNTY OF SAN MATEO PLANNING AND BUILDING

UNINCORPORATED COMMUNITY AREAS



San Mateo County Planning & Building Department | Graphic Section

L:\Planning\Layer\GIS\ECAP\CountyBASE2.pdf 08-09-2011 10

Figure 1: Unincorporated San Mateo County Communities

HOW WAS THE PLAN DEVELOPED?

The Plan was developed over a period of 20 months during 2019 and 2020. The process was guided by San Mateo County staff and representatives from other jurisdictions within the county. Their input was sought on key elements, such as existing conditions, bicycle network development and recommendations, and the project prioritization process. The Plan was developed in three distinct phases of analysis and public engagement. Input from stakeholders and community members was sought at each phase. Two key stakeholder groups were involved in the process:

- **San Mateo County Bicycle and Pedestrian Advisory Committee (BPAC)** – Includes five voting members and two alternates who live in San Mateo County and focuses on bicycle and pedestrian issues in unincorporated areas of San Mateo County
- **Technical Advisory Committee (TAC)** – Includes representatives from various County departments and agencies. This committee was assembled to provide guidance for the development of the Plan

During each stage of the Plan development, the public was asked to provide insights across the county on where changes to walking and biking could be made and prioritized. In addition to in-person events held throughout the county, public engagement opportunities were also available online to allow those who could not attend events to provide input. A variety of methods was used to engage members of the public during the Plan process, which are listed below. In order to respect community members' safety and comply with the COVID-19 Shelter in Place order, engagement methods shifted to primarily occurring online in March of 2020, in the middle of the second phase of outreach. San Mateo County recognizes that shifting the focus of the second two phases of the Plan to online outreach resulted in limitations on the number and demographic profile of people that were able to provide feedback. The County is committed to conducting ongoing additional community engagement as we move forward with proposed projects, including in-person outreach when appropriate.

- **Community workshops** – Open house-style community workshops were hosted during the first phase of the Plan to hear from the public on what it's like to walk and bike in unincorporated areas of San Mateo County and find out what changes are desired to make people more comfortable walking and biking.
- **Pop-up stations** – The Plan team also hosted more informal, pop-up stations at community hubs and events throughout San Mateo County to meet people where they are. These events provided opportunities for community members to learn about the Plan, provide feedback on how to improve walking and biking, and suggest locations where they would like to see changes.
- **Project website** – The project website was developed as a location for the public to learn about the Plan and local outreach events and sign up to receive email updates. The website featured interactive activities to gather input from the public:
 - **Online surveys** – Online surveys were used to engage the public throughout the Plan process, collecting feedback on existing conditions, desired changes, and priorities in building out the county's active transportation network
 - **Online map** – An online map was developed to collect public feedback on desired pedestrian and bicycle improvements and bicycle network recommendations

The following sections provide an overview of the Plan development phases. Refer to *Appendix A* to view outreach summary reports from each phase.



PHASE 1: DATA COLLECTION & INITIAL OUTREACH

Phase 1 focused on listening and learning to where residents, businesses, and visitors in unincorporated San Mateo County experience barriers to walking and bicycling with the goal of identifying locations that should be evaluated for potential project recommendations. The largest public involvement effort occurred during this initial stage, and this feedback was crucial in shaping the project team's understanding of existing conditions and the recommendations that resulted. Phase 1 community engagement consisted of:

- Setting up the **project website** complete with an **online survey** asking community members to share what it's like to walk and bike in unincorporated San Mateo County today, as well as what changes people would like to see to improve travel by active transportation. Feedback from in-person events was integrated into the development of the gap analysis and project recommendations.
- **Two community workshops** and **seven pop-up stations** provided in-person opportunities for community members to learn about the Plan, speak directly with Plan team, and draw on maps to show where they like and don't like to walk and bike. The workshops and pop-up stations also provided opportunities for community members to let the Plan team know what it's like to walk and bike in unincorporated San Mateo County today, as well as describe barriers and identify possible improvements. Similar to the online survey, feedback from in-person events was integrated into the development of the gap analysis and project recommendations.
- **Four walking and biking tours** provided stakeholders a window into the planning and design process and helped the Plan team understand community members' daily experience. Walking and bicycling tours were used to highlight innovative facilities and identify critical gaps in active transportation infrastructure.
- Presentations at **one Technical Advisory Committee meeting** and **one Bicycle and Pedestrian Advisory Committee meeting**.

PHASE 2: PROJECT RECOMMENDATIONS

The goal of Phase 2 was to develop bicycle and pedestrian project recommendations. This phase consisted primarily of technical analyses conducted by the Plan team and review of major deliverables by the TAC, BPAC, and public. The outcomes of this phase include a regional bikeway network and priority pedestrian focus area recommendations. The County will use the bikeway project recommendations to promote regional connectivity and to work with local jurisdictions to ensure continuity across local boundary lines. The pedestrian focus area improvement recommendations are context-sensitive to the different character areas of the unincorporated County and present engineering best practices for pedestrian safety and access that can be applied elsewhere within the County. The County will be identifying and seeking future funding opportunities to get projects on the ground. Phase 2 community engagement combined both in-person and virtual outreach due to COVID-19 Shelter in Place guidelines, which began in March 2020. This hybrid approach consisted of:

- **Three pop-up stations**, where community members provided feedback on the draft project recommendations, priorities in building out the active transportation network, and types of pedestrian changes they'd like to see. Additional pop-up stations, as well as two in-person community workshops, were planned for this second phase of outreach, however due to COVID-19 guidelines, these events were replaced with online outreach.
- A three-week **virtual open house** consisting of a second **online survey** and an **online map**. This online open house asked the same questions as the pop-up stations and community workshops, allowing community members that were unable to attend in-person events to provide feedback virtually. Community members were also invited to provide more in-depth feedback via email. Feedback from the Phase 2 pop-up stations and virtual open house were used to refine and prioritize projects.
- Direct outreach to low-income, Spanish-speaking communities in North Fair Oaks and on the coastside through **presentations at existing community meetings** and distribution of **paper and online surveys**.
- Presentations at **one Technical Advisory Committee meeting** and **two Bicycle and Pedestrian Advisory Committee meetings**.

PHASE 3: IMPLEMENTATION STRATEGY & DRAFT PLAN

During Phase 3, technical work and community and stakeholder feedback from prior phases was reviewed and incorporated into the Draft Plan and presented to the community. During this phase, the Plan team also developed an implementation strategy that identified: evaluation criteria for prioritizing projects; implementation methods and trade-offs; planning-level preliminary cost assumptions for infrastructure facility types, operations and maintenance and support programs; and potential funding opportunities. Community and stakeholder feedback received during Phase 3 was reviewed and incorporated into the final Plan document. COVID-19 guidelines resulted in Phase 3 outreach activities being conducted exclusively online, like the second half of Phase 2 community engagement. Phase 3 community engagement consisted of:

- An **online interactive PDF** and **comment box** on the website for community members to read through the Draft Plan, provide comments, and ask questions.
- Two **virtual pop-in meetings** and a **Facebook Live** event, during which staff presented an overview of the Plan document to community members and answered any questions.
- Direct outreach to low-income, Spanish-speaking communities in North Fair Oaks and on the coastside through **presentations at existing community meetings and a Facebook Live** event held in Spanish in coordination with Community-Based Organizations in North Fair Oaks.
- Presentations at **one Technical Advisory Committee meeting** and **two Bicycle and Pedestrian Advisory Committee meetings**.



CHAPTER 2: PLAN GOALS AND OBJECTIVES



The Unincorporated San Mateo County Active Transportation Plan (Plan) goals and associated objectives provide a robust framework for improving walking and bicycling conditions and encouraging more people to use active transportation within the unincorporated areas of San Mateo County. The goals and objectives guide the development of the active transportation network recommendations so that the network better serves people commuting to work or school, running errands, and riding or walking for recreation. The goals and objectives will lay the foundation for a transportation system that accommodates users of all ages and abilities, including children, older adults, and people with disabilities.

ADOPTED PLANS AND POLICIES

Existing adopted County plans have informed the development of the goals and objectives presented in this Plan. The primary plans governing transportation in the unincorporated areas of San Mateo County include the San Mateo County Comprehensive Bicycle and Pedestrian Plan (2011, with an update in progress), the San Mateo Countywide Transportation Plan (2017), the County of San Mateo General Plan (2013), and the San Mateo County Trails Plan (2001). Other area plans that include active transportation recommendations include the Connect the Coastside Plan (forthcoming), the North Fair Oaks Community Plan (2011), and the San Mateo County Green Infrastructure Plan (2019). Additional forthcoming plans that will influence active transportation in San Mateo County include Plan Bay Area 2050, the Metropolitan Transportation Commission's Regional Active Transportation Plan, and Caltrans' District 4 Pedestrian Plan.

This Plan is the County's first active transportation plan for the unincorporated areas. For more detailed information about the plans and policies discussed below, as well as other local, regional and State plans that address active transportation, refer to *Appendix B*.

The **San Mateo County Comprehensive Bicycle and Pedestrian Plan (2011)** has laid the groundwork for bicycle and pedestrian planning in San Mateo County for nearly a decade by identifying a vision, goals, objectives, policies, and actions that guide bicycle and pedestrian planning region-wide. The 2011 Plan also prioritizes bikeway projects needed to complete the Countywide Bikeway Network and prioritizes pedestrian projects in identified focus areas. The Plan provides a clear vision for active transportation in the county with intentions to improve public health, promote higher density, increase access to transit, increase environmental sustainability, and increase access to walking and bicycling facilities. The plan includes five goals each with specific policies related to developing a system of facilities for bicyclists and pedestrians, increasing the active transportation mode share, improving safety for people walking and bicycling, routine accommodations of Complete Streets principles, and encouraging strong local support for active transportation. This plan is currently being updated and is anticipated to be completed in Winter 2021.

The **San Mateo County Transportation Plan for 2040 (SMCTP 2040) (2017)** is a long-range, comprehensive transportation planning document that presents a coordinated planning framework and establishes a systematic transportation planning process for identifying and resolving transportation issues region-wide. SMCTP 2040 is intended to articulate clear transportation planning objectives and policies and to promote consistency and compatibility among all transportation plans and programs within the county's twenty-one jurisdictions. The central vision statement for the SMCTP 2040 focuses on the importance of providing a transportation system that supports the economic and environmental needs of the community and is socially sustainable. The vision is accompanied by goals and policies for bicycle and pedestrian planning.

The **County of San Mateo General Plan (2013)** includes a Transportation chapter, which outlines countywide goals and policies related to transportation, emphasizing the importance of safety, efficiency, and convenience. It also promotes Complete Streets and presents seven policies explicitly related to bicycle and pedestrian facilities.

The **San Mateo County Trails Plan (2001)** builds on the trail policies from the County's *General Plan*. This 2001 plan identifies 167 miles of existing recreational trails in San Mateo County and presents over 300 miles of proposed trails. While the Unincorporated San Mateo County Active Transportation Plan is focused on sidewalks,

on-street facilities, and shared use paths, it includes recommendations to improve access to and amenities at trailheads and design guidance for recreational trail facilities, and does not preclude the possibility of future trails to supplement the recommended network.

VISIONARY REGIONAL PLANNING PRIORITIES

There are a number of significant, high profile, visionary and transformative countywide/regional active transportation planning efforts that intersect with unincorporated County communities and have the potential to improve opportunities for recreation as well as connectivity for pedestrians and bicyclists countywide. Most of these projects will require further study and coordination with other agencies prior to implementation and may be considered longer-term projects. There are implementation challenges associated with most of these efforts, which may include, but aren't limited to: constraints associated with right of way, environmental impacts, multi-agency coordination, funding, and/or political support. Many of these planning corridors were specifically identified by community members and stakeholders during the Plan process as some of the highest priority projects in the county. The following is a list of these efforts:

The Dumbarton Corridor Trail is a proposed shared use path being considered within the Dumbarton Rail Corridor, which is owned by the San Mateo County Transit District (SamTrans) and offers direct links to potential future transit stations along it. It traverses the urban unincorporated community of North Fair Oaks from Middlefield Road to Marsh Road, and extends to the San Francisco Bay Trail and over the rail bridge to the East Bay beyond. The trail would vastly improve cross-community access and connectivity within North Fair Oaks and other nearby Communities of Concern (as identified by the Metropolitan Transportation Commission) including the Belle Haven neighborhood in East Menlo Park and East Palo Alto. Portions of the Dumbarton Corridor Trail on the urban bayside of the Peninsula are also envisioned to be part of the larger Bay to Sea Trail alignment, which is discussed below.

The San Mateo County BPAC passed a motion at its May 2020 meeting that a pedestrian/bicycle path on the Dumbarton Corridor be a prominent part of this Plan, as it is a key high priority project. The consideration of this shared use path would need to be addressed as part of the environmental review for the Dumbarton Rail Corridor Project, in partnership with SamTrans for use of any land within its right of way.

The Bay to Sea Trail is a planned 40-mile multi-use trail that would be the first east-west connection between the Pacific Ocean in Half Moon Bay and the San Francisco Bay in East Palo Alto and Redwood City. This is a critical project in building out the regional trail network. A segment of this trail envisions utilizing the Dumbarton Rail Corridor for urban bayside access. While portions of this trail may be unpaved and part of the off-street trail system, other portions may follow segments of the on-street bikeway network proposed in this Plan.

The Grand Boulevard Initiative and associated El Camino Real Corridor Studies consider the provision of pedestrian improvements and a continuous, north-south bicycle facility on the Peninsula. The Grand Boulevard Initiative is a collaborative bringing together all of the agencies responsible for the condition, use and performance of El Camino Real from Daly City in the north to San Jose in the south. Jurisdictions such as Redwood City, Palo Alto, and the Town of Colma have conducted multi-modal corridor studies of El Camino Real and are in various stages of implementing bicycle and pedestrian improvements. The County is part of this collaborative as portions of El Camino Real between Daly City and Colma and in North Fair Oaks are in unincorporated areas. These segments of El Camino Real are part of the Unincorporated San Mateo County Active Transportation Plan's proposed bikeway network.

The Midcoast Multimodal "Parallel" Trail is a planned shared use path along the east side of State Route 1 through the unincorporated Midcoast communities connecting Montara with Half Moon Bay. The Parallel Trail is a high priority project envisioned by the community in the Highway 1 Safety and Mobility Study and further explored in the Connect the Coastside Plan, Comprehensive Transportation Management Plan for the Midcoast. The Parallel Trail will provide a critical active transportation link for Midcoast residents and visitors, and a viable transportation alternative to the automobile for people of all ages and abilities as they travel to destinations along

the Coastsides, connecting with the Naomi Patridge Trail in Half Moon Bay to the south. The first segment of the trail from Mirada Road to Coronado Street is planned for construction in 2021. Additional Parallel Trail segments as identified in the Connect the Coastsides Plan are included in this Plan's proposed bikeway network. Portions of the Parallel Trail share the same alignment as the California Coastal Trail.

The California Coastal Trail is a 1,200-mile trail proposed to run along the California coast through all 15 coastal counties in the state. Some portions of the trail are may be unpaved and part of the off-street trail system along the beach, while others are proposed as shared use paths and bikeways on State Route 1 right of way. Portions of the Midcoast Multimodal Trail, as well as the Ohlone-Portola Heritage Trail, may share the same alignment of the California Coastal Trail.

The Crystal Springs Regional Trail is a highly-utilized recreational shared use path that runs from the hills above San Bruno to State Route 92 at Canada Road. This trail continues on Canada Road where it is closed to automobile traffic for extended hours every Sunday from Highway 92 to the Town of Woodside. A completed Crystal Springs Regional trail is envisioned in the San Mateo County Trails Master Plan (2001) and the 2019 Ohlone-Portola Heritage Trail Feasibility Study, and would close a critical one-mile gap between the South of Dam Trail segment and Canada Road.

A 2019 San Mateo County Civil Grand Jury report emphasized the need to investigate options for how to complete the trail as part of a multi-agency effort. One of the options outlined in the report for consideration is a bi-directional multi-use path along the west side of Lower Skyline Road (State Route 35) and State Route 92 within Caltrans right of way from the terminus of the existing trail, which is included in this Plan's bicycle network recommendations.

The San Francisco Bay Trail is a planned 500-mile shared use path that will ultimately encircle the entire San Francisco Bay, running through nine Bay Area counties, 47 cities and across the region's seven toll bridges. Over 350 miles of the Bay Trail exist as of 2020, which include both paved and unpaved sections, and connect communities to parks, open spaces, schools, transit and to each other. Portions of the Bay Trail serve as both a recreation and an alternative commute corridor. There is an existing gap in this trail by the San Francisco International Airport (SFO), which is part of the unincorporated County. As of 2020, the Association of Bay Area Governments (ABAG) will be leading a forthcoming study to consider alignment options in the vicinity of SFO. A number of proposed bikeways in other areas of the County's unincorporated bicycle network, such as the Dumbarton Corridor Trail, may ultimately connect to this regional trail.

The Bay Area Ridge Trail is a planned continuous 550-mile multi-use recreational trail encircling the ridges throughout the Bay Area to create a greenbelt linking regional parks throughout the nine Bay Area counties. Over 390 miles of trails have been completed and opened to the public, stretching from Calistoga in the North Bay to Gilroy in the South Bay with over 75 percent of dedicated trails open to equestrian and bike usage. Major sections of this trail in San Mateo County are intended to be unpaved and part of the off-street trail system. Portions of this trail in the unincorporated County follow State Route 35, which is proposed as a rural bicycle route with wide shoulders, and adjacent parks and open space preserves can be accessed from it.

GOALS AND OBJECTIVES

Goals are broad expressions of a long-term vision that guide the Plan and express the intended direction for bicycle and pedestrian network investments. **Objectives** are specific statements of how to accomplish the goals and can be used to derive specific targets to measure the attainment of a specific goal. **Metrics** have been developed to help County staff and community members track progress towards the objectives over the life of the Plan and better understand how different programs, projects, and policies align with Plan goals. The metrics are a combination of process measures, which seek to track implementation actions, and performance measures, which are big-picture indicators that evaluate the outcomes of these actions. The Plan's goals, objectives and metrics are based on input from San Mateo County staff, best practices, and guidance from adopted plans.



ACCESS



SAFETY



EQUITY



MODE SHARE



FLEXIBILITY

ACCESS

Improve walking and bicycling facilities so that residents and visitors of all ages and abilities can comfortably access key destinations.

Objectives

- » Develop walking and bicycling facilities that are easy to understand and navigate.
- » Increase walking and bicycling connections to improve conditions for people traveling within and between communities.
- » Maintain a network of bicycle and pedestrian facilities that help people reach key destinations, such as schools, community centers, jobs, transit, parks, and trails.
- » Provide safe and comfortable crossings and connections across barriers (e.g., freeways, railways, waterways, and major arterials) to bridge gaps in the walking and biking networks.

Process and Performance Metrics

- » Number of new projects connecting to key destinations
- » Number of intersection improvements or barrier-crossing enhancement projects completed

SAFETY

Improve safety for people walking and bicycling.

Objectives

- » Reduce rate and severity of injuries among people walking, bicycling, and using other personal mobility devices.
- » Proactively install, and continue to maintain, quick build and high-quality permanent walking and bicycling facilities to improve roadway safety considering near and long term resources.
- » Analyze crash data to detect patterns and integrate the results into decision making processes.
- » Encourage safe roadway behavior through roadway design, education, and engagement.

Process and Performance Metrics

- » Number of traffic calming projects, including those that are quick build and permanent, and slow zones implemented or established
- » Number of Safe Routes to School (SRTS) infrastructure projects implemented
- » Reduction in average speeds where traffic calming has been implemented
- » Reduction in number of serious injury and fatal bicycle and pedestrian collisions

EQUITY

Provide equitable access to transportation investments and improve mobility for all.

Objectives

- » Proactively identify and prioritize the implementation of projects that provide equitable access to transportation improvements and amenities, including facilities and programs.
- » Increase positive health outcomes through the design and encouragement of safe and user-friendly walking and bicycling facilities and behaviors.
- » Implement and support equitable and inclusive walking and bicycling programs, initiatives, and outreach.
- » Eliminate any disproportionate impacts of enforcement on people of color.

Process and Performance Metrics

- » Number or percentage of projects implemented in or serving disadvantaged or low-income communities
- » Number or percentage of programs and activities conducted or supported, including SRTS activities, targeting disadvantaged or low-income communities
- » Increase in percentage of disadvantaged or low-income community households within ¼ mile of an All Ages and Abilities bicycle facility
- » Reduction in percentage of people of color stopped or cited by police while riding a bike or walking

MODE SHARE

Increase the share of people walking, bicycling, and accessing transit for all trip purposes to reduce congestion and greenhouse gas emissions, and to improve public health outcomes.

Objectives

- » Improve access to key destinations such as transit stops and stations, schools, community centers, shopping and jobs, and parks via connected bicycle and pedestrian facilities as an alternative to single occupancy vehicle trips.
- » Provide end-of-trip and supportive amenities such as bicycle parking, wayfinding, fix-it stations, etc.
- » Encourage walking and bicycling through infrastructure projects and support programs.
- » Reduce motor vehicle congestion and per capita greenhouse gas emissions and increase the number of mobility options available to unincorporated county residents.

Process and Performance Metrics

- » Number of bicycle and pedestrian education and encouragement events conducted or supported
- » Number of support facilities (e.g., bicycle storage facilities, wayside fix-it stations) installed
- » Increase in bicycle and pedestrian counts post-project implementation
- » Increase in share of bicyclists and pedestrians traveling to work and to school

FLEXIBILITY

Create a resilient and flexible transportation network that supports a variety of modes of transportation and can adapt to changes in land use, infrastructure, and transportation technologies over time, including new micro-mobility solutions.

Objectives

- » Align with neighboring jurisdictions and special districts on active transportation project planning and implementation to promote network connectivity across jurisdictional boundaries.
- » Ensure ongoing coordination with land use development and infrastructure projects to maximize opportunities for active transportation facility implementation.
- » Stay current on and support new mobility options (e.g., electric-assist bicycles, scooters, and other personal mobility devices) and contribute to coordination between local and regional agencies to provide seamless, equitable travel options throughout the county.
- » Promote cost-effective first-/last-mile transportation demand management solutions that incorporate active mobility
- » Seek opportunities to adapt sidewalk and street design to support social distancing needs brought on by COVID-19
- » During project development and implementation, endeavor to provide the highest quality active transportation facility that is feasible, context-sensitive, and furthers both the goals of this Plan as well as community priorities learned through robust project-based outreach

Process and Performance Metrics

- » Number of projects connecting to facilities and destinations in adjacent jurisdictions
- » Number of projects that provide first and last mile connections to transit
- » Shared active mobility system elements implemented, including percentage of system elements located in or available in/serving disadvantaged and low-income communities



CHAPTER 3: BICYCLE RECOMMENDATIONS



The bicycle infrastructure recommendations presented in this chapter reflect the Plan goals of a safe, more connected on-street bicycle network by recommending contextually appropriate bicycle facilities including shared use paths, separated bike lanes, bicycle boulevards, bicycle routes, and other low-stress facilities throughout the unincorporated areas of San Mateo County. To help provide a more user-friendly environment for bicyclists, support facilities such as bicycle parking and wayfinding signage are recommended to complement the bicycle network.

PLANNING CONTEXT

Bicycling opportunities differ depending on the area of the county and its development pattern. Among both the urban and rural unincorporated communities, there are a limited number of signed, shared roadways and designated bikeways. In some areas, the long travel distances and high-speed roads make bicycling challenging. Despite these challenges, there is a strong interest and potential latent demand for bicycling as a first/last mile commute options should appropriate facilities be provided. Bicycle commute trips occur today throughout the County for access to jobs, schools, transit and other essential living needs.

In addition to bicycling for transportation, recreational bicycling is also a popular activity and an important element to plan for in the on-street network, given that it accounts for a large share of existing trips, particularly in rural, scenic areas of the County. Recreational riders include:

- Confident recreational road bicyclists who typically take longer rides along rural roads and are comfortable riding near higher-speed, higher-volume traffic, and on narrow winding roads with steep grades,
- Mountain bikers/gravel riders who ride on the unpaved trails, and
- Those who ride on low-stress facilities in their local neighborhoods and at recreation destinations on shared use paths, including individuals, groups, or families who ride for enjoyment and exercise but are not comfortable riding near higher-speed, higher-volume traffic.

SERVING ALL TYPES OF BICYCLISTS

One of the key purposes of the Plan is to improve walking and bicycling conditions for people of all ages and abilities, and for all trip purposes, as is highlighted in the Plan's "Access" and "Mode Share" goals. San Mateo County can accomplish this through the creation of a bikeway network suitable not just for commuters or recreational cyclists but designed to be comfortable for bicyclists of any age or skill level.

Many factors contribute to a person's willingness to ride a bicycle, with a major factor being a person's perception of safety and comfort. In general, people often feel uncomfortable when bicycling adjacent to high-traffic and high-speed roadways or crossing busy intersections with little or no separation from vehicles. This sentiment was expressed by many unincorporated area community members during Plan outreach. Research shows that most people feel safer and more comfortable riding on streets with the following characteristics:

- Low vehicle speeds (typically ≤ 25 mph), for both public and private streets
- Low traffic volumes (typically $< 8,500$ vehicles per day for bicycle lanes and $< 3,500$ vehicles per day for bicycle boulevards/bicycle routes)
- Streets with only one lane in each direction
- Greater separation from traffic (when speeds and volumes are higher)
- Wider bicycle facilities
- Smaller intersections

When potential riders consider their route to a destination, many will choose not to bicycle if they are concerned about their safety along the route.² Transportation practitioners typically categorize bicycle riders and the level of stress they can tolerate (**Figure 2**) along a spectrum. This framework of stress and rider type was used to assess the existing bicycle network within the unincorporated areas of the county and evaluate how comfortable existing facilities are likely to be for the full spectrum of bicyclists.

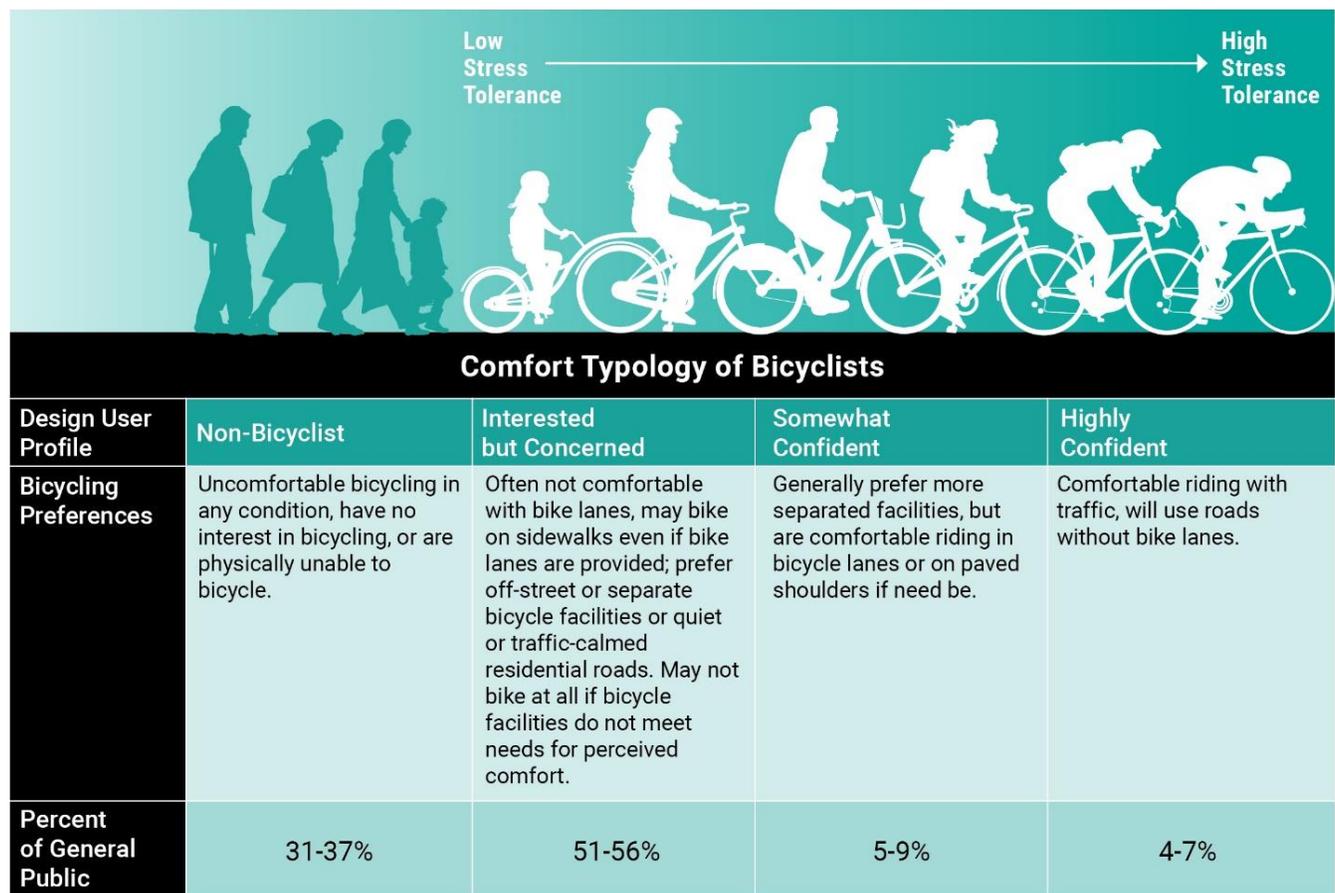


Figure 2: Comfort Typology of Bicyclists¹

²Dill, J. McNeil, N. "Revisiting the Four Types of Cyclists: Findings from a National Survey" Transportation Research Board 95th Annual Meeting, 2016. Note that children and elderly have not been surveyed as a separate category but are understood to have a very low tolerance of roadway stress.

BICYCLE FACILITY CLASSIFICATIONS

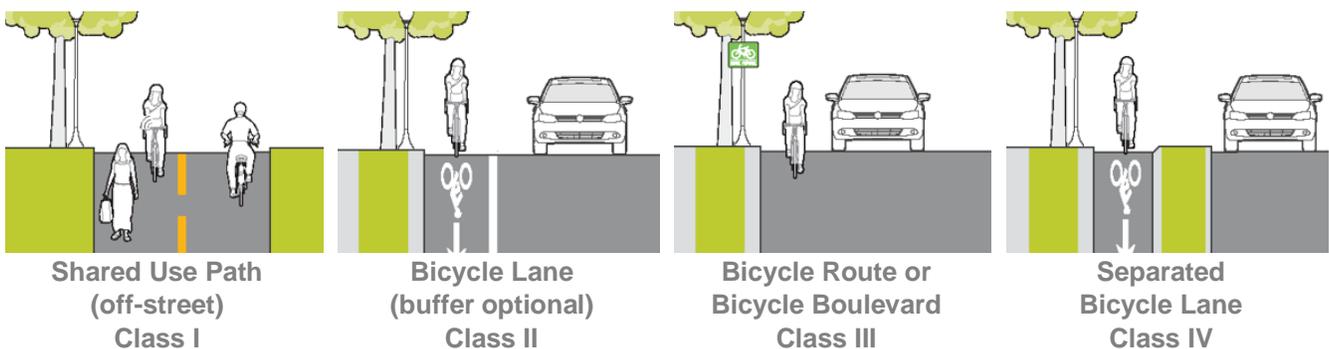
California has four primary bikeway classifications as defined by the California Manual of Uniform Traffic Control Devices (CAMUTCD): Class I, II, III, and IV. In general, facilities with a greater amount of separation between motor vehicles and bicyclists (Class I and Class IV) are better suited for areas with higher traffic volumes and/or vehicle speeds, or where anticipated riders are families or people who may not feel comfortable riding in shared traffic lanes. The following facility types reflect existing bikeways as well as new ones identified in this Plan.

Shared use paths (Class I; also known as “trails” and often called “bike paths” or “multi use paths”) are off-street, two-way paved facilities that provide robust separation from motor vehicles. Shared use paths are used by bicyclists, pedestrians, and other non-motorized users. Interactions with vehicles are limited to roadway crossings. Due to separation from vehicular traffic, these facilities provide a low-stress environment for bicyclists and other users.

Bicycle lanes (Class II) provide an exclusive space for bicyclists to operate on the roadway. They are striped adjacent to vehicle travel lanes, delineated by a solid white line. Bike lanes may be painted green for increased visibility. **Buffered bicycle lanes**, like bike lanes, provide an exclusive space for bicyclists to operate on the roadway. Buffered bike lanes provide additional horizontal separation between vehicle travel lanes and bicyclists via a painted buffer. Buffered bicycle lanes may be painted green for increased visibility.

Bicycle routes (Class III) designate certain roadways as preferred bicycle roads, where bicyclists share the road with drivers. In general, wider shoulders are recommended for rural bicycle routes with relatively higher motor vehicle volumes and speeds, such as state highways, and bicyclists share the lane with relatively lower motor vehicle volume and speeds as depicted in **Figure 11: FHWA’s Preferred Shoulder Widths for Rural Roadways**. They typically include wayfinding signage for bicyclists as well as additional signage to increase driver awareness to the potential presence of bicyclists (e.g., Share the Road signage or Bicyclists May Use Full Lane signage: see the CAMUTCD for further guidance, project-specific signage and location is to be evaluated and determined by engineering staff). These roads may provide important connections for bicyclists but lack sufficient space in the right of way for designated bicycle facilities like Class II or Class IV facilities, but have higher traffic volumes or traffic speeds that make them unsuitable for consideration as bicycle boulevards. **Bicycle boulevards** are a specific type of bicycle route. They are often found on low-speed, low- volume neighborhood streets with traffic calming enhancements, and are often used as parallel options when high-speed and high-volume roadways cannot accommodate a low-stress bikeway. **Rural bicycle routes** are another type of bicycle route that usually feature wide, paved shoulders, striping, and intermittent rumble strips to provide a flexible space for bicyclists (and often pedestrians) to travel in the absence of other facilities on rural roads or highways.

Separated bicycle lanes (Class IV), also known as protected bicycle lanes, are dedicated bike facilities that provide the experience of a Class I shared use path but are located on-street. Separated bicycle lanes provide more robust physical separation between bicyclists and motor vehicles than Class II facilities. Separated bike lanes always include vertical separation, parked vehicles, raised concrete curbs, planters, or posts, as well as horizontal separation, like a striped buffer or landscaped area.



EXISTING CONDITIONS

Unincorporated San Mateo County’s bicycle network consists of bike lanes, bike routes, and trails. Some bikeways, such as the California Coastal Trail, are enjoyable for people of all ages and abilities to use. Other facilities, such as signed bike routes along major arterials with high traffic volumes and speeds, can be stressful for even the most experienced riders.

Table 1 provides an overview of the existing bicycle network in unincorporated San Mateo County. **Figure 4** contains an overview map of this existing bicycle network; more detailed maps can be found in *Appendix B*. There are no existing bike boulevards or separated bike lanes unincorporated San Mateo County. The unincorporated areas have a total of 52 miles of designated bikeways.



Figure 3: The California Coastal Trail, a Class I shared use path along the coast

Table 1: Existing Bicycle Network

Bikeway Type	Existing Mileage
Class I Shared Use Path	14.7
Class II Bicycle Lane	31.6
Class II Buffered Bicycle Lane	0.8
Class III Bicycle Boulevard	-
Class III Bicycle Route	5.3
Class III Rural Bicycle Route	-
Class IV Separated Bicycle Lane	-
Total	52.4

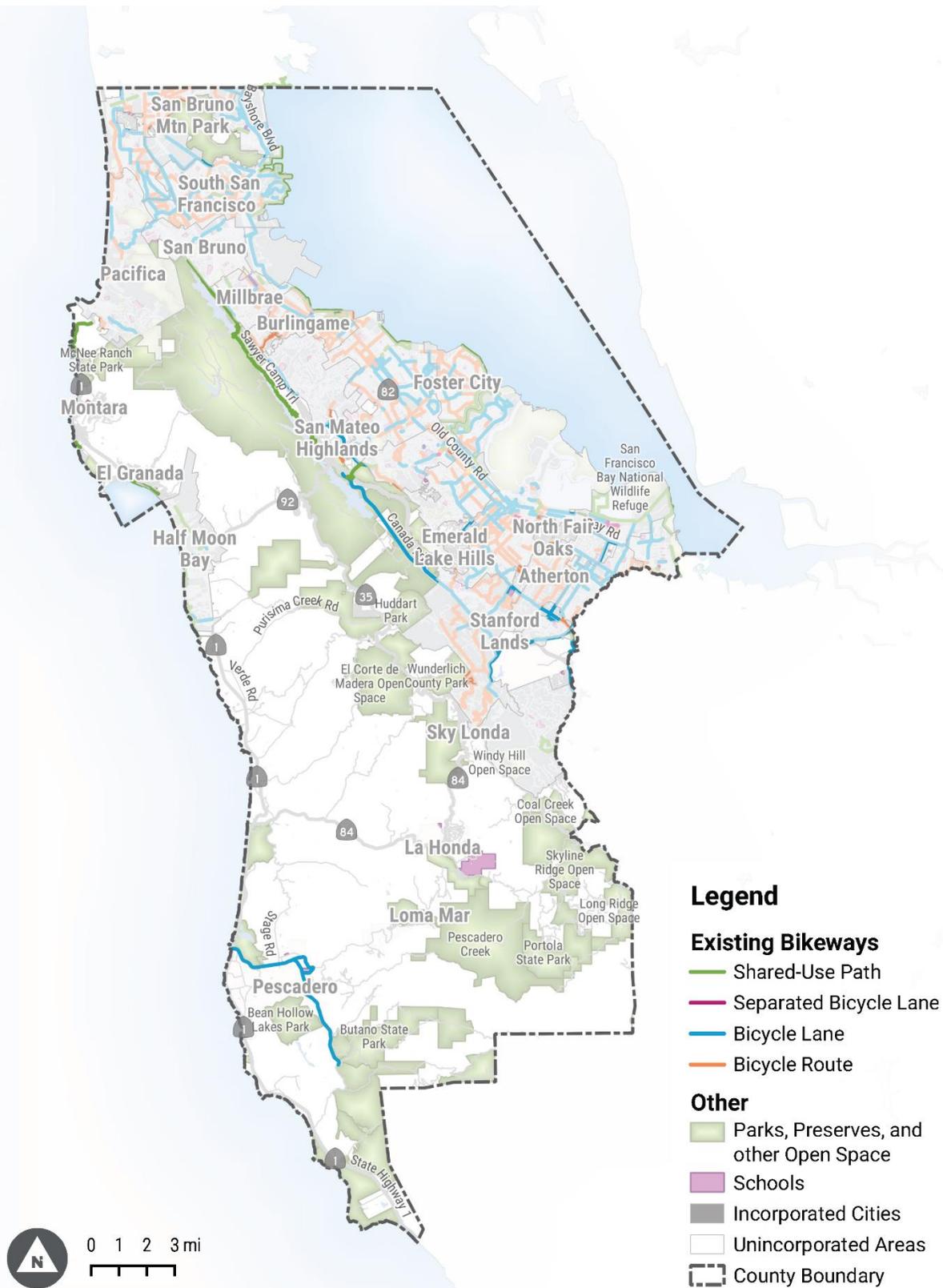


Figure 4: Existing Bicycle Network

Collision Analysis

One of the Plan goals is to improve safety in unincorporated areas of the county by reducing the rate and severity of injuries incurred by people walking, bicycling, and rolling, including people using wheelchairs or scooters. Understanding the existing safety conditions and high-injury locations can support decisions for the funding and construction of projects. The data used in this analysis draws on five years of collision data (2013 – 2017) in unincorporated areas of the county from the University of California’s Transportation Injury Mapping System (TIMS), as mapped in **Figure 8**. This analysis only includes collisions reported to law enforcement and collisions where an injury was recorded; it’s important to note that there are likely non-injury bicycle collisions that occurred and were not reported.

Over the five-year analysis period, there were 183 bicycle collisions, resulting in 179 injuries and four deaths (**Figure 5**). These collisions include only reported injury collisions. Bicycle collisions had a higher severity rate than pedestrian collisions: 73 percent of bicycle collisions resulted in visible injury or death, compared to 54 percent of pedestrian collisions.

Of the bicycle collisions analyzed, 56 percent involved a motor vehicle. While all four fatal collisions involved a motor vehicle, severe injury collisions were a combination of motor-vehicle-involved and bicycle-only collisions. The severe bicycle-only collisions include those occurring on weekends, when the high speed of recreational riders on San Mateo County’s hilly roads may contribute to the severity of injuries.

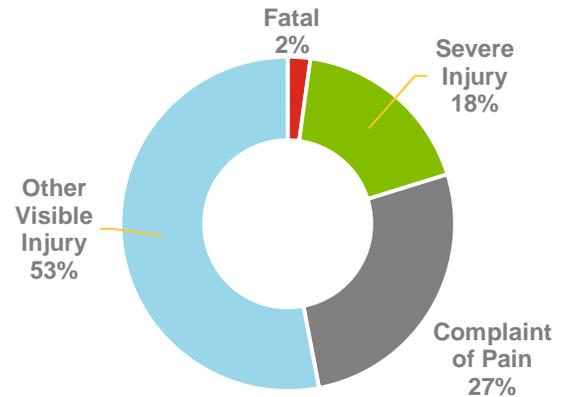


Figure 5: Bicycle Collision Severity

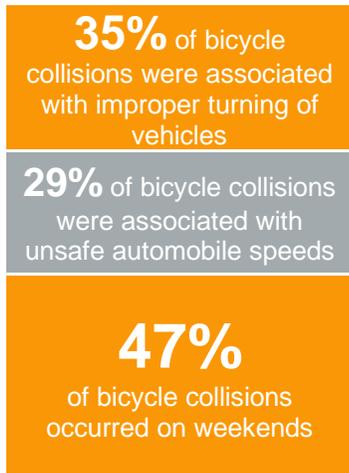


Figure 6: Key Bicycle Collision Trends

The most common bicycle collision factors were “improper turning” and “unsafe speed” of automobiles, accounting for over 60 percent of bicycle collisions. Other common violations include violations of the automobile right of way and riding on the wrong side of the road. Over 35 percent of bicycle collisions were associated with “improper turning”, such as a “right hook” when a driver turns right without checking and/or yielding to bicyclists in the bike lane. An additional 29 percent of bicycle collisions were caused by unsafe speeds.

Nearly half of all bicycle collisions occurred on a Saturday or Sunday. The results of the bicycle collision analysis suggest that San Mateo County should implement programmatic and design projects to increase bicyclist safety in areas where both transportation and recreational riding are anticipated. Refer to **Chapter 5** for a discussion of recommended safety-related programming and policies. Some of these programs and policies aim to improve roadway safety by educating motorists.

Bicycle collisions occur throughout the unincorporated areas of the county. Locations with more bicycle collisions per square mile than other unincorporated areas are in North Fair Oaks, West Menlo Park, Stanford Lands, and along Canada Road. *It is important to note that the absence of recorded collisions doesn’t necessarily imply that conditions are more conducive to bicycling on a street where collisions have been recorded. Data from TIMS does not account for near misses and only includes reported collisions.*

Figure 8, which details the race and hispanic origin of bicyclist victims involved in crashes, as noted in the collision report, shows that the majority of crash victims are white, followed by Hispanic (16%) and Asian (12%). In total, 68 of the 186 bicycle victims with a designated race were people of color (37%).

Note that races included in the police reports do not cover the full range of ethnic and racial groups that individuals are able to self-report in the context of the U.S. Census, and may be based on officers' judgement, so a direct comparison to the distribution within the population is not possible. In addition, the Statewide Integrated Traffic Records system does not distinguish between race and ethnicity. We recommend interpreting this figure with caution.

The bicycle collisions involving people of color are distributed throughout the unincorporated areas of San Mateo County. There are no clear trends in the distribution of bicycle victims who are people of color except for a large cluster of collisions near North Fair Oaks, West Menlo Park, Stanford Lands, and along Canada Road and Highway 84.

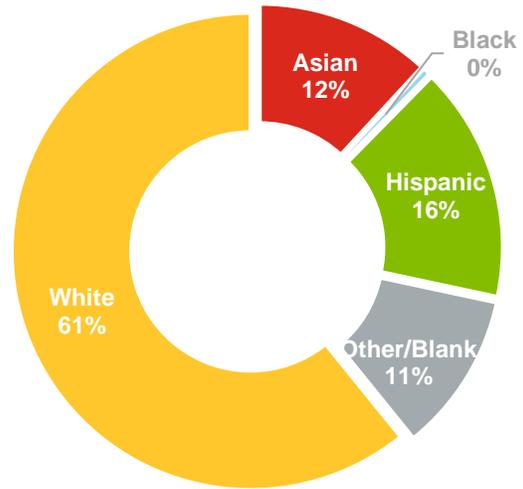


Figure 7: Race of Bicyclists Involved in Collisions

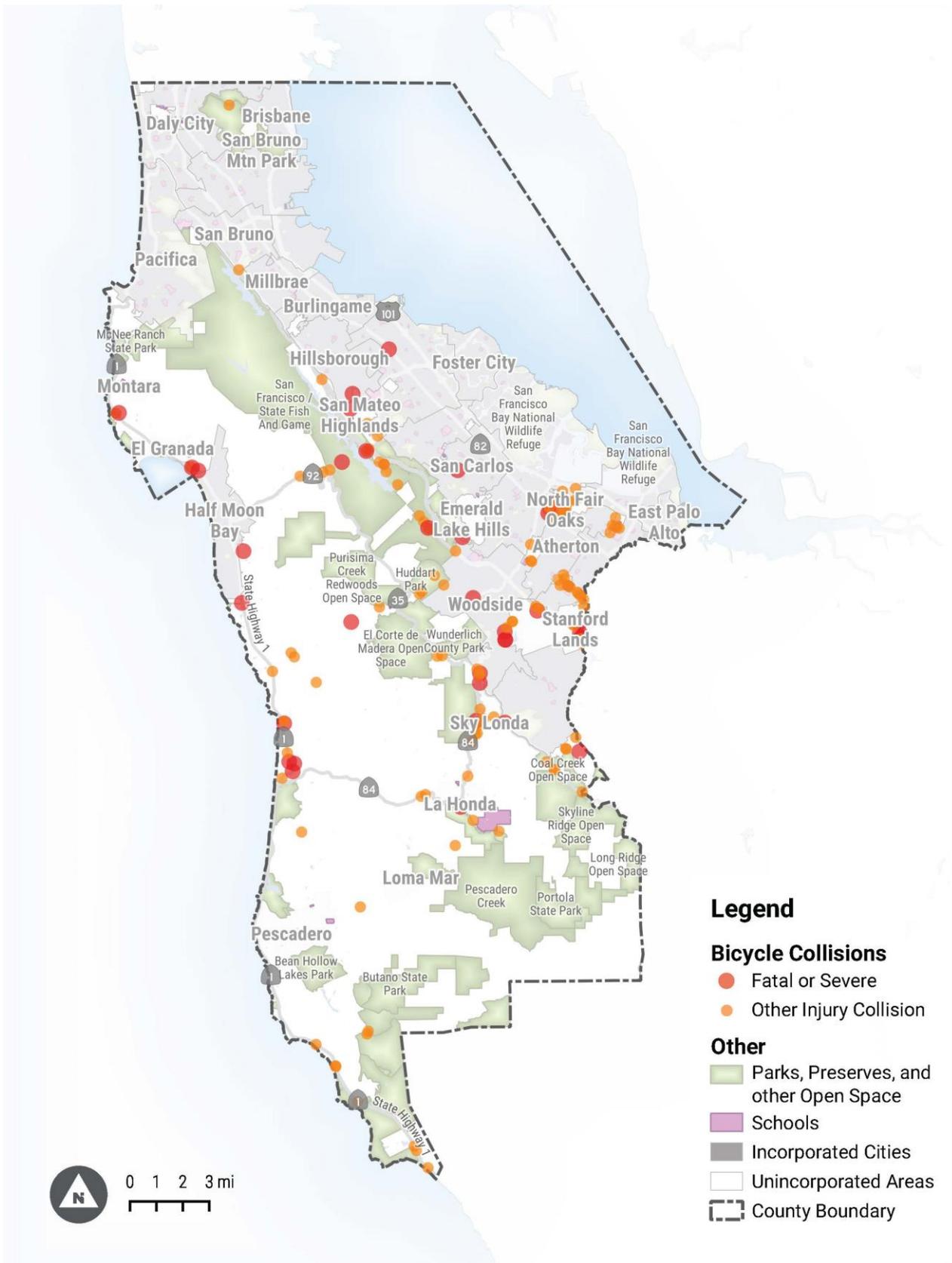


Figure 8: Bicycle Collisions in Unincorporated San Mateo County (2013-2017)

BICYCLE PROJECT RECOMMENDATIONS

NETWORK DEVELOPMENT

The bicycle network is intended to serve the most bicyclists and to prioritize connections to key destinations. The County endeavors to implement the highest quality facility where feasible. The bikeway selection recommendations were subject to several design constraints, including limited right of way and the need for further study that includes community engagement, particularly if the recommendation would require the removal of on-street parking to provide the optimal facility, especially in residential areas.

The Plan team followed four key steps to develop the bicycle network, as shown in **Figure 9**. The first two steps included a potential demand analysis and a gap analysis. These two technical analyses were used to determine where bikeways were most needed, in terms of providing facilities in locations with the highest potential demand, and filling gaps in network connectivity. The third step was informed by the results of the first two steps, as well as the input provided by community members through in-person and online public engagement, to select potential bikeways based on local roadway characteristics. After drafting the bicycle network, the Plan team shared it with the public so that the public could provide feedback on whether the recommendations reflected where and which types of facilities they wanted to ride, and which bikeways they wanted to see prioritized.



Figure 9: Bicycle Network Development Process

Potential Demand Analysis

The potential demand analysis draws upon best practices from academic research to identify areas with high potential for bicycle activity based on development patterns and demographic factors. Note that the analysis is not predictive of actual bicycle activity and focuses on utilitarian trips (e.g., school, work, errands), even though recreational bicycling is very common in the San Mateo County.

The potential demand analysis indicates that there is varied demand throughout San Mateo County, with potential demand concentrated in three areas: in the north near Broadmoor, further south along the coast, and in the bayside communities in the southern part of San Mateo County. The analysis identified six unincorporated areas in San Mateo County with the highest potential demand for bicycling and walking. These areas include:

- North Fair Oaks,
- Broadmoor and unincorporated Colma,
- Sequoia Tract,
- A few Census blocks in Emerald Lake Hills,
- West Menlo Park, and
- Midcoast communities north of Half Moon Bay, stretching from Montara to El Granada.

For more details about the analysis methodology and results, refer to *Appendix B*.

Gap Analysis

The gap analysis identifies areas in unincorporated San Mateo County where bicycle facilities may be lacking or may not match the needs of the local context. This analysis, combined with the potential demand analysis, provides a solid foundation for identifying locations where bikeways are needed and developing a connected bicycle network.

The bicycle network gap analysis identified:

- Spot and segment gaps in the bicycle network;
- Existing high stress bicycle facilities;
- High demand areas that are not connected to the bicycle network; and
- Gaps in bicycle access to key destinations, as identified by community members through the public engagement process and in conjunction with County staff.

Many spot and segment gaps overlap with high stress facilities and high demand areas that are not connected to the bicycle network, although there are some high demand areas without bicycle facility access near Daly City as well as some small areas in the central county. Filling these network gaps will help the County create a more robust, consistent, and connected network. For more details about the gap analysis, refer to *Appendix B*.

Bikeway Selection

The proposed bicycle network was developed by connecting identified gaps, corridors with high concentrations of collisions, community-identified corridors, and remaining gaps. The network was assessed to determine the appropriate and feasible bikeway facility for each roadway.

Several factors influence the bikeway recommendations, including curb-to-curb width, motor vehicle traffic volume, motor vehicle speeds, presence of on-street parking, relative cost, and public support. To guide recommendations, the Bikeway Selection Charts for Urban and Rural roadways were used (see **Figure 10** and **Figure 11**). This guidance comes from the Federal Highway Administration’s *Bikeway Selection Guide (2019)*. Per FHWA recommendations, rural facility recommendations are applied in rural areas outside of town centers, while urban and suburban facility recommendations are applied in all other contexts (urban, suburban, and rural towns). Bikeway recommendations that meet FHWA recommendations per the below charts are considered “All Ages and Abilities” facilities in that they are comfortable for bicyclists of all ages and abilities. Note that most rural bikeways are labeled as Class III Bicycle Routes, even when bicyclists are not expected to travel in a shared lane and can instead ride in the shoulder.

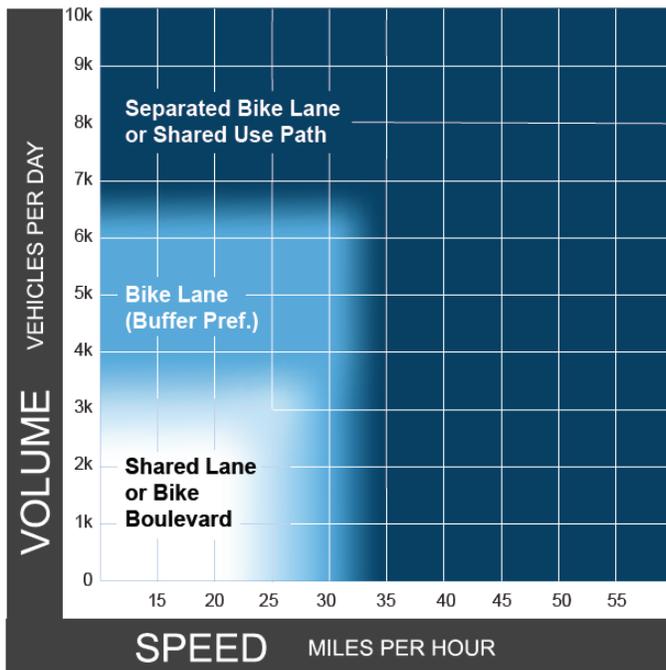


Figure 10: FHWA’s Bikeway Selection Chart for Urban and Suburban Areas

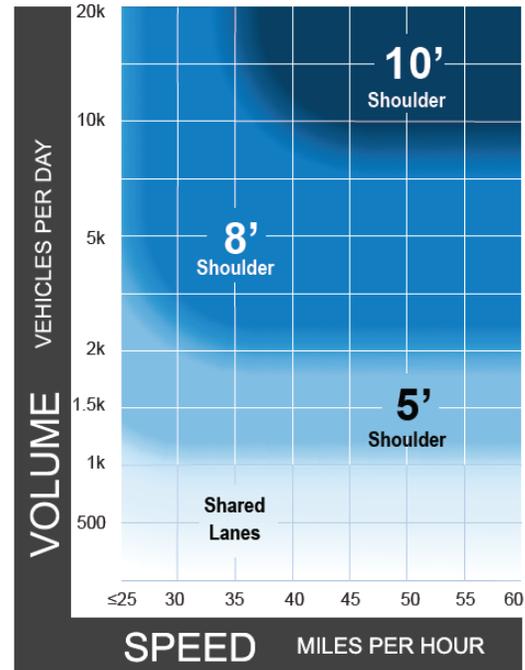


Figure 11: FHWA’s Preferred Shoulder Widths for Rural Roadways

PROPOSED BICYCLE NETWORK

The proposed bicycle network (**Figure 12**) was developed based on community and County staff input, evaluations of existing conditions, and best practices in bicycle network planning and design. See **Figure 13** through **Figure 20** for detailed maps showing the proposed network throughout the county. The proposed network recommends new bikeways and upgrades to existing bikeways to help the County meet the five goals of this Plan. In total, the proposed bicycle network includes 215.5 miles of new and upgraded bikeways to create a comfortable, connected 257.6-mile network serving neighborhoods and destinations throughout the County. The bicycle network recommendations also include projects to support the key, longer-term trail and corridor projects highlighted in the Visionary Regional Planning Priorities discussion in **Chapter 2. Table 2** presents the proposed mileage of each bikeway type. The proposed mileage totals in **Table 2** include proposed new bikeways on streets that currently have no bikeways, plus proposed upgrades to existing bikeways (e.g., from a bike route to a bike lane).

Table 2. Existing and Proposed Bicycle Network Mileage

Bikeway Type	Existing Mileage	Proposed New and Upgraded Mileage	Total Future Mileage
Class I Shared Use Path	14.7	43.4	58.0
Class II Bicycle Lane	31.6	11.9	37.4
Class II Buffered Bicycle Lane	0.8	4.3	5.1
Class III Bicycle Boulevard	-	35.7	35.7
Class III Bicycle Route	5.3	0.1	1.3
Class III Rural Bicycle Route	-	111.4	111.4
Class IV Separated Bicycle Lane	-	8.7	8.7
Total	52.4	215.5	257.6

In general, facilities were only recommended if they fit within the existing curb-to-curb width in order to ease implementation of the recommendations. In some cases, this resulted in facility recommendations requiring roadway widening, which are explicitly noted in the project list. Actions identified to reallocate roadway space to implement facilities include lane diets (i.e., reducing the width of vehicle lanes) and road diets (i.e., reducing the total number of vehicle lanes). Traffic calming is recommended for implementation of all bicycle boulevards, which are often safer and more comfortable than bike lanes. Unlike bicycle lanes, bicycle boulevards do not require additional right-of-way to implement and are a more appropriate treatment on narrow roadways with low traffic volumes. Where possible, bicycle routes should be implemented with an uphill bike lane on routes with significant grades.

In rural areas, which often do not have sidewalks, Class III Bicycle Routes with wide shoulders are recommended over Class II Bike Lanes because they provide space for both bicyclists and pedestrians, whereas Class II Bike Lanes are only designed to serve bicyclists.

Refer to *Appendix D* for project details for each recommended bikeway. Any projects that may require further study due to parking or travel lane removal or environmental, political, or spatial constraints are noted in this project list. As the County identifies projects to begin assessing, designing, and constructing, we will endeavor to provide the highest quality facility that is feasible, context-sensitive, and furthers our goals in transportation, in alignment with the Plan's goal of flexibility.

San Mateo County staff understand that it is equally important to provide cross-county routes and to focus walking and bicycling treatments in denser, more urban areas; one type of route does not preclude the other and both are needed to provide a cohesive network. The forthcoming C/CAG Countywide Bicycle and Pedestrian Plan will provide recommendations for cross-county projects. Some of these routes are also in the unincorporated county,

like SR-35, SR-84, SR-92, and the Grand Boulevard Initiative along El Camino Real. This Plan focuses on the on-street network; however, these recommendations do not preclude the possibility of parallel trails. The County's Trails Master Plan provides alignments of proposed trails and policy guidance for their implementation.

Public Input

During the second phase of public outreach for the Plan, the bicycle network was presented to the public for community members to provide feedback on which bikeway projects they would like to see prioritized in implementation. Figure 21 presents a heat map of feedback received during this outreach. The bicycle project list in Appendix D correspondingly indicates whether a project received strong public support, which will be considered by the County in implementation. Among the corridors that received the highest amount of public support are projects:

- On state routes, including SR-35, SR-92, and SR-1;
- In the San Mateo Highways, including Bunker Hill Drive, Ralston Avenue, and Lexington Avenue;
- Connecting the coastside and bayside of the county, including Tunitas Creek Road and Pescadero Creek Road;
- Providing trail access, like Purisima Creek Road and Higgins Canyon Road;
- On constrained corridors like Middlefield Road, Bay Road, and Fifth Avenue in North Fair Oaks, Santa Cruz Avenue and Alameda de las Pulgas in West Menlo Park, and Coleman Avenue in Menlo Oaks.

There was strong community support for bike facilities along existing fire roads. As stated above, this Plan is not focused on trails and does not include these recommendations but does not preclude the possibility of providing facilities along fire roads, like Crystal Springs Road, in the future. Some of these projects are included in the 2001 Trails Master Plan.



Figure 12: Proposed Bicycle Network

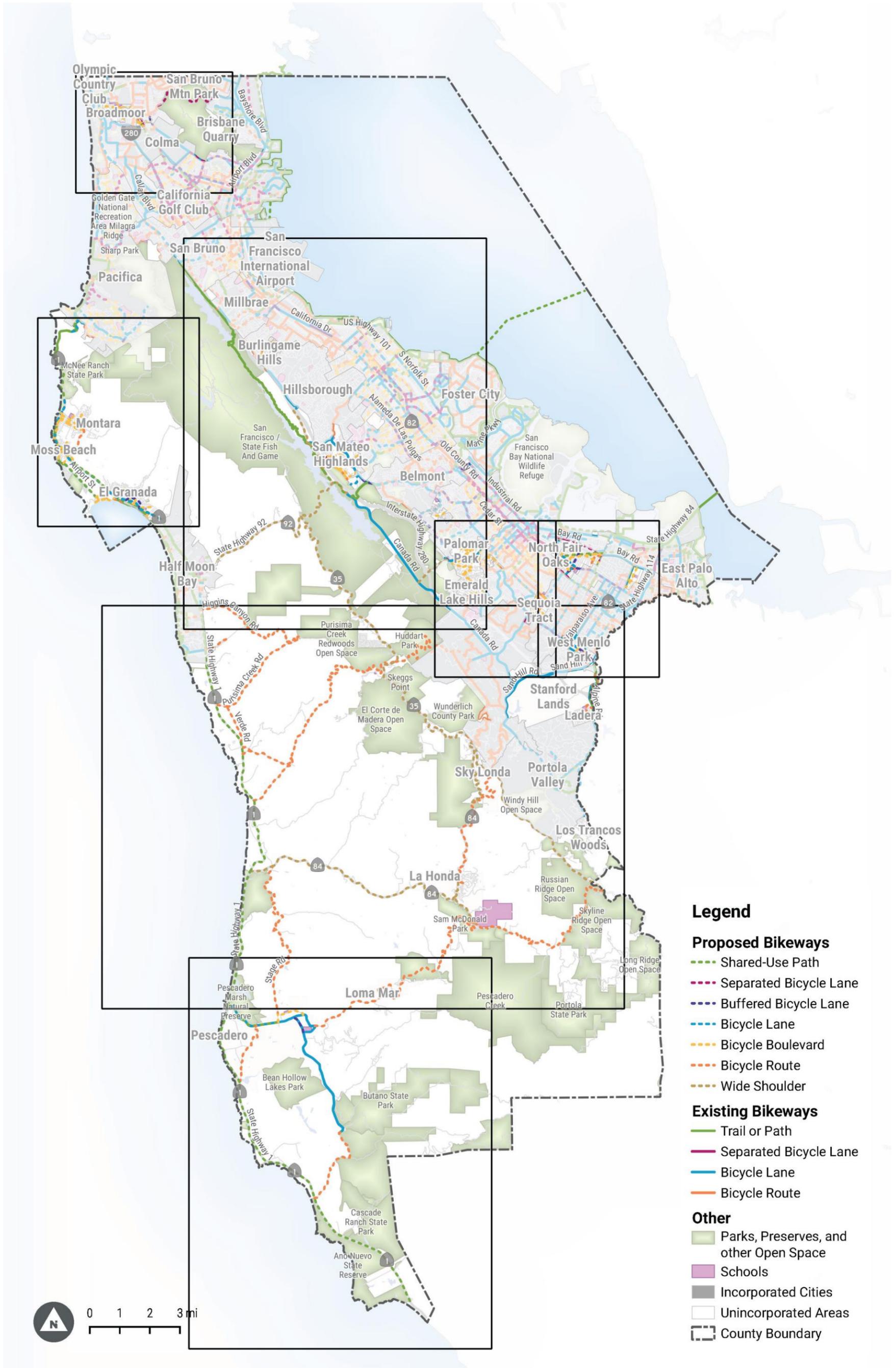


Figure 13: Proposed Bicycle Network - Inset Overview Map

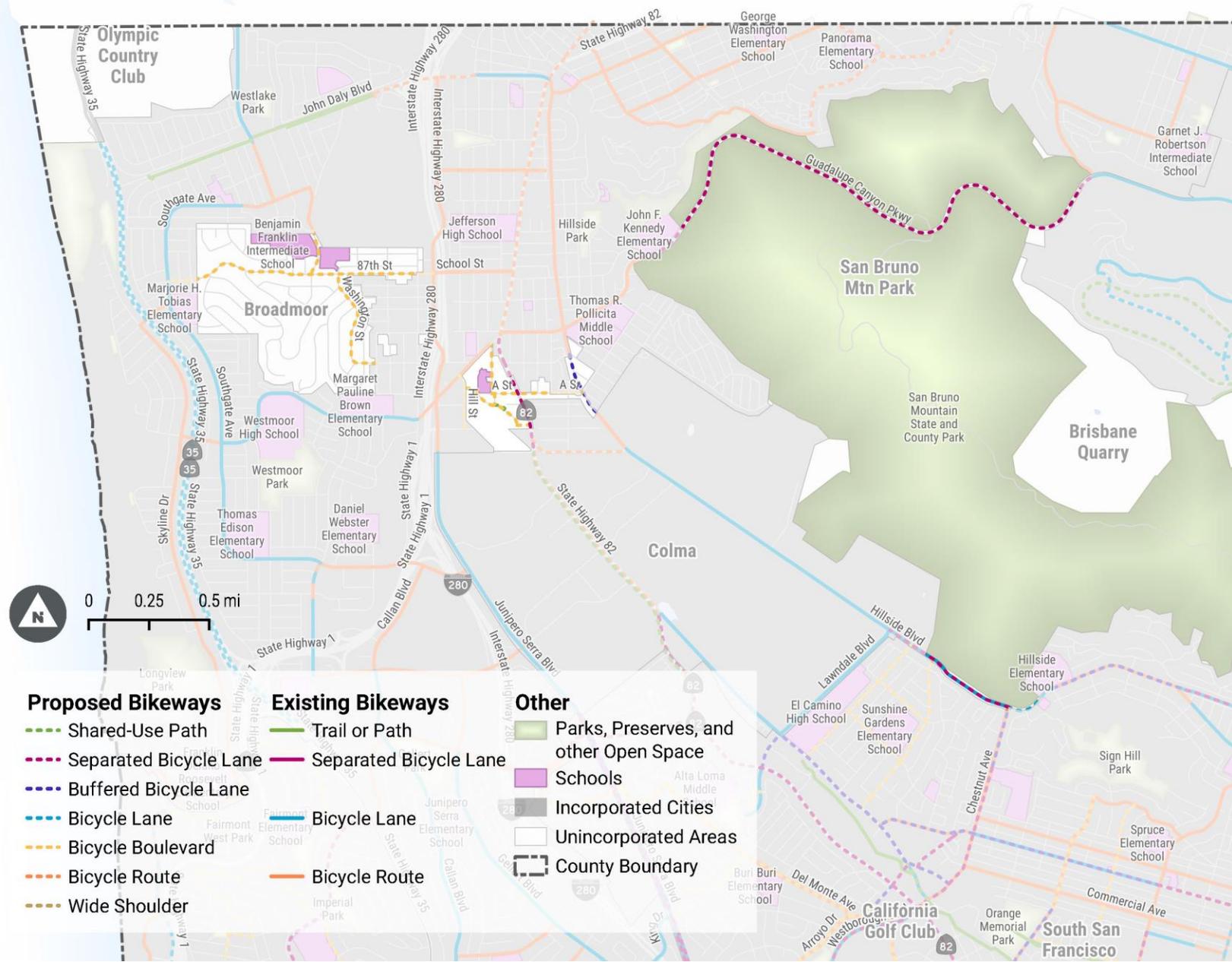


Figure 14: Proposed Bicycle Network – Broadmoor, Colma, San Bruno Mountain Park

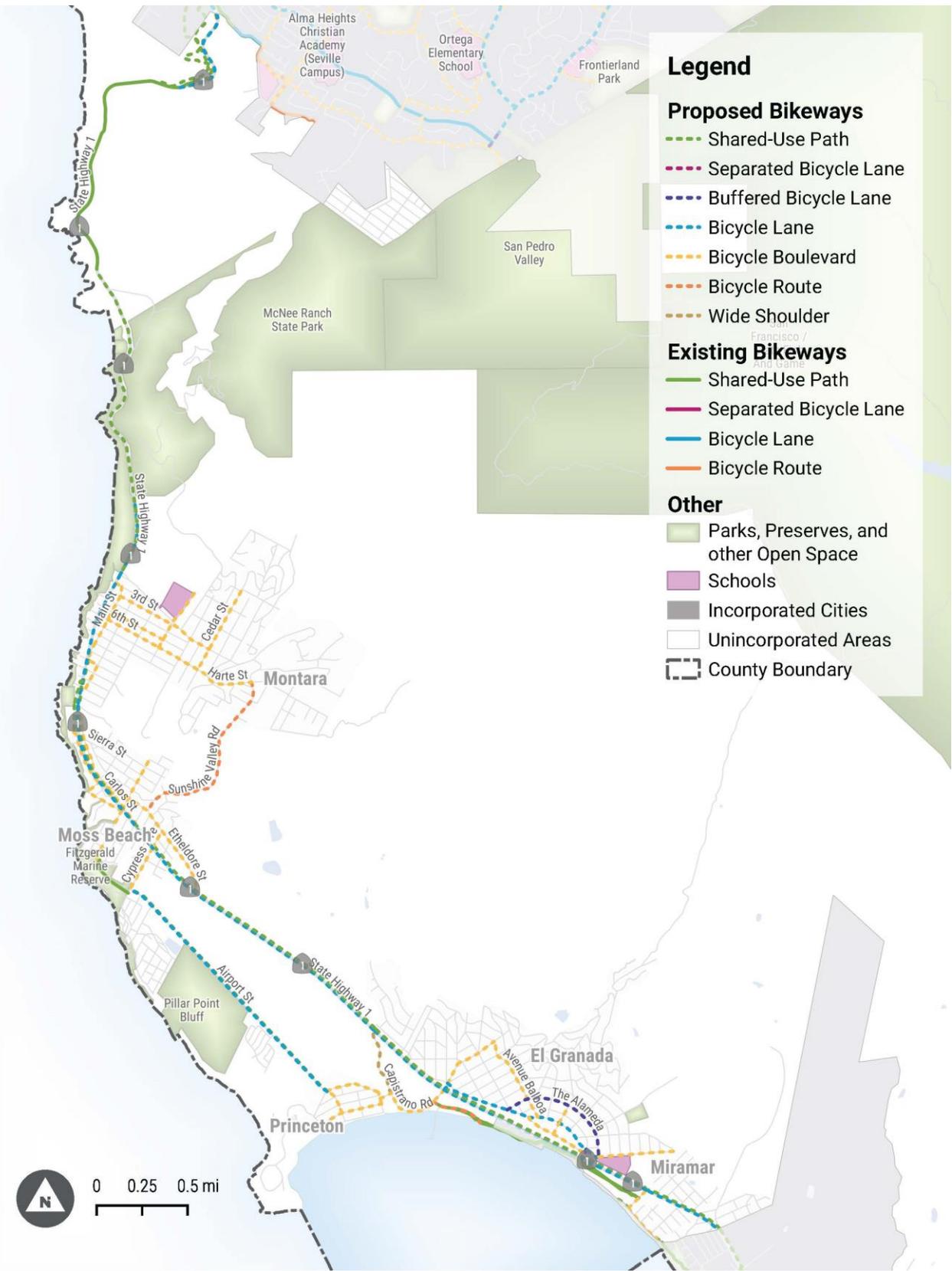


Figure 15: Proposed Bicycle Network – El Granada, Miramar, Montara, Moss Beach, Princeton

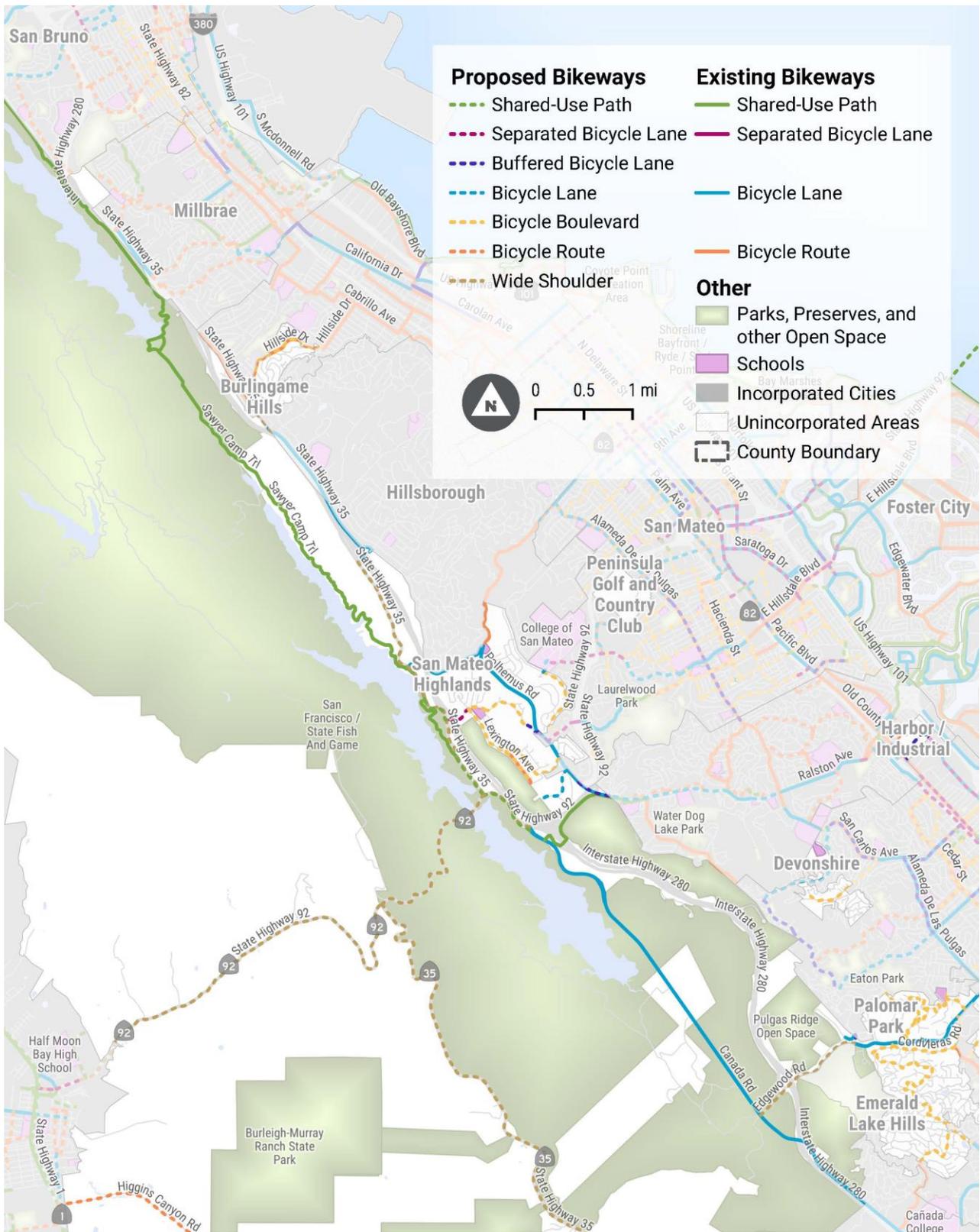


Figure 16: Proposed Bicycle Network – Burlingame Hills, Devonshire, Harbor/Industrial, Palomar Park, San Mateo Highlands

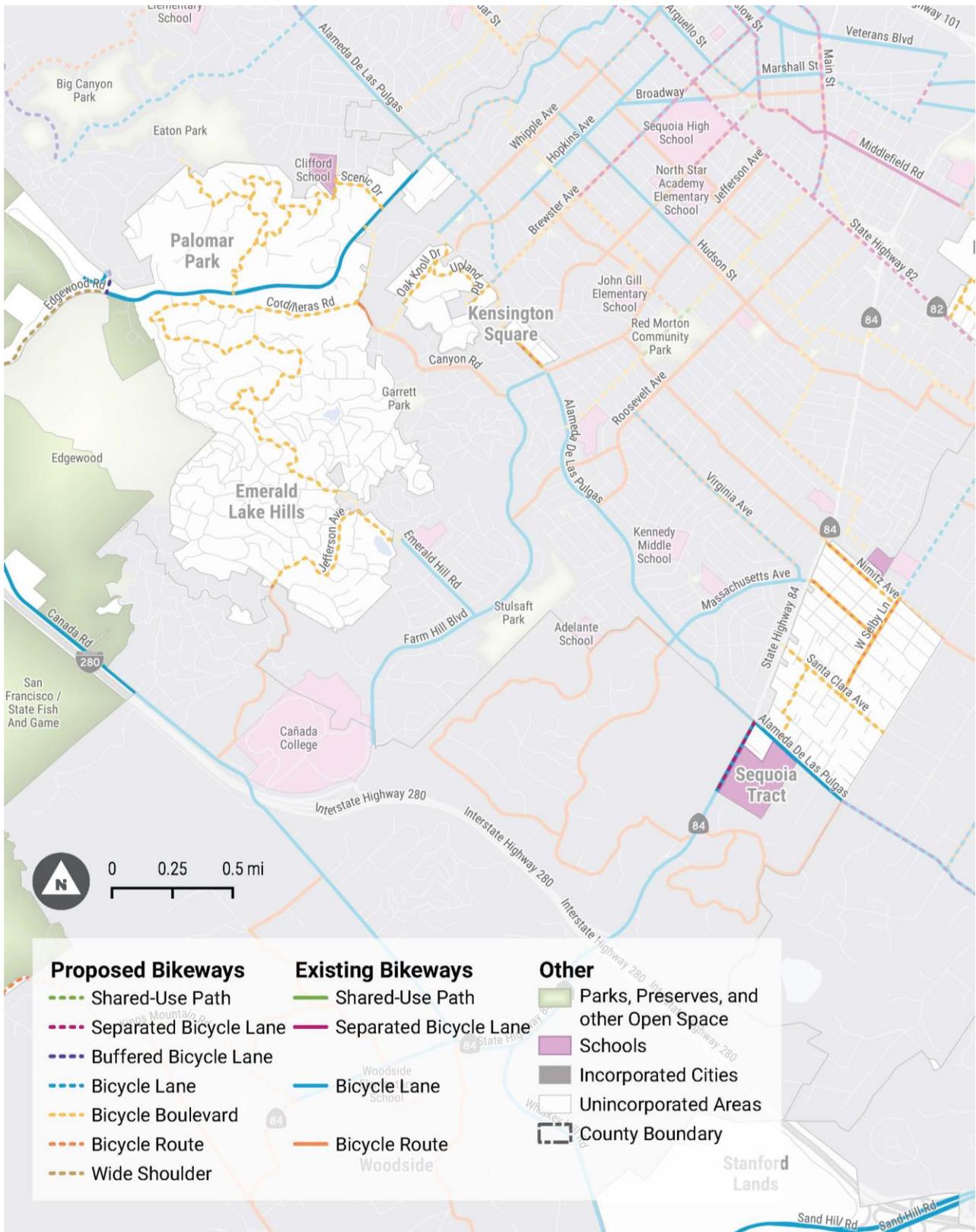


Figure 17: Proposed Bicycle Network – Emerald Lake Hills, Kensington Square, Palomar Park, Sequoia Tract

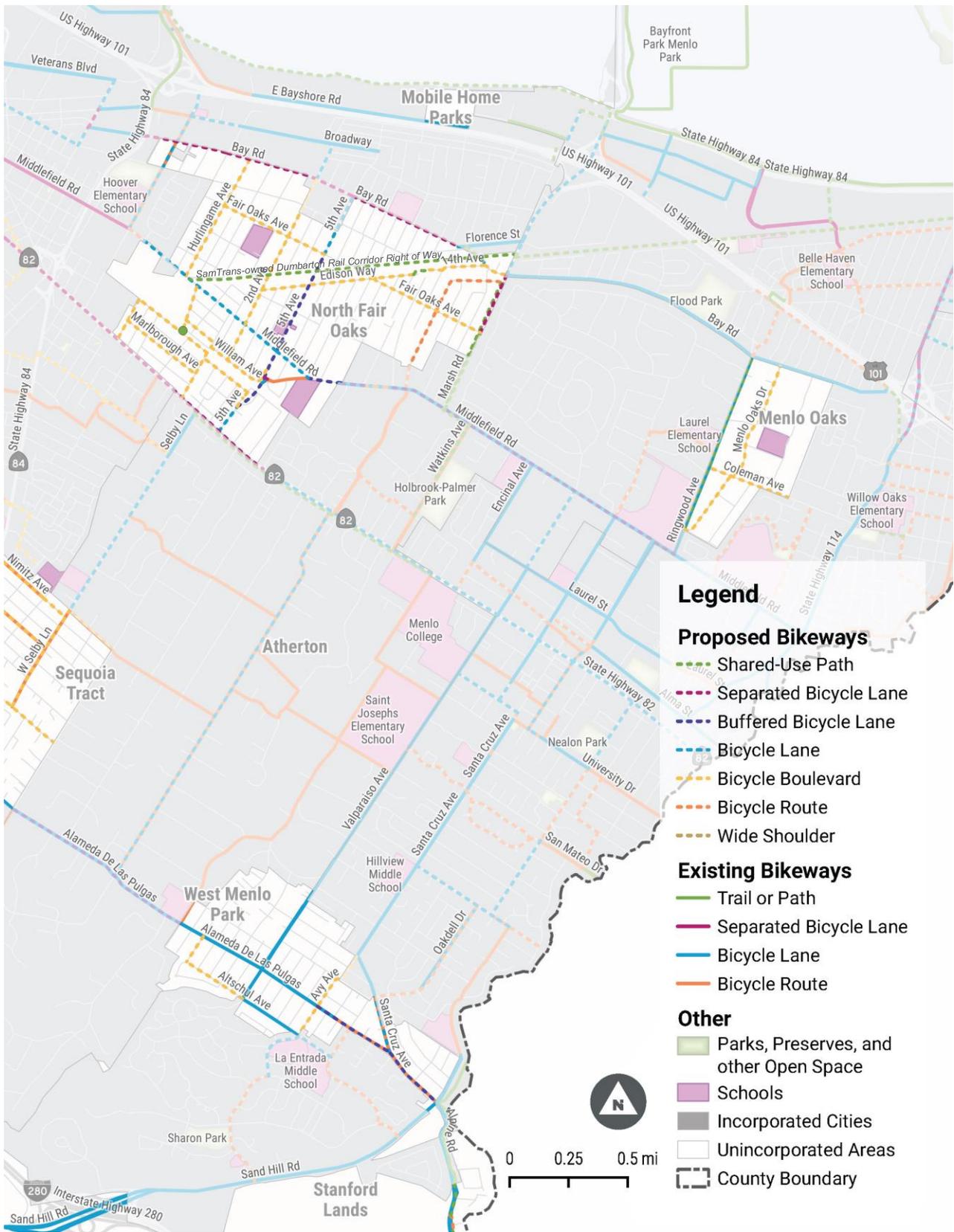


Figure 18: Proposed Bicycle Network – North Fair Oaks, Menlo Oaks, West Menlo Park

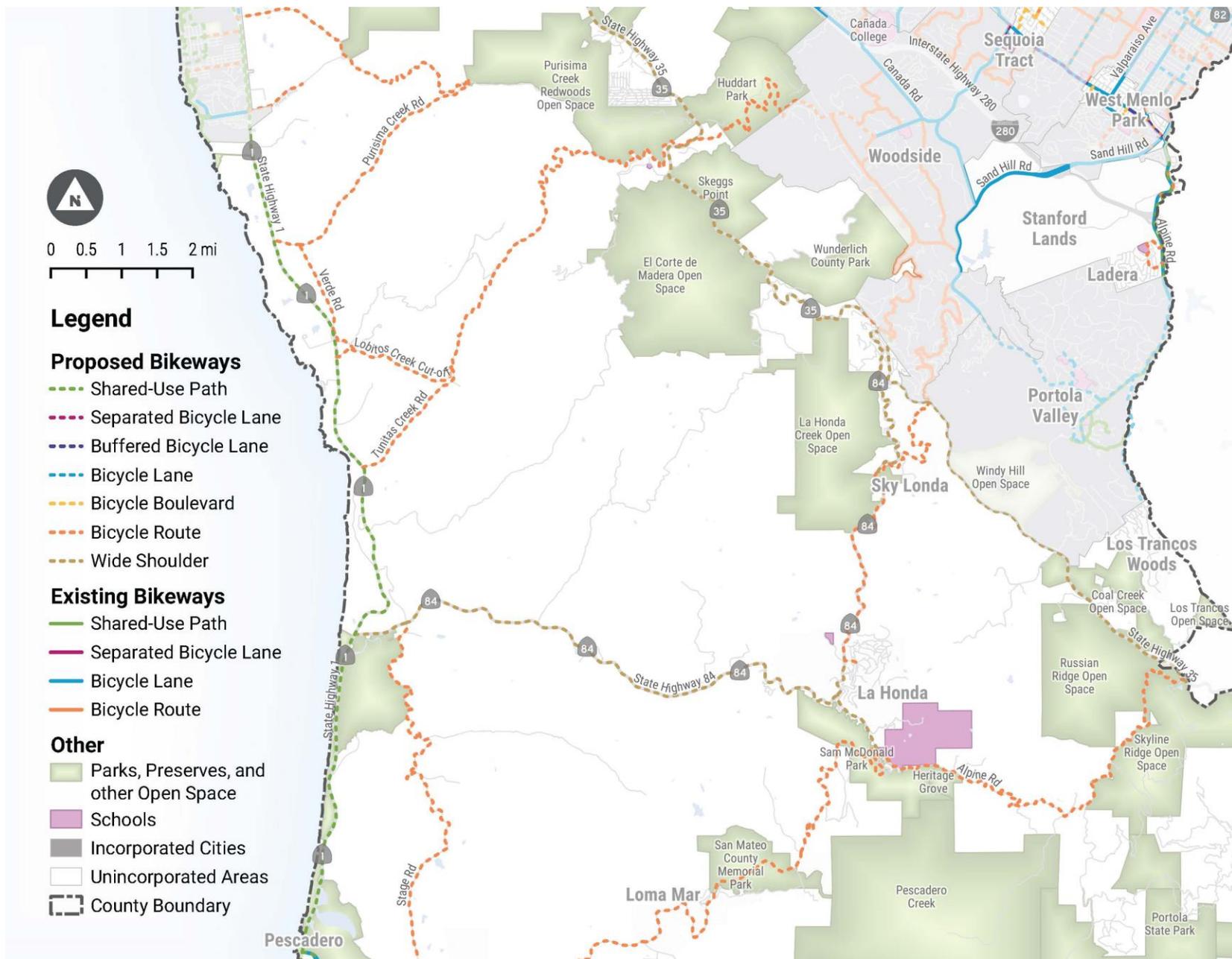


Figure 19: Proposed Bicycle Network – Ladera, La Honda, Sky Londa, Stanford Lands

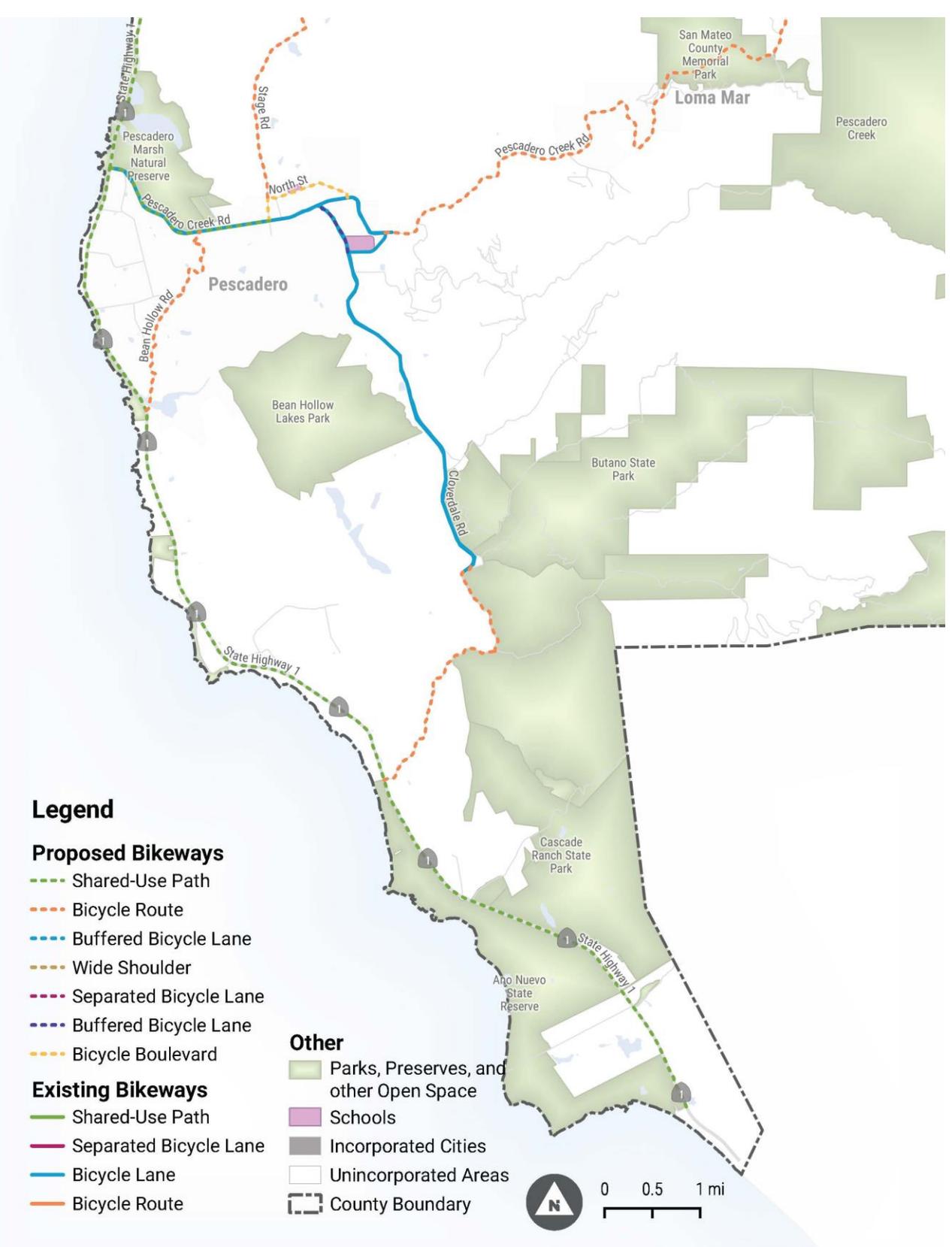


Figure 20: Proposed Bicycle Network – Loma Mar, Pescadero



Figure 21: Community Feedback on Bicycle Network

ADDITIONAL BICYCLE NETWORK ENHANCEMENTS

San Mateo County Safe Routes to School Recommendations

As part of the County’s Safe Routes to School program, the County has conducted walking audits at schools around the county. These walking audits resulted in recommendations to improve access and safety for walking and bicycling infrastructure near schools. *Appendix D* includes a list of walking and bicycling projects recommended for schools in unincorporated areas that have not yet been implemented. In addition to the bicycle project recommendations developed as part of the Plan, it is recommended that the County implement the remaining on-street Safe Routes to School recommendations.

Intersection and Spot Improvements

The proposed bicycle network recommendations include projects to improve bicycling conditions along individual roadway segments and corridors. However, a complete bicycle network often necessitates changes to intersections along streets that already have suitable linear bicycle facilities. The design toolkit in *Appendix C* provides guidance to help County staff assess where and how to install intersection treatments to enhance network comfort and improve bicycling conditions at intersections. One example of a treatment included in the design toolkit is a bicycle box. This treatment improves bicyclist safety and comfort by increasing the share of drivers who yield to bicyclists and reducing conflicts between bicyclists traveling straight and drivers turning right. Bicycle boxes can be paired with loop detection for bicyclists to be detected at intersections, so the signal is alerted of bicycle crossing demand and the bicyclist receives a green light.



Figure 22: Bicyclist using a bicycle box at a signalized intersection

The treatments in the design toolkit can also be used to enhance the comfort of existing bikeways along corridors, at approaches to intersections, and through intersections. When resurfacing streets with existing bike lanes, staff should consider application of treatments such as appropriate placement of bike lanes with respect to turn lanes, highlighted marking of conflict areas, potential lane narrowing to address door zone issues with existing bicycle lanes where parking exists, and continuation of bike lanes through intersections to indicate riders’ path of travel.

BICYCLE SUPPORT FACILITIES

In addition to on- and off-street bikeways, support facilities provide increased comfort and predictability for bicyclists and increase access to network. The following sections discuss the opportunity for the County to provide support facilities in unincorporated areas.

WAYFINDING

Wayfinding, which can include both signage as well as pavement markings painted on the roadway, is an important part of a pedestrian and bicycle network. Wayfinding can help people navigate the transportation network with confidence and find their way past barriers such as complex intersections, dead-end streets, high-stress roadways, or steep hills. Wayfinding signage also directs people walking and bicycling to key destinations, such as commercial centers, public facilities, parks, or transit stations. Wayfinding signage can provide the distance, by mileage and/or time, to these destinations.

Examples of existing bicycle-oriented signage in the unincorporated areas include:

- Signs that state the type of facility on the roadway
- “Share the Road” signs and/or shared lane markings painted on the roadway, particularly in rural areas
- Wayfinding for the California Coastal Trail along the midcoast communities of Montara, Moss Beach, Princeton, and El Granada

Wayfinding Considerations

When implemented, wayfinding should be placed along walking and biking routes to help direct users to adjacent routes or nearby destinations. Kiosks can be installed that provide detailed maps directing users to nearby destinations. “Bike May Use the Full Lane” signs can also be used on bike routes. Successful wayfinding systems include decision signs, confirmation signs, and turn signs:

- **Decision signs** are typically placed at decision points along bicycle routes, such as at intersections and key locations heading to and along bicycle routes.
- **Confirmation signs** indicate that bicyclists or pedestrians have (or have not) made the course change they intended.
- **Turn signs** indicate where a route turns from one street or facility to another.

San Mateo County could consider partnering with cities in the county to develop a regional wayfinding system. The system should have a similar brand throughout the county and be compatible with local wayfinding. Communities could adjust the brand to reflect local character while still maintaining consistent signage elements. More information on wayfinding can be found in *Appendix C*. Wayfinding is also recommended as part of the County’s recent Connect the Coastside plan.

BICYCLE PARKING

Secure bicycle parking is essential for encouraging bicycling for utilitarian trips, such as to work, shopping, or school. There are a variety of bicycle parking types, which reflect the need of the users, the location, and the length of time that the bicycle will be parked.

- **Long-term parking** is designed to meet the needs of employees, residents, public transit users, and others who often leave their bicycles unmonitored for a period of several hours or longer. These users require security and weather protection that let them park without unreasonable concern for loss or damage. Examples of long-term bicycle parking includes lockers or other secure, enclosed shelters. See *Appendix C* for more details.
- **Short-term parking** is designed to meet the needs of people visiting businesses and institutions – typically lasting up to two hours. Short-term users may be infrequent visitors to a location, so the parking

should be easily visible. Recommended short-term racks include inverted-U, post and ring, or bike corrals at destinations with high demand. See *Appendix C* for more details.

Bicycle Parking Considerations

The following sections describe strategies for providing adequate bicycle parking both on public and private property. **Table 3** summarizes the recommended types of bicycle parking and specifications for different land uses. The Plan includes a policy recommendation to incorporate bicycle parking standards when County parking ordinances and zoning districts are updated (see Chapter 5). The design toolkit presented in *Appendix C* includes short- and long-term bicycle parking design guidance.

Table 3: Recommended Bicycle Parking by Location

Land Use	Specifications*	
	Short-term Spaces	Long-term Spaces
Schools	One space for each 20 students (minimum of two spaces)	One space for 10 employees (minimum of two); for junior and high schools, also provide one space for each 20 students
Parks	Spaces for 2% of maximum daily attendance	One space for each 20 employees (minimum of two spaces)
Libraries	One space for each 8,000 square feet of floor area (minimum of two spaces)	One space for each 10 employees (minimum of two spaces)
Transit hubs	Spaces for at least 1.5% of morning peak period daily ridership	Spaces for at least 5% of projected morning peak period daily ridership
Retail and commercial	One space for each 5,000 square feet of floor area (minimum of two spaces)	One space for each 12,000 square feet of floor area (minimum of two spaces)
Office	One space for each 20,000 square feet of floor area (minimum of two spaces)	One space for each 10,000 square feet of floor area (minimum of two spaces)
Multi-family housing	For each bedroom, 0.05 spaces (minimum of two spaces)	<i>If a private garage is not provided for each unit: For each bedroom, 0.05 spaces (minimum of two short and long-term spaces)</i>

*These specifications are based on recommendations from the Association of Pedestrian and Bicycle Professional's 2010 *Bicycle Parking Guidelines* which can be found at www.apbp.org.

Bicycle Parking on Public Property

San Mateo County may develop a bicycle rack installation program in which residents, local employees, and business or property owners could request the installation of a rack in the public right-of-way. County staff could evaluate the requests and then install the racks, if physically feasible and as resources allow. Potential locations may include proximity to local commercial activity centers and downtowns; existing bicycle facilities; regional trails; schools; transit hubs; or mid- to higher-density residential districts.

Bicycle Parking on Private Property

Regulatory policies, such as ordinances in development and zoning codes, can require the provision of adequate, secure bicycle facilities in certain locations. San Mateo County could develop a bicycle parking ordinance or consider incorporating bicycle parking standards as a component of updates to the County's parking ordinance and zoning districts which could specify:

- Type of racks that are permitted (such as inverted-U, post and ring, or wheel well-secure racks)
- Rubric for number of short- and long-term racks based on a building's square footage or number of units
- Where the racks should be placed
- Incentives for developers to provide additional bicycle parking or amenities

ADDITIONAL END-OF-TRIP FACILITIES

In addition to bicycle parking, other “end-of-trip facilities” make it easier and more comfortable for people to walk and bike, especially to work. Examples of these facilities include:

- Restrooms, drinking fountains and hand-washing stations
- Dedicated bicycle and bicycle equipment storage
- Extra wide hallways or bike elevators
- Bicycle workrooms
- Bike-washing stations
- Bike valet
- Shower and/or locker facilities
- Bicycle mechanic available on site
- Investment in on-site bike rentals or bike share
- Bike park and ride

End-of-Trip Facility Considerations

The Plan includes a program recommendation to provide amenities for recreational bicyclists at key locations (see **Chapter 5**). In addition to this, an end-of-trip planning guide could be considered by the County to help employers and communities increase the number of end-of-trip facilities throughout the region. This guide would be an appropriate addition to a Transportation Demand Management (TDM) program which encompasses a broad range of initiatives to support walking, biking, riding transit, carpooling/ridesharing, and micromobility options as alternatives to driving alone. As a complement to the end-of-trip planning guide, the County may require secure parking (such as lockers or bike racks), repair equipment, and/or showers as a stipulation for new developments.

MICROMOBILITY PROGRAMS

Micromobility programs offer residents and visitors an easy transportation alternative that allows one-way or round-trip travel to key destinations. Micromobility programs can include a variety of devices, including bikes, electric bikes, and electric scooters. Micromobility trips are best suited for short trips, typically up to 20 minutes, and can provide a first- and last-mile link to transit such as BART and Caltrain. Micromobility systems are currently operating in a few major cities in the rest of the Bay Area. Programs can be station-based, with stations located in the public right-of-way or on private property, or dockless, allowing users to leave devices at any public bike rack instead of returning them to a station. In unincorporated areas, station-based programs that provide bikes and e-bikes may be the best option and would need to be based in more densely developed areas to mitigate the need for major fleet rebalancing efforts.

Micromobility Program Considerations

When a public agency considers creating or encouraging a micromobility program, performing a feasibility study is typically the first step. Feasibility studies provide a better understanding of the potential success of micromobility programs and can help determine which communities are well suited for successful programs, and which communities should be prioritized for implementation. As a part of a feasibility study, the following factors are considered:

- **Community context** and other factors that may influence micromobility demand, such as co-locating micromobility stations near facilities that users are comfortable riding, land use mix, population density and the availability and convenience of using personal bikes and scooters as part of a planned trip; and
- **Community support** for a micromobility program, including support of the public and key stakeholders, potential sponsors, grant funding, and a process for who will own, operate, and maintain the system.

Micromobility programs require the support of a broad range of community stakeholders, including public agencies, local advocacy groups, community program leaders, and the private sector. A primary decision for micromobility programs is to determine who will own, manage, and operate the system. This decision typically comes from organizing the right team of stakeholders that will help to identify the ownership, management, and operations and maintenance structure of the program. Another key consideration is the potential utilization rate and cost effectiveness of these systems, as they often require ongoing public subsidies. The Plan includes a recommendation to coordinate with C/CAG and other local jurisdictions to gauge interest in and to develop a micromobility program.



CHAPTER 4: PEDESTRIAN RECOMMENDATIONS



This chapter recommends pedestrian infrastructure projects, which aim to increase the safety and comfort of walking in unincorporated areas. These recommendations align with the Plan goals of increasing safety and access for pedestrians throughout the county. To help provide a flexible path forward for the County to implement pedestrian projects, this chapter includes location-specific priority pedestrian destination recommendations that can be referenced by the County while identifying and developing additional pedestrian projects.

PLANNING CONTEXT

Many of the walking trips in unincorporated San Mateo County occur not just in dense, urbanized areas like North Fair Oaks and Broadmoor, but also in more rural areas, especially those that attract tourists, like Pescadero and the midcoast communities. There are opportunities to improve walking conditions throughout the county by closing sidewalk gaps, improving pedestrian crosswalks at intersections, and implementing traffic calming and streetscape improvements.

TYPES OF PEDESTRIAN INFRASTRUCTURE

Pedestrian networks are composed of sidewalks, trails, roads, roadway crossings, and overcrossings. These facilities should be connected, protected, and designed to accommodate the needs of people walking. Due to the large geographic area of San Mateo County, the types of issues typical to pedestrian networks are often highly localized, relating to sidewalks and crossing opportunities nearest particular destinations.



Figure 23: In areas without sidewalks, quiet streets to walk on can be an important – and safe – part of the pedestrian network



Figure 24: People crossing with the help of a Rectangular Rapid Flashing Beacon (RRFB) in North Fair Oaks

In unincorporated areas, pedestrian networks typically consist of sidewalks, trails, and crossing treatments; however, in some areas, curbed, concrete sidewalks on all roadways may not be physically or financially feasible, or may not align with a community’s vision and character. In these areas it may be preferable to provide advisory or paved shoulders, side paths, or alternative sidewalks (i.e., street-level walkways separated from the adjacent travel lane with painted stripe, concrete curb, wooden barrier, or other vertical barrier). On streets where roadway users share the roadway, infrastructure treatments can be used to keep motor vehicle volumes and speeds low to enhance pedestrian comfort.

Sidewalks, alternative sidewalks, and shared use paths built in the public right of way must follow the Americans with Disabilities Act (“ADA”) guidelines. In the unincorporated areas of San Mateo County, sidewalk construction and maintenance fees are the responsibility of adjacent property owners. At crossings, County staff can use a variety of treatments to improve pedestrian safety and comfort, depending on the local conditions. In general, pedestrian-specific crossing treatments are important in areas where relatively high volumes of pedestrians are expected, such as in downtown districts or near parks, schools, transit stops, or other destinations.

EXISTING CONDITIONS

Within the unincorporated areas of San Mateo County, the pedestrian network consists of a combination of rural roads without sidewalks and urban areas with partial or complete sidewalk coverage. In many urban and rural contexts, pedestrians need a well-connected network of designated locations to walk and cross the street safely and comfortably. In other locations, typically those with very low motor vehicle traffic, pedestrians can comfortably walk in the road and do not need designated, physically separated space to travel comfortably. Some unincorporated areas already have crossing treatments, sidewalks, and shared use paths or unpaved recreational trails, while other communities lack these types of facilities. The Additional Pedestrian Network Enhancements section at the end of this chapter provides more information on feedback from different unincorporated communities regarding whether or not curbed, concrete sidewalks are desirable in their communities.

Typical Challenges

Several types of issues affect the walking environment in San Mateo County.

Lack of sidewalks and sidewalk amenities. The need for sidewalks depends on the land use context. In denser, more urban areas like Broadmoor and North Fair Oaks, sidewalks may be appropriate on all streets. But there are gaps in some of these locations where sidewalks should be constructed when possible. In other areas, quiet streets, or sidewalks along key corridors leading to destinations, may be the type of pedestrian infrastructure that is needed.

Lack of crossing opportunities. In some parts of the county, busy roadways, railroads, and other features are barriers for pedestrians. Highway 1, which is owned and maintained by Caltrans, is one example. Traveling south from Pacifica, the first signalized intersection is at Capistrano Road, beyond the communities of Montara and Moss Beach, and the next is not until Coronado Street, almost a mile to the south. Instead of walking considerably out of the way to these intersections, people may cross midblock or they may choose not to walk and instead just drive to destinations that should be considered walking distance.

Lack of street trees. Trees can enhance the walking experience by providing shade and scenic interest, especially in warm, sunny locations. Conversely, the lack of street trees can make walking less appealing for many people. Working with property owners and foundations to increase the presence of street trees can increase comfort and potentially encourage more walking.

High speed traffic. High traffic speeds can negatively impact people walking and bicycling. Whether people are walking, biking, or driving, high vehicle speeds give drivers less time to notice and respond appropriately to other roadway users or changing roadway conditions. Collisions that occur at high speeds are also more severe. Even with separation, walking and bicycling next to high-speed traffic can create a loud and uncomfortable environment for people walking and bicycling.

Lighting and visibility. Pedestrian collisions, as discussed below, disproportionately occur during evening hours. Improved lighting in appropriate settings may help to improve pedestrian safety.

Collision Analysis

One of the Plan goals is to improve safety by reducing the rate and severity of injuries among people walking, bicycling, and using other personal mobility devices in unincorporated areas of the county. Understanding the existing safety conditions and high-injury locations can support decisions for the funding and construction of projects. The data used in this analysis draws on five years of collision data (2013 – 2017) in unincorporated areas of the county from the University of California’s Transportation Injury Mapping System (TIMS), as mapped in **Figure 28**. When interpreting TIMS data, it is important to recognize that collision records rely on an officer’s assessment of what occurred in a collision and how they interpret California law. This analysis only includes collisions reported to law enforcement and collisions where an injury was recorded, so there are likely other non-injury pedestrian collisions that occurred and were not reported. Key takeaways from the pedestrian collision analysis are discussed here; see the Existing Conditions Memo in *Appendix B* for a more in-depth analysis.

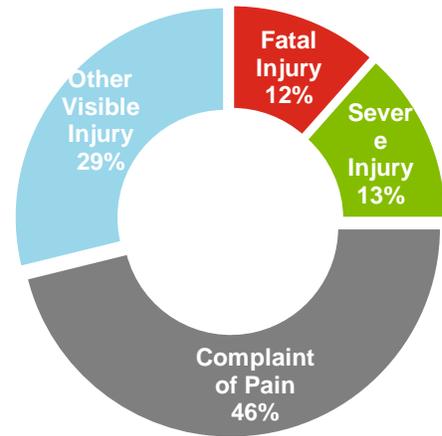


Figure 25: Pedestrian Collision Severity

As shown in **Figure 25**, there were 52 pedestrian collisions over the five-year period analyzed, resulting in 46 visible injuries and six fatalities. The most common pedestrian collision factors were violations of a pedestrian’s right of way and pedestrian violations. Thirty percent of pedestrian collisions were associated with a pedestrian right of way violation, implying that a vehicle fails to yield when a pedestrian has the right of way. Twenty-five percent of pedestrian collisions were associated with a pedestrian violation, an example of which is crossing the street against a traffic signal. Another 25 percent of pedestrian collisions were associated with improper turning (e.g., driver errors like turning right when right turns on red are restricted) and drivers traveling at unsafe speeds.



Figure 26: Pedestrian Collision Trends

Thirty of the 52 pedestrian collisions occurred when a pedestrian was crossing the road, and over 40 percent of these crossing collisions occurred when a pedestrian was crossing the road at a location outside of a crosswalk. This suggests that there may be a need for additional designated pedestrian crossing locations.

The presence of lighting appears to influence the overall severity of pedestrian collisions. An analysis of lighting in all pedestrian collisions versus in fatal and severe pedestrian collisions shows that over 60 percent of pedestrian collisions that occurred during dark conditions without streetlights resulted in a fatal or severe injury. The safety benefits of lighting are documented in the Federal Highway Administration’s (FHWA) Safe Transportation for Every Pedestrian (STEP) program and may be an effective strategy for improving roadway safety in parts of San Mateo County. In addition to infrastructure and roadway design improvements, programs and policies that target drivers and educate them on safe roadway behaviors are also important aspects of improving roadway safety. Refer to Chapter 5 for a discussion of recommended safety-related programs and policies.

Pedestrian collisions occur throughout the unincorporated areas of the county. The majority of collisions occur in bayside communities. Locations with higher pedestrian collisions per square mile, compared to other unincorporated areas, are North Fair Oaks, El Granada, and Harbor/Industrial.

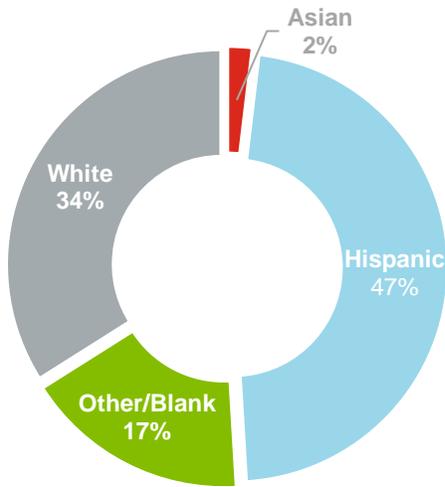


Figure 27: Race of Pedestrians Involved in Collisions

Figure 27, which details the race and hispanic origin of pedestrian victims involved in crashes, as noted in the collision reports, shows that almost half of pedestrian crash victims are Hispanic. In total, 31 of the 49 pedestrian victims with a designated race were people of color (63 percent).

Note that races included in the police reports for collisions do not cover the full range of ethnic and racial groups that individuals are able to self-report in the context of the U.S. Census, and may be based on officers' judgement, so a direct comparison to the distribution within the population is not possible. In addition, the Statewide Integrated Traffic Records system does not distinguish between race and ethnicity. We recommend interpreting this figure with caution.

The pedestrian collisions involving people of color are distributed throughout the unincorporated areas of San Mateo County. There are no clear trends in the distribution of pedestrian victims who are people of color except for a large cluster of collisions near North Fair Oaks.

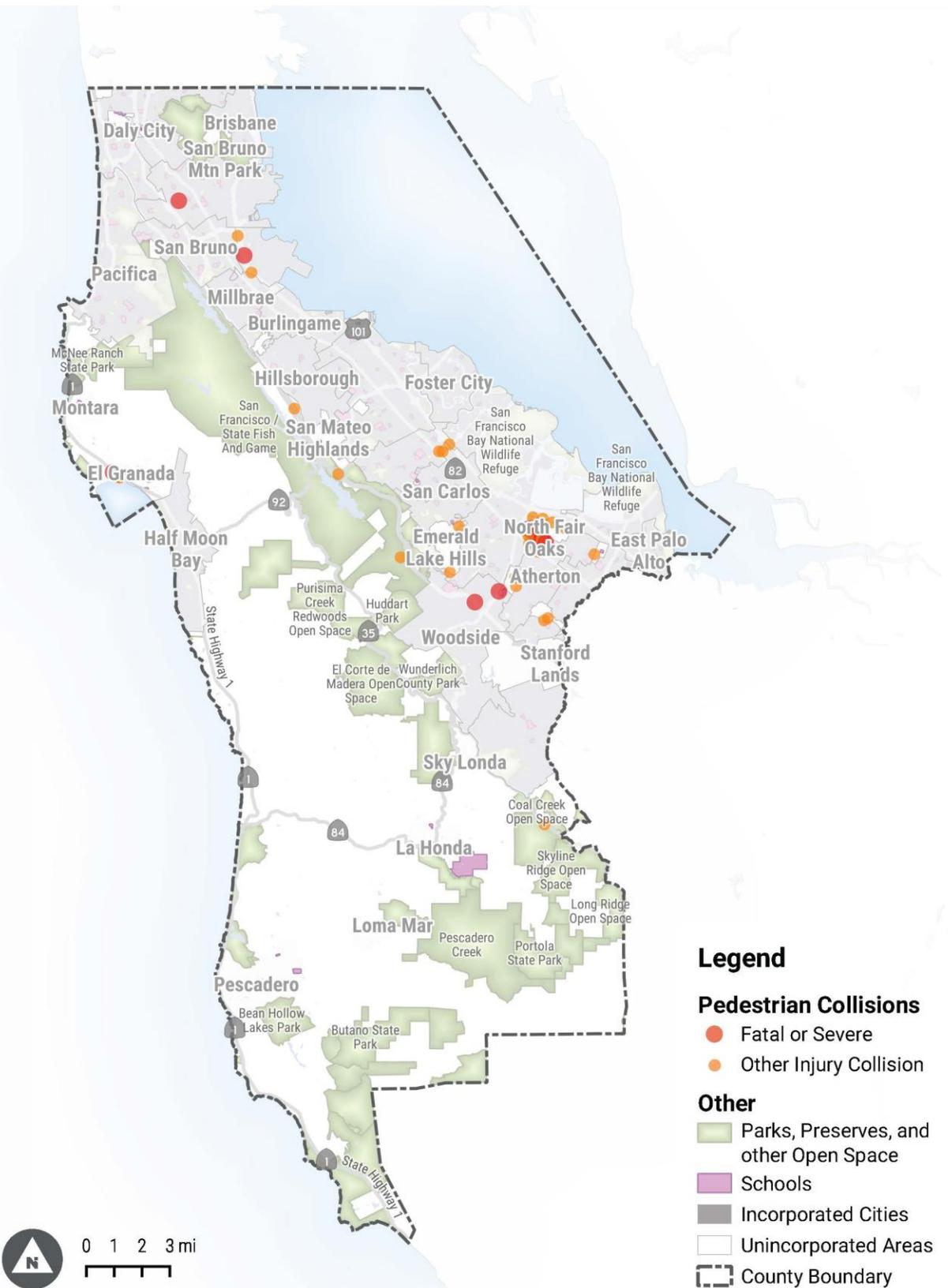


Figure 28: Pedestrian Collisions in Unincorporated San Mateo County (2013-2017)

PEDESTRIAN PROJECT RECOMMENDATIONS

County staff recognize the diversity of communities and community interests present across the unincorporated areas. As such, the pedestrian recommendations presented in this section take a less prescriptive approach than the bike network recommendations, and instead provide a selection of pedestrian facility information and planning tools which the County will use to improve walking conditions throughout the unincorporated areas of San Mateo County. Before installing any projects, County staff should engage with the community to determine which facilities (if any) are appropriate.

DEVELOPMENT OF RECOMMENDATIONS

Potential Demand Analysis

The potential demand analysis, presented in *Appendix B*, draws upon best practices from academic research to identify areas with high potential for pedestrian activity based on development patterns and demographic factors including population and employment density, land use mix and intersection density. Note that the analysis is not predictive of actual pedestrian activity and focuses on utilitarian trips (e.g., school, work, errands), even though recreational walking is very common in the San Mateo County.

The potential demand analysis indicates that there is varied demand throughout San Mateo County, with potential demand concentrated in three areas: in the north near Broadmoor, in the bayside communities in the southern part of San Mateo County, and in pockets on the midcoast. The analysis identified six unincorporated areas in San Mateo County with the highest potential demand for bicycling and walking. These areas include:

- Broadmoor and unincorporated Colma
- North Fair Oaks,
- Sequoia Tract,
- Emerald Lake Hills,
- West Menlo Park, and
- Midcoast communities north of Half Moon Bay, stretching from Montara to El Granada.

Gap Analysis

The gap analysis, presented in *Appendix B*, identifies areas in unincorporated San Mateo County where pedestrian facilities may be lacking or may not match the needs of the local environment and users. This analysis, combined with the potential demand analysis, provides a solid foundation for identifying locations where bikeways are needed and developing a connected bicycle network. The pedestrian network gap analysis presents:

- **Community-identified spot gaps in the pedestrian network**, key areas where community members feel uncomfortable or unsafe walking that can be improved by more robust pedestrian infrastructure. Many identified spot gaps relate to major insufficient arterial or highway crossings or sidewalk gaps and are within the vicinity of transit stations, schools, and other local destinations. These community-identified spot gaps illustrate one snapshot of needs across the county and can help to inform the overall themes and trends that will feed into the prioritization of pedestrian projects.
- **Gaps in pedestrian access to key destinations**, as identified by community members through the public engagement process and in conjunction with County staff.

PROPOSED PEDESTRIAN IMPROVEMENTS

Beyond sidewalks, a variety of treatments and facility types comprise pedestrian networks and are recommended for unincorporated areas of San Mateo County, depending on context. The design toolkit in *Appendix C* provides detailed design and implementation guidance for pedestrian treatments. For example, the design toolkit provides guidance for installing crosswalks at intersections as well as at mid-block locations, as well as guidance for installing treatments that can be used to enhance crossings, such as Rectangular Rapid Flashing Beacons and Pedestrian Hybrid Beacons, to help ensure that community members can walk to their intended destinations safely. The design toolkit also provides guidance to improve access to existing and proposed trails to help provide safe and complete connections to trailheads.

Table 4 lists the variety of pedestrian facilities that can be used to build and improve the pedestrian network. The design toolkit in *Appendix C* provides detailed design and implementation guidance for pedestrian treatments. For example, the design toolkit provides guidance for installing crosswalks at intersections as well as at mid-block locations, as well as guidance for installing treatments that can be used to enhance crossings, such as Rectangular Rapid Flashing Beacons and Pedestrian Hybrid Beacons, to help ensure that community members can walk to their intended destinations safely. The design toolkit also provides guidance to improve access to existing and proposed trails to help provide safe and complete connections to trailheads.

Table 4: Pedestrian Facilities for Rural, Urban, and Suburban Locations

Treatment	Description
ADA-compliant Sidewalk	<ul style="list-style-type: none"> Provides a continuous, minimum four-foot clear path designated for pedestrians of all ages and abilities Meets ADA requirements for width at pinch points, cross slope, grade, etc. A firm, stable, and slip-resistant surface, typically concrete
Alternative Walkway	<ul style="list-style-type: none"> Includes paved roadway shoulders with and without designated spaces for pedestrians Can provide designated, separated space for pedestrians through use of pavement markings, curbs, bollards, or other barrier materials such as wood
Shared Use Path (Class I Bikeway)	<ul style="list-style-type: none"> Provides a continuous path for pedestrians, shared with bicyclists, that is physically separated from motor vehicles. A minimum paved width of 8 feet, preferably 10 to 12 feet wide, with a two-foot clear shoulder on each side, must be provided If adjacent to a roadway, often includes a landscaped buffer to increase comfort and safety
Pedestrian-scale Lighting	<ul style="list-style-type: none"> Improves visibility and comfort of pedestrians Typically used in areas with high pedestrian activity such as in downtowns, retail areas, and parks Especially useful for improving visibility of all roadway users at designated mid-block crossings and underneath roadway overpasses
Median Crossing Island	<ul style="list-style-type: none"> Allows pedestrians to cross a street in two stages Visually and physically narrows the roadway, which helps reduce vehicle speeds Used on multi-lane roadways or roadways with high traffic volume
Rectangular Rapid Flashing Beacon	<ul style="list-style-type: none"> Combines a crossing warning sign with a bright flashing beacon that is activated on demand when a pedestrian or bicyclist is present Increases drivers' yielding compliance and pedestrian visibility Often used at midblock crossings or unsignalized intersections of lower speed, two-lane roadways.
Pedestrian Hybrid Beacon	<ul style="list-style-type: none"> Traffic signal for major street activated on demand when a pedestrian or bicyclist is present Increases drivers' yielding compliance and pedestrian visibility Often used at midblock crossings on higher speed, multi-lane roadways

Treatment	Description
Signal	<ul style="list-style-type: none"> • Pedestrian Signal Timing – Signal head displays “Walk”, countdown, and “Don’t Walk”; crossing time accommodates a normal walking pace • Accessible Pedestrian Signals – Communicates information aurally to accommodate the visually impaired • Leading Pedestrian Interval – Walk phase begins three to seven seconds before drivers are given the green light which increases pedestrian visibility and reduces conflicts
High-visibility Crosswalk Marking	<ul style="list-style-type: none"> • Improves visibility of crossing with bold, reflective striping which can increase yielding rates at intersections and midblock • ADA-accessible curb ramps provide access and detectable warning for the physically and visually impaired (respectively), and are useful to people pushing strollers or baskets
Curb Extension	<ul style="list-style-type: none"> • Reduces pedestrian crossing distances at intersections or midblock crossings • Visually and physically narrows the roadway which helps to reduce vehicle speeds and turning speeds
Raised Crosswalk	<ul style="list-style-type: none"> • Reduces vehicle speeds at intersection or midblock crossings • Increases visibility of pedestrians
Advance Yield/Stop Lines and Signs	<ul style="list-style-type: none"> • Placed in advance of uncontrolled, marked crossings on multilane roads, including crossings with Rectangular Rapid Flashing Beacons or pedestrian hybrid beacons • Reduces multiple-threat crashes and improves motorist visibility of pedestrians

PRIORITY AREAS

The Plan recommends focusing pedestrian projects in identified pedestrian focus areas and areas with community-identified pedestrian gaps. **Figure 38** presents an overview map of these locations for the County’s use in identifying and implementing pedestrian projects. Refer to *Appendix D* for detailed maps showing these areas throughout the county.

Pedestrian Focus Areas

The pedestrian prioritization criteria listed in the Implementation Section of this Plan, as well as pedestrian focus areas identified in the C/CAG San Mateo County Comprehensive Bicycle and Pedestrian Plan can also be used to help prioritize locations for pedestrian infrastructure projects. These pedestrian focus areas were identified using an approach that builds on the Pedestrian Index of the Environment. **Table 5** presents the metrics used to identify pedestrian focus areas– locations likely to have high volumes of pedestrians and a high need for pedestrian infrastructure. Each metric was equally weighted.

Table 5: Pedestrian Focus Area Criteria

Metric	Source
Demographic	
Population Density	U.S. Census, American Community Survey, 2018
Employment Density	Longitudinal Employer-Household Dynamics, 2017
Built Environment	
Density of Commercial and Entertainment Destinations	Open Streets Map
Transit Accessibility	General Transit Feed Specific (includes SamTrans, Caltrain, BART, and VTA)
Road Network Density	Open Streets Map
High crash locations	Statewide Integrated Traffic Records System, 2014-2018
San Mateo County Specific Inputs	
Priority Development Areas	Metropolitan Transportation Commission
Equity Focus Areas	U.S. Census, Housing and Transportation Affordability Index

Community-Identified Pedestrian Gaps

Community-identified spot gaps in the pedestrian network indicate key areas community members feel uncomfortable or unsafe walking that can be improved by more robust pedestrian infrastructure. Many identified spot gaps relate to major insufficient arterial or highway crossings or sidewalk gaps and are within the vicinity of transit stations, schools, and other local destinations. Some of these gaps are:

- **A grade-separated bicycle and pedestrian crossing of Caltrain tracks in North Fair Oaks**, connecting Westmoreland Avenue with either Berkshire or Pacific Avenue. The project closing this gap will provide a key connection for pedestrians and bicyclists of all ages and abilities, improving east-west connectivity in North Fair Oaks and beyond.
- **Missing sidewalks and crosswalks**, even in dense, urbanized areas. Community members repeatedly called out arterials and highways, such as Middlefield Road, El Camino Real, and Pescadero Creek Road, and many smaller streets.
- **Safe access across Highway 1**. The beaches along the Pacific Coast are some of the County's best natural resources, but access is blocked by traffic traveling up to 50 miles an hour. Some parallel and coastal trail projects in coastal communities will warrant the addition of controlled pedestrian crossings.
- **Space to wait at bus stops**. Where sidewalks are narrow or not present, transit riders often feel unsafe waiting for the bus.

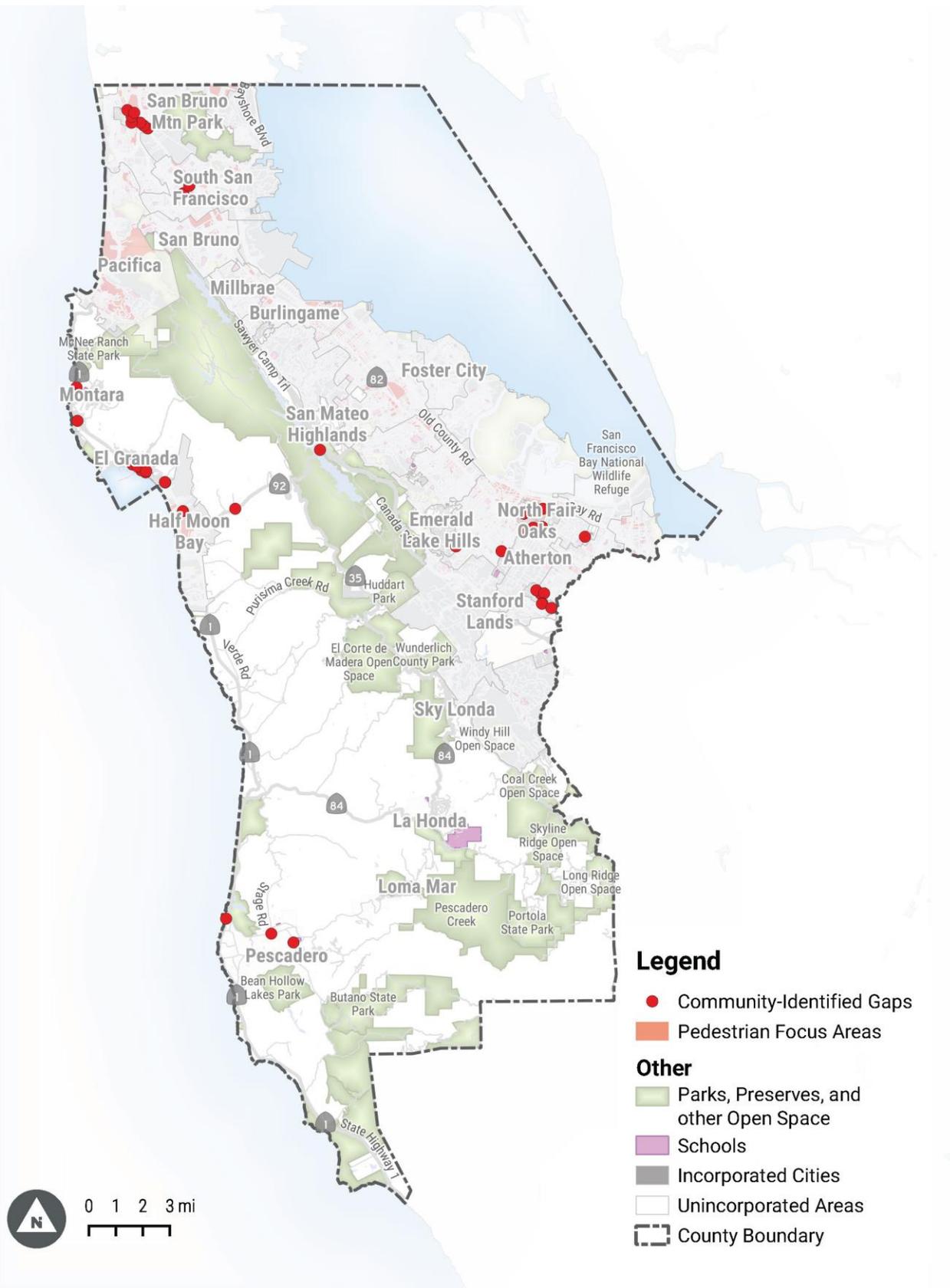


Figure 29: Pedestrian Focus Areas and Community-Identified Gaps

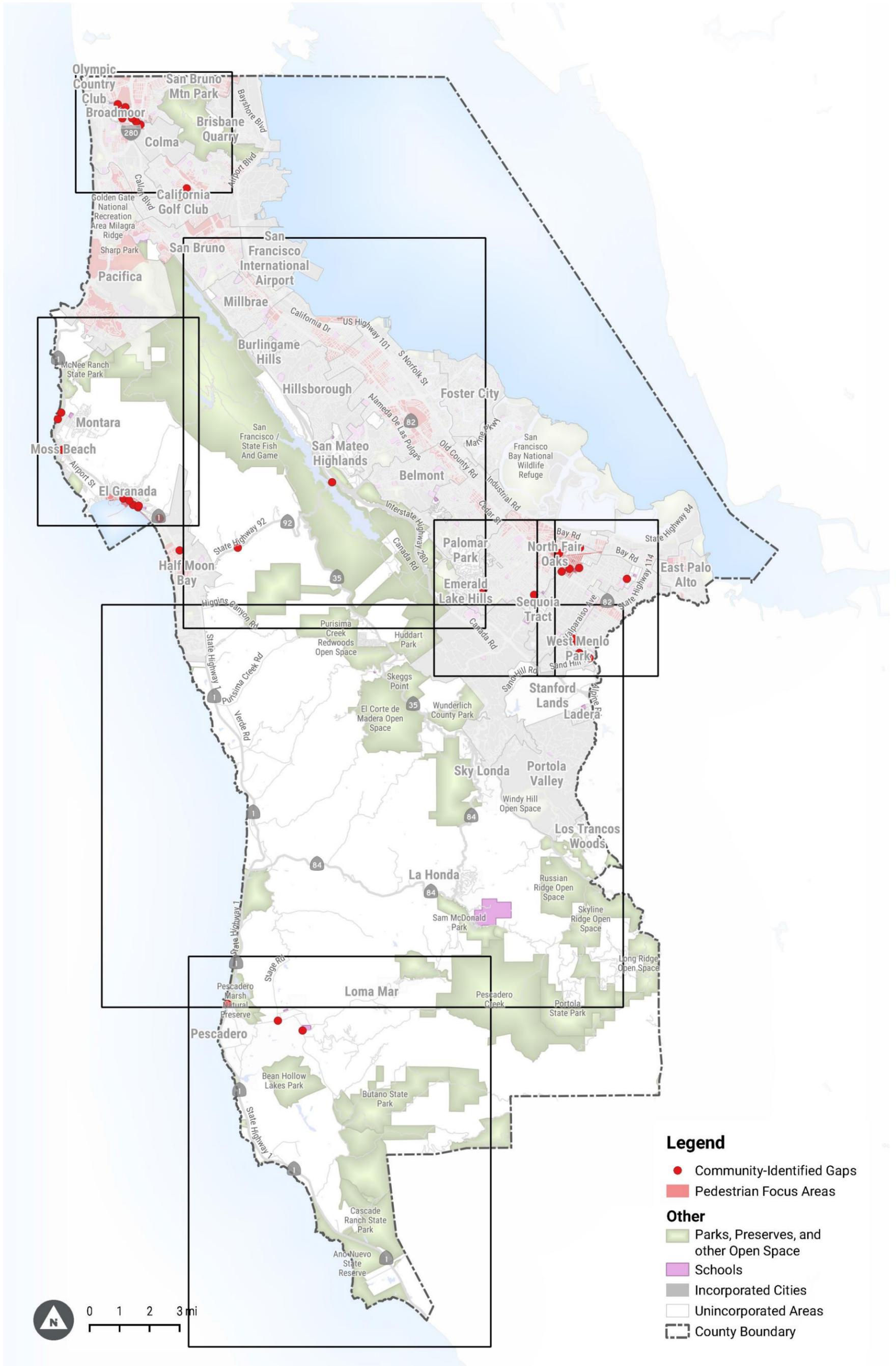


Figure 30: Pedestrian Focus Areas and Community-Identified Gaps - Inset Overview Map

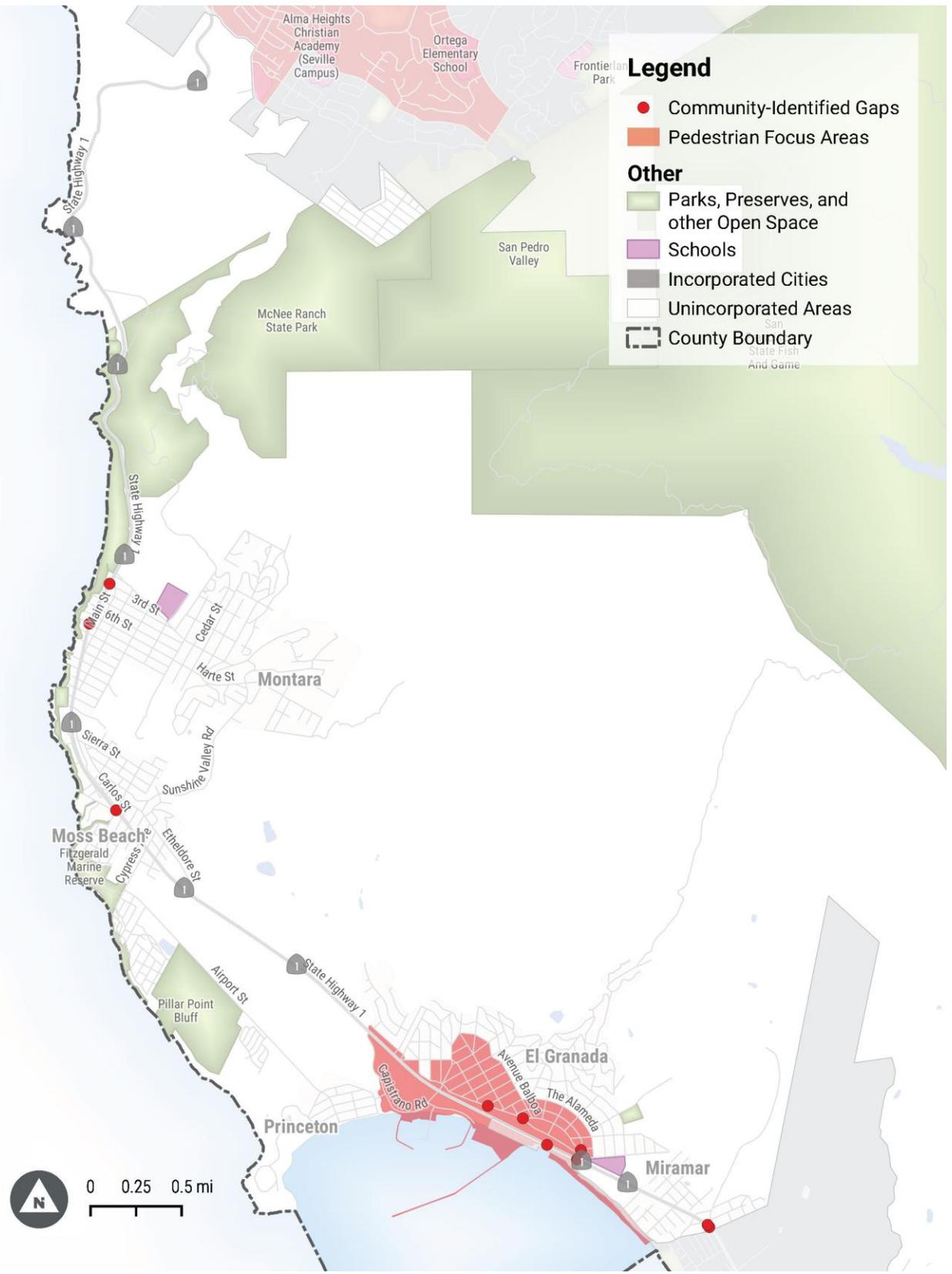


Figure 32: Pedestrian Focus Areas and Community-Identified Gaps – El Granada, Miramar, Montara, Moss Beach, Princeton



Figure 33: Pedestrian Focus Areas and Community-Identified Gaps – Burlingame Hills, Devonshire, Harbor/Industrial, Palomar Park, San Mateo Highlands

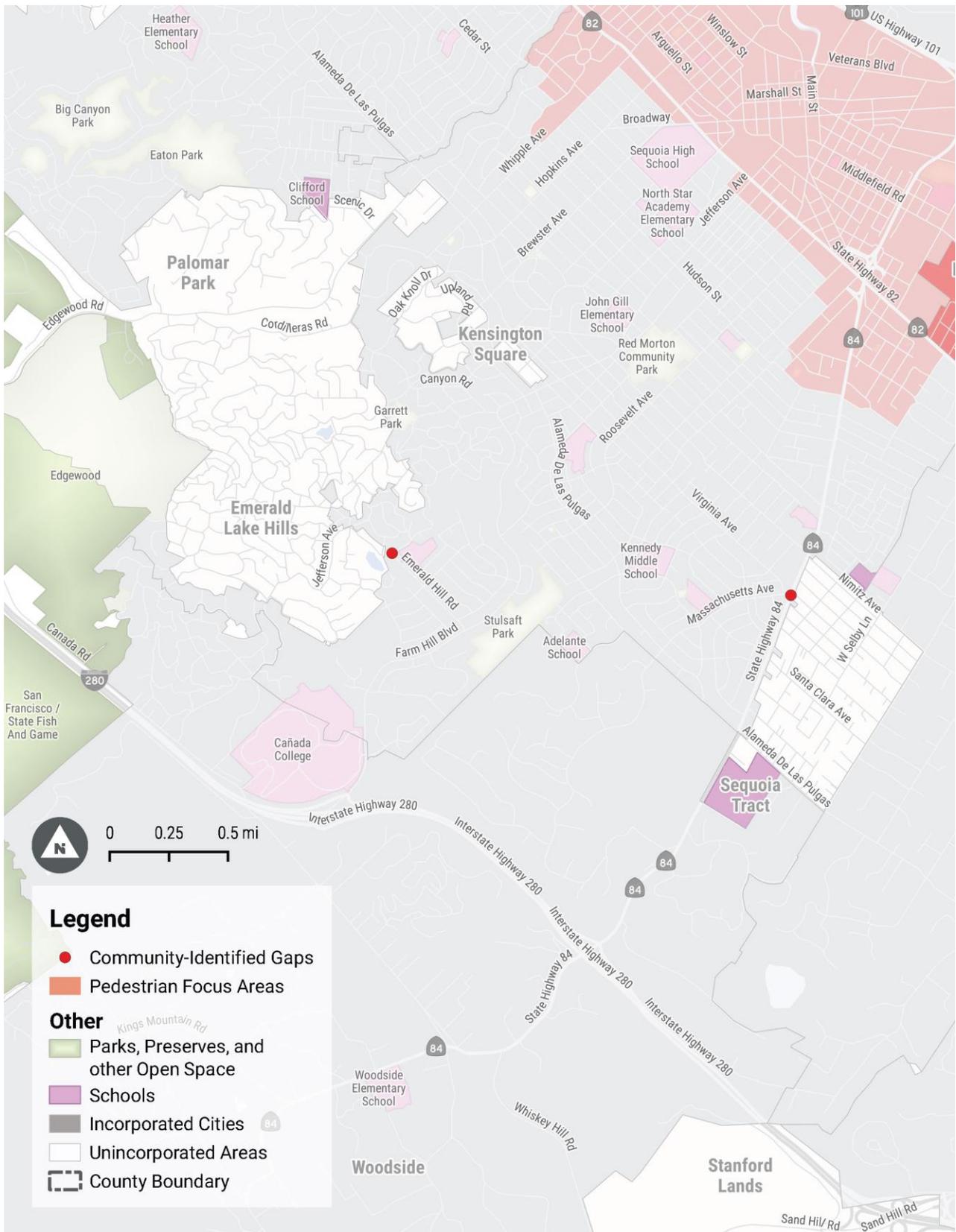


Figure 34: Pedestrian Focus Areas and Community-Identified Gaps – Emerald Lake Hills, Kensington Square, Palomar Park, Sequoia Tract

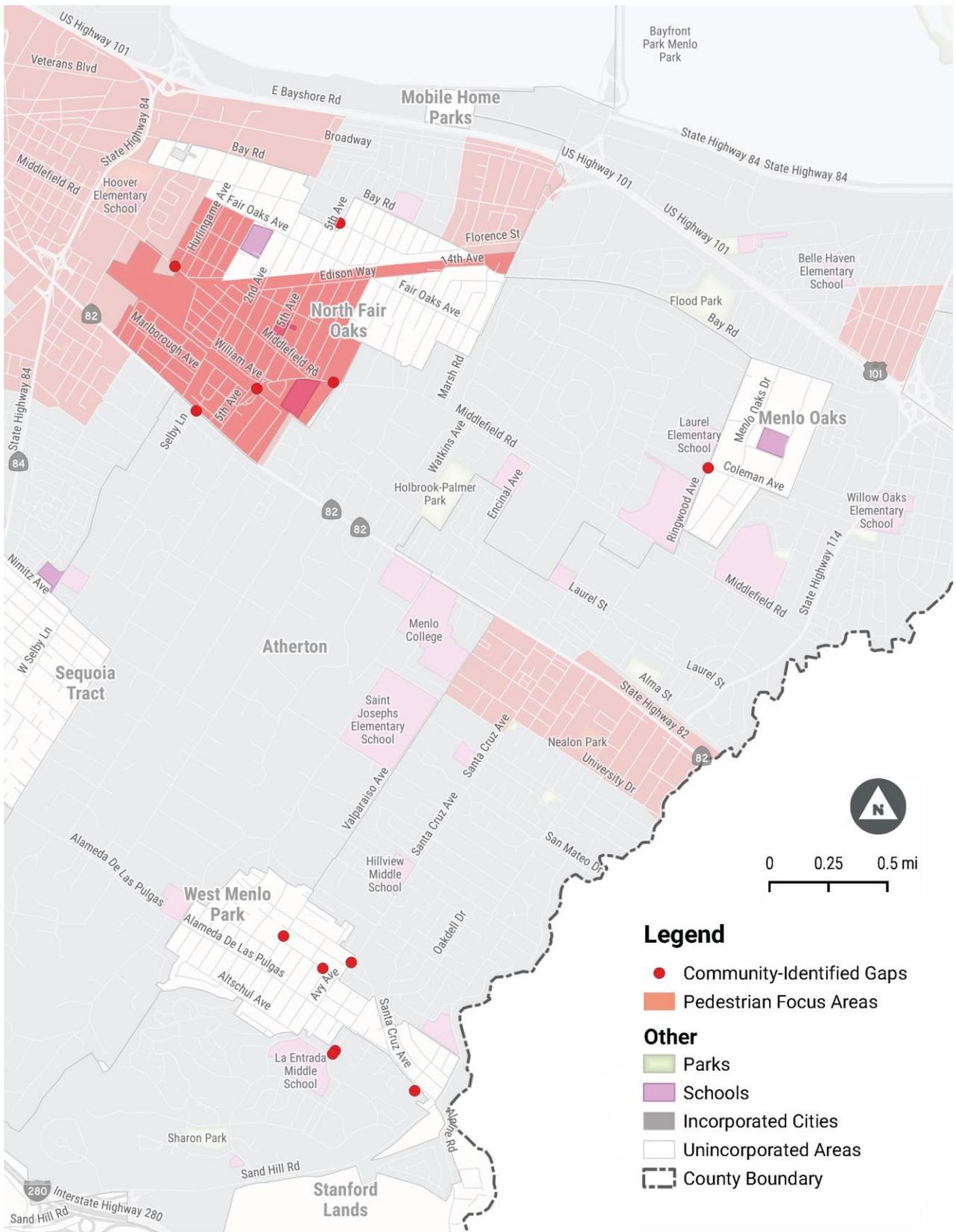


Figure 35: Pedestrian Focus Areas and Community-Identified Gaps – North Fair Oaks, Menlo Oaks, West Menlo Park



0 0.5 1 1.5 2 mi

Legend

● Community-Identified Gaps

■ Pedestrian Focus Areas

Other

■ Parks, Preserves, and other Open Space

■ Schools

■ Incorporated Cities

□ Unincorporated Areas

▭ County Boundary

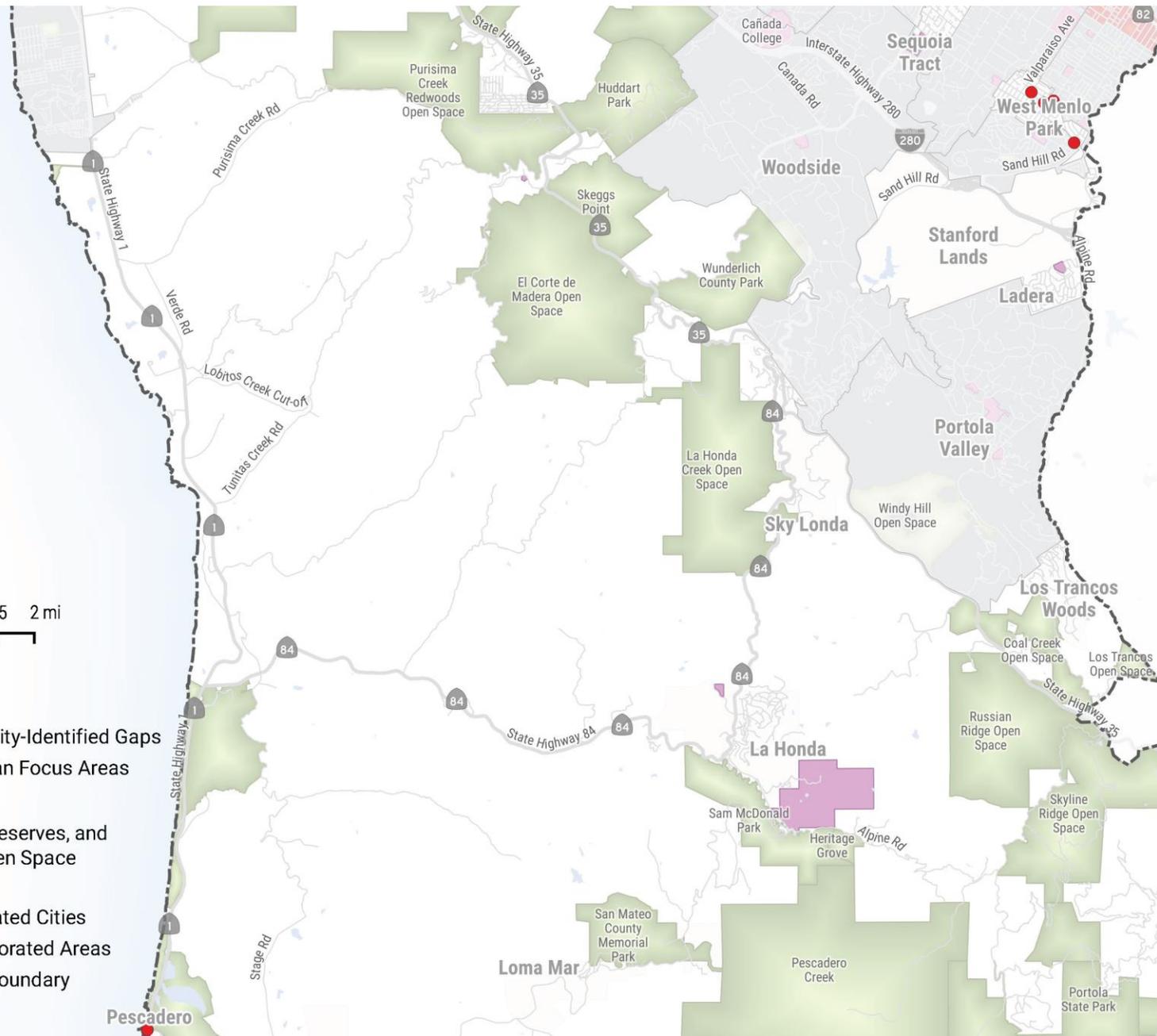


Figure 36: Pedestrian Focus Areas and Community-Identified Gaps – Ladera, La Honda, Sky Londa, Stanford Lands

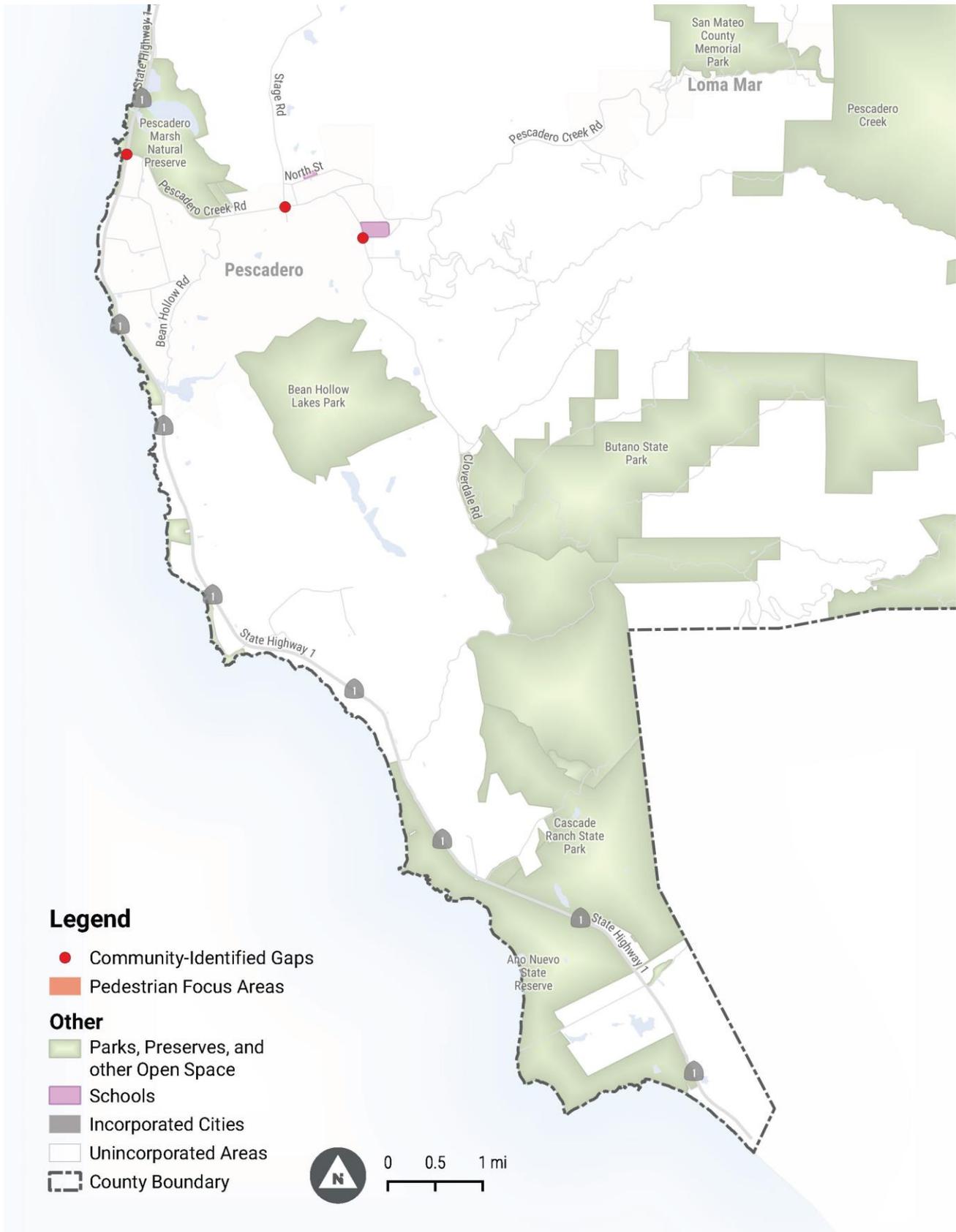


Figure 37: Pedestrian Focus Areas and Community-Identified Gaps – Loma Mar, Pescadero

Pedestrian Priority Destination Recommendations

Eleven locations that are representative of the different character areas within unincorporated San Mateo County were identified based on demand and gap analyses, walking and biking tours with Technical Advisory Committee members, and conversations with County staff and stakeholders, and assessed for pedestrian safety and access (**Figure 38**):

1. Benjamin Franklin Intermediate School and Garden Village Elementary School (Broadmoor)
2. Downtown Montara
3. Mavericks Event Center (Princeton)
4. Downtown El Granada
5. Downtown Pescadero
6. Downtown La Honda
7. Woodland School (Ladera)
8. Downtown West Menlo Park
9. Laurel School and Menlo-Atherton High School (Menlo Oaks)
10. Oak Knoll Drive/Canyon Road Intersection (Emerald Hills)
11. 5th Avenue from Park Road to Spring Street (North Fair Oaks)

The Plan team conducted a walk audit at each of these locations, focusing on opportunities to improve pedestrian safety and access. These walk audits had the specific purpose of identifying issues impacting the pedestrian environment and travel along the identified routes as well as identifying potential countermeasures to mitigate identified issues. Short- and long-term recommendations were developed for each location. Concept plans detailing these recommendations are presented in *Appendix D*.

Recommended treatment types for the pedestrian priority destinations are intended to serve as model applications of the pedestrian facilities presented earlier in this chapter and in the design toolkit in *Appendix C*, which may also be applied in other unincorporated locations, as appropriate. All pedestrian priority destination recommendations are subject to further study and further community conversations.

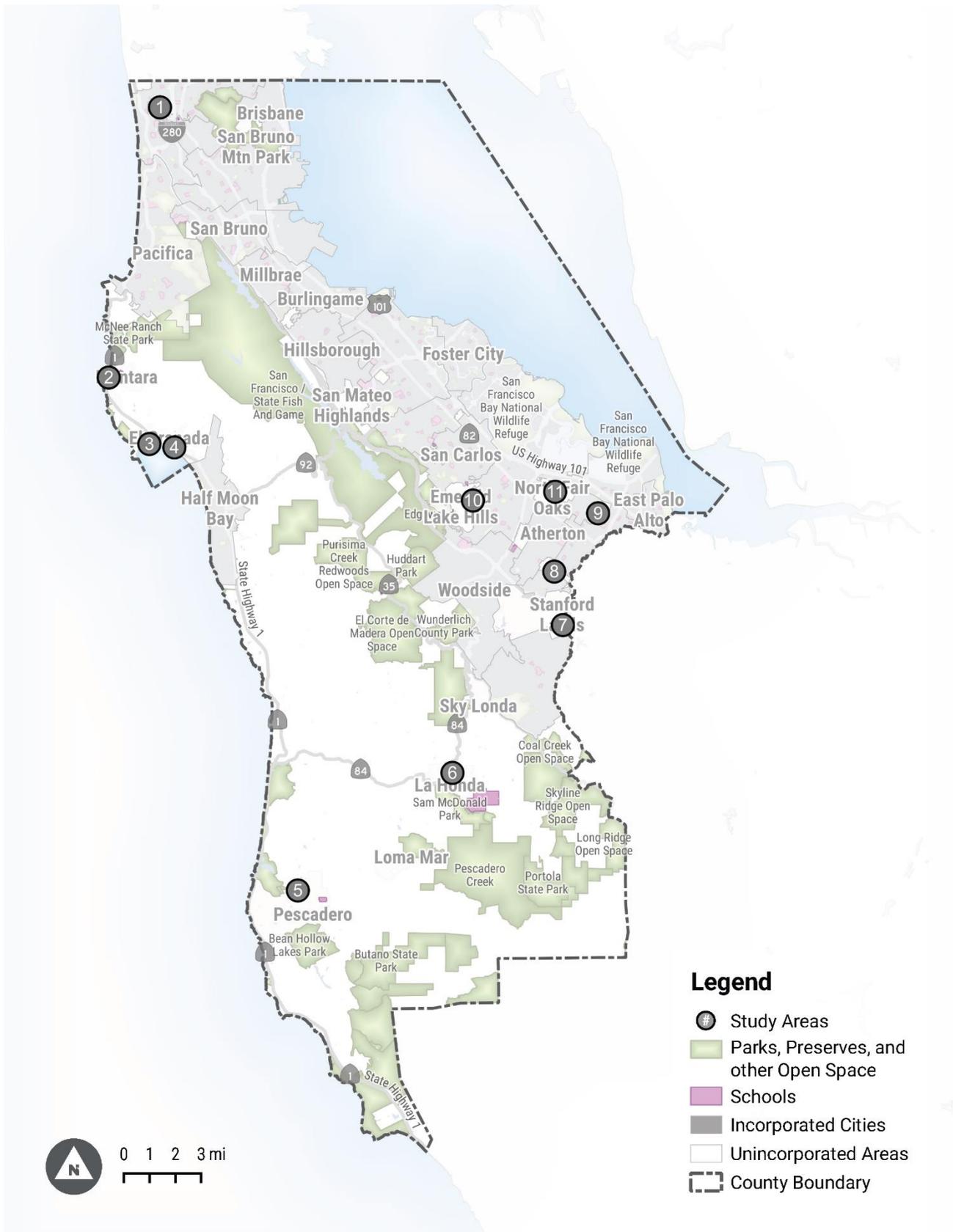


Figure 38: Pedestrian Key Destinations

ADDITIONAL PEDESTRIAN NETWORK ENHANCEMENTS

San Mateo County Safe Routes to School Recommendations

As part of the County's Safe Routes to School (SRTS) program, the County Office of Education (COE) has conducted walking audits at schools around the county. These walking audits resulted in recommendations to improve access and safety for walking and bicycling infrastructure near schools. *Appendix D* includes a list of walking and bicycling projects recommended for schools in unincorporated areas that have not yet been implemented. In addition to the pedestrian project recommendations developed as part of the Plan, it is recommended that the County implement these remaining Safe Routes to School projects.

Public Input Recommendations

In general, community members across the county want to see more, or wider sidewalks; crossing improvements at major intersections, and more street lighting. These trends were particularly pronounced among community members in North Fair Oaks. In a few rural communities, like Moss Beach, Pescadero, and Emerald Hills, residents want to maintain their community's rural character and are not interested in adding curbed, concrete sidewalks. In these communities, alternative walkways may be more appropriate than formalized sidewalks. In communities where walking in the street is common or desired, traffic calming can help create a safer and more comfortable environment for pedestrians, especially children and older adults.

Some communities, like North Fair Oaks and Broadmoor, have rolled curbs instead of vertical curbs, resulting in sidewalks that are often obstructed by drivers parking on the sidewalk. Design treatments like delineating the parking lane from the sidewalk can help more clearly define the separation of space and discourage parking on the sidewalk.

Additional location-specific recommendations that resulted from public feedback include:

- A pedestrian hybrid beacon at Selby Lane to cross El Camino Real in North Fair Oaks
- More designated pedestrian walkways and sidewalks in North Fair Oaks and Sequoia Tract
- Designated pedestrian facilities along Polhemus Road in the San Mateo Highlands
- High-visibility crosswalks and additional lighting at designated crossings in coastal communities
- Additional marked crossings of Highway 1 in midcoast communities, particularly Moss Beach

Coordination with Bicycle Infrastructure Recommendations

Bicycle projects are often just as beneficial for pedestrians as they are for bicyclists. Facilities that benefit both modes include the following:

- **Bicycle boulevard** traffic calming treatments can help create a safer and more comfortable environment not just for bicyclists but for pedestrians as well, especially children and older adults. This is especially beneficial in communities without formalized sidewalks.
- **Shared use paths** are intended for off-street travel by pedestrians, bicyclists, and other non-motorized users.
- **Crossing enhancements** and other pedestrian spot enhancements can often be coupled with the implementation of bicycle projects. This is especially true for minor pavement marking changes.

Although bicycle boulevard and shared use path recommendations are included in the bicycle network project list, it is important to recognize the benefit of these projects for pedestrians as well as bicyclists.



CHAPTER 5: SUPPORT PROGRAMS AND POLICIES



Programs and policies play a critical role in supporting active transportation infrastructure projects and encouraging more people to walk and ride a bicycle safely. San Mateo County's existing programs and policies, along with those recommended as part of this plan, will help the County achieve the goals set forth in this Plan.

EXISTING PROGRAMS AND POLICIES

San Mateo County coordinates a variety of programs throughout the urban and rural areas of the county. The existing programs focus on developing walking and bicycling facilities, encouragement and education events, data collection, and safety improvements.

COMPLETE STREETS

The County formally adopted a Complete Streets resolution in 2013. County staff consider elements of Complete Streets during road planning projects and review strategies and designs on a case-by-case basis.

TRAFFIC CALMING

The Department of Public Works has a residential speed control device program whereby residential streets that meet certain criteria (including a validated speeding issue and demonstrated neighborhood support) can qualify for speed humps. The traffic calming program is funded through general road project funds. Traffic calming requests are generally addressed on a first come, first served basis, with priority typically given to roads with higher volumes of vehicular, bicycle, and pedestrian traffic. An average of two traffic calming projects are implemented each year.

SAFE ROUTES TO SCHOOL

As noted on page 46, the COE currently operates a countywide SRTS program. It includes education and encouragement programs for students, such as bicycle rodeos and participation in International Walk and Roll to School Day, as well as walk audits to identify possible active transportation infrastructure improvements around schools. While some collaboration currently takes place between the COE's SRTS program, the Office of Sustainability and Department of Public Works, expansion of this partnership can generate additional benefits promoting active transportation and instilling healthy lifestyle choices early in childhood development.

ENCOURAGEMENT EVENTS

The County hosts a few annual encouragement activities focused on commute trips, such as the International Walk and Roll to School Day hosted by the COE and Bike to Work Day, which is supported by the Office of Sustainability, as well as weekly Bicycle Sundays, an Open Streets event during which Cañada Road is closed to motor vehicles and open only to non-motorized traffic like walking, bicycling, jogging, and roller skating.

BICYCLE AND PEDESTRIAN COUNT PROGRAM

San Mateo County participates in the National Bicycle and Pedestrian Documentation (NBPD) Project to collect bicycle and pedestrian count data for planning and for public use. Bicycle and pedestrian counts, using standardized NBPD guidelines, are collected annually throughout the county with the help of community volunteers.

RECOMMENDED PROGRAMS AND POLICIES

The Plan team identified a list of program and policy recommendations based on a review of existing efforts, discussions with key County Staff members, and a review of industry best practices. The recommended programs and policies are organized into four categories:

- **Planning, design, and management recommendations** to help the County improve practices around developing and maintaining their active transportation network and facilities.
- **Education and encouragement recommendations** to help the County build upon their existing programs to support safe travel by users of all modes, including those who walk or ride a bicycle.
- **Funding and implementation recommendations** to help the County pursue additional funding for active transportation projects.
- **Additional policies and practices** recommended for the County to adopt to improve active transportation conditions in San Mateo County.

Table 6 presents a list of recommended programs and policies. A complete, detailed list of San Mateo County's existing and recommended active transportation programs and policies is available in *Appendix E*. The Plan team spoke with key stakeholders to identify the top five recommendations that should be prioritized for implementation. These recommendations are **emphasized** in Table 6 and are discussed in greater detail below.

Table 6: Summary of Supportive Program and Policy Recommendations

Topic	Recommended Support Program or Policy
Planning, Design, and Management	
Complete Streets	<ul style="list-style-type: none"> • Adopt and implement a Complete Streets design toolkit.
Traffic Calming	<ul style="list-style-type: none"> • Employ traffic calming strategies in locations where traffic speeds are too high for pedestrian or bicyclist comfort and areas where anticipated active transportation demand is high. • Consider establishing 15 mph school zones and other slow zones near parks, community facilities, or senior housing.
Maintenance Practices	<ul style="list-style-type: none"> • Develop a clear process for identifying and addressing active transportation facility maintenance needs. • Identify policy solutions to mitigate garbage can or other obstructions in bikeways.
Connections to Transit	<ul style="list-style-type: none"> • Work with BART, SamTrans and Caltrain, and neighboring jurisdictions to identify infrastructure and programmatic improvements to increase pedestrian, bicycle, and micromobility access to transit.
Recreational Bicycling Amenities	<ul style="list-style-type: none"> • Provide amenities for recreational bicyclists at key locations, for instance on the coastside.
Equity	<ul style="list-style-type: none"> • Ensure that public involvement follows best practices for engaging with traditionally underrepresented communities. • Develop and implement an equity framework for current and future transportation planning and practices. • Develop a strategy to mitigate the potential impacts of active transportation projects on displacement in historically underserved communities • Develop a strategy to address potential disproportionate impacts of enforcement on people of color and safety and security concerns among vulnerable populations.

Topic	Recommended Support Program or Policy
Bicycle Parking	<ul style="list-style-type: none"> • Incorporate bicycle parking standards as a component of updates to the County's parking ordinance and zoning districts.
Americans with Disabilities Act (ADA) Design Standards	<ul style="list-style-type: none"> • Explore opportunities to bring existing facilities into compliance, as required by law.
Pedestrian and Bicycle Accommodations during Construction	<ul style="list-style-type: none"> • Explore the creation of clear guidelines for accommodating bicyclists and pedestrians in construction zones to build upon MUTCD guidance.
Education and Encouragement	
Safe Routes to School	<ul style="list-style-type: none"> • Improve coordination between the County's Department of Public Works, Office of Education, Office of Sustainability, and Sheriff's Department to expand the existing Safe Routes to School Program.
Encouragement Events	<ul style="list-style-type: none"> • Coordinate with County departments and other agencies to support and expand encouragement events.
Transportation System Management Programs	<ul style="list-style-type: none"> • Explore opportunities to strengthen the existing Transportation Systems Management (TSM) program and incorporate bicycle and pedestrian facilities or amenities.
Diversion Program	<ul style="list-style-type: none"> • Implement an alternative to punitive traffic citations that teaches safe biking practices and traffic laws.
Outreach	<ul style="list-style-type: none"> • Develop materials such as neighborhood walking/bicycling maps to promote active transportation. • Implement short-term interim, high-visibility bicycle demonstration or 'pop-up' projects to serve as models that can be applied throughout the county.
Funding and Implementation	
Active Transportation Project Funding	<ul style="list-style-type: none"> • Develop an active transportation project funding and implementation strategy.
Active Transportation Team	<ul style="list-style-type: none"> • Evaluate staffing and staff capacity needed to establish and maintain an inter-departmental active transportation team to implement this Plan.
Rapid Implementation and Pilot Projects	<ul style="list-style-type: none"> • Develop strategies for rapid network implementation treatments. • Identify funding for rapid network implementation treatments.
Additional Policies and Practices	
Vision Zero	<ul style="list-style-type: none"> • Develop a Vision Zero policy and program. • Develop a systematic practice for reviewing collisions involving active transportation users and publish an annual report. • Review best practices for intersection treatments and develop a strategy to systematically improve bicycle and pedestrian crossings.
Micromobility	<ul style="list-style-type: none"> • Communicate with C/CAG and other local jurisdictions to gauge interest in and develop micromobility programs.
Bicycle and Pedestrian Count Program	<ul style="list-style-type: none"> • Update the existing bicycle and pedestrian count program.

TOP FIVE RECOMMENDATIONS

Discussions with the Plan's Technical Advisory Committee led to the identification of a shortlist of five key recommendations that should be prioritized for implementation:

1. Develop an active transportation project funding and implementation strategy.

Active Transportation projects can be funded in a variety of ways. Communities that have well-established active transportation networks use a wide variety of funding sources. There is not one standard source that communities can draw from—funding should come from all different levels of government and the private sector.

- Develop work plans for prioritized projects identified in the ATP that summarize project purpose and benefits, scope, schedule, costs, and potential impacts/issues to be addressed.
- Create a line item in the Capital Improvement Program for implementation of the Active Transportation Plan recommendations.
- Pursue grant funding for active transportation projects. Refer to Chapter 6 for a list of potential funding sources for active transportation projects at the time of publishing of this plan.
- Establish a policy that requires new developments to build, or contribute fees toward, active transportation facilities, or consider the inclusion of these requirements as a part of zoning district updates.
- Coordinate County-led and other agency-led bicycle and pedestrian infrastructure projects with maintenance and street improvement projects, such as repaving, green infrastructure projects, bridge replacement, or lane reconfiguration.

2. Develop strategies for rapid network implementation.

Rapid network implementation projects can take many forms, but the primary goal is to build out comfortable bikeway and pedestrian networks using lower-cost installation options. Rapid implementation projects can be used as a permanent solution, or as an interim treatment while a more complex final design solution is developed. These types of programs can be implemented with support from non-profits, adjacent cities, or as part of repaving strategies. Even facilities such as Class IV Separated Bikeways or curb extensions can be implemented rapidly with paint and bollards, depending on context. Determine which facilities can be implemented with primarily signing and striping (e.g., Class II Bike Lanes) to create a simplified connected bicycle network.

3. Develop and implement an equity framework for current and future transportation planning and practices.

Transportation planning efforts and services should be evaluated to ensure the equitable distribution of transportation services and benefits. The equity framework should prioritize the allocation of funding and investment toward communities that are historically underserved. Since traditionally underserved populations may be especially dependent on public transit and active transportation facilities, it is important to ensure that these populations have equal or better access to active transportation networks suitable for people of all ages and abilities. Public services such as enforcement should be examined to assess their impact on people of color and programs and policies should be implemented to reduce any disparities or harmful impacts resulting from such services. For example, programs like the County's ticket diversion program can reduce disproportionate financial impacts that may arise from enforcement practices.

4. Develop a Vision Zero policy and program.

Vision Zero is a systemic approach to improving roadway safety. Identify opportunities to fund Vision Zero program and implementation efforts and conduct a comprehensive analysis to understand collision patterns and

determine where to focus safety improvements and education, for instance through the development and assessment of high-injury networks.

5. Employ traffic calming strategies in appropriate locations.

Review the County's current Traffic Calming Program (Residential Speed Control Program) and consider updating it to ensure the equitable distribution of investment, and to include a wide variety of context-sensitive traffic calming treatments. Traffic calming treatments, especially those used along bicycle boulevards, can include speed humps, traffic circles, chicanes, curb extensions, raised crosswalks, or other treatments proven to slow motor vehicle speeds. The County should prioritize and implement traffic calming on streets near parks, trails, and schools with risk factors for speeding, such as excess roadway width and long, straight viewsheds, streets with a history of bicycle and pedestrian collisions, or in areas with high concentrations of vulnerable populations, including low-income and transit-dependent communities. Education and outreach in neighborhoods along roadways with traffic calming treatments can increase public acceptance and support for traffic calming treatments and ensure that road users know how to navigate new or uncommon treatments.



CHAPTER 6: IMPLEMENTATION AND FUNDING



This chapter provides an overview of the prioritization metrics and methodology used to weigh infrastructure project recommendations to help the County determine which should be implemented in the short- and long-term. This chapter also summarizes implementation strategies and funding opportunities for implementing projects.

PRIORITIZATION

While every recommended project is of value, not every project is able to be implemented at once, due to a variety of spatial, monetary, environmental, and political constraints. The first step in considering which projects should be implemented is to prioritize those projects based on a set of criteria to help determine which projects may provide the greatest benefit. The prioritization criteria align with the Plan goals of access, safety, equity, mode share, and flexibility. This section provides an overview of the prioritization methods used for on-street bicycle projects (bicycle projects that are contained within a street right of way) and pedestrian projects.

BICYCLE PROJECT PRIORITIZATION

Bicycle Project Prioritization Categories

The following categories were used to score on-street bicycle projects:

- **Connectivity** – Is the project within a certain radius of identified destinations? Does the project provide connectivity across a major barrier?
- **Comfort** – Does the project meet All Ages and Abilities (AAA) criteria?³ Does the project connect to an existing or planned bicycle facility?
- **Safety** – What is the existing crash frequency along the project alignment and, therefore, the potential to improve safety with the project?
- **Equity** – Does the project meet defined statewide or local equity measures?
- **Potential Ridership** – Based on geospatial analysis, is the project located in an area of high potential demand?

Bicycle Prioritization Criteria

Each category was used to develop one or more measures to score and rank projects. The scoring criteria for on-street bicycle projects is presented in **Table 7**. Other factors that should be considered but may not be fully known until further study is conducted may include, but are not limited to community support, cost, and feasibility.

³ All Ages and Abilities criteria is based on an FHWA facility selection that determines if a bikeway is appropriate based on a given roadway's speed limit and volumes. This is detailed in Chapter 3.

Table 7: Bicycle Project Prioritization Scoring Criteria

Criteria	Measure	Points
Connectivity	Highest Number of Points Possible	13
Transit Access	Number of Bart or Caltrain stations within 1 mile, normalized by project corridor length. Score applied as quartiles.	2
	Number of bus stops within 500, normalized by project corridor length. Score applied as quartiles. Projects along a high frequency route will receive 1 point.	1
School, Community Center, & Library Access	Number of schools, community centers, and libraries within ½ mile, normalized by project corridor length. Score applied as quartiles.	2
Park & Trailhead Access	Within ¼ mile	2
	Between ¼ and ½ mile	1
Retail Access	Number of commercial parcels within 500 feet, normalized by project corridor length. Score applied as quartiles.	2
Employment Access	Number of jobs within ½ mile, normalized by project corridor length. Score applied as quartiles.	2
Connectivity Across Major Barriers ⁴	Provides connectivity across a major barrier	2
Comfort	Highest Number of Points Possible	5
All ages and abilities (AAA) bikeway ⁵	Over ½ of the project corridor length:	
	• Meets AAA criteria and connects to existing facility	5
	• Meets AAA criteria and connects to planned facility	4
	• Meets AAA criteria and does not connect to existing or planned facility	3
	• Does not meet AAA criteria but connects to existing facility	2
• Does not meet AAA criteria but connects to planned facility	1	
Safety	Highest Number of Points Possible	5
Collision History ⁶	Concentration of collisions along project corridor alignment, normalized by project corridor length. Score applied as quartiles.	5
Equity	Highest Number of Points Possible	8
Statewide Equity Measure ⁷	Project is in one or more statewide eligible disadvantaged communities:	8
	<ul style="list-style-type: none"> • CalEnviroScreen 3.0: top 25th percentile • Median Household Income (MHI): less than 80% of statewide MHI • National School Lunch Program: at least 75% of students eligible to receive free or reduced meals • Healthy Places Index: top 25th percentile • Regional Definition: in an MTC Community of Concern 	
San Mateo County-Specific Equity Measure	Over ½ of the project corridor length is within C/CAG-defined equity focus area and not within the statewide equity measure. ⁸	4
Potential Ridership	Highest Number of Points Possible	9
Potential Bicycle Demand	At least ½ of the project corridor length is within a census block ⁹ with a high potential demand score.	5
Urban Area	At least ½ of the project corridor length is within a Census-designated urban area or urban cluster.	4
TOTAL POINTS POSSIBLE		40

⁴ Major barriers considered here are SR-1, SR-35, SR-82, SR-84, SR-92, I-280, US 101, rail alignments, and waterways

⁵ All Ages and Abilities criteria is based on an FHWA facility selection that determines if a bikeway is appropriate based on a given roadway's speed limit and volumes. This is detailed in Chapter 3.

⁶ A weighted crash total of bicycle crashes that occurred between 2013 and 2017 along each project will be calculated. Crashes to be weighted based on the severity of the most severe injury resulting from the crash: killed or seriously injured (KSI) crashes at 3 points, non-KSI crashes at 1 point.

⁷ If a project scores points for the Statewide Equity Measure, it is not awarded points for the County-specific Equity Measure. All statewide metrics use data at the Census tract level except for National School Lunch Program which provides data for each school.

⁸ Project is in top 20th percentile of an aggregate equity score. The equity score was calculated by aggregating the percentile ranks for each Census block group for median household income, non-white population, and the Housing and Transportation Affordability Index.

⁹ Census blocks, as defined by the U.S. Census Bureau, are statistical areas bounded by visible or nonvisible features. More information can be found here: <https://www.census.gov/newsroom/blogs/random-samplings/2011/07/what-are-census-blocks.html>.

Bicycle Project Phasing

The proposed phasing of the bicycle network is based on the bicycle project prioritization. The project segments are categorized into three tiers, based on data-driven prioritization criteria. Tier I projects are considered the highest priority for implementation in the short term, and Tier II and Tier III projects are considered for implementation in the medium and long term, respectively. Implementation methods and considerations are discussed in the following sections. The list of prioritized bicycle project segment, presented in *Appendix D*, is intended to be used as a starting point and is subject to change. As opportunities arise through other processes and are influenced by other factors (e.g., a new development or infrastructure project, a grant funding call, and community support), a lower-ranked project may become suitable for implementation sooner. In addition, some Tier I projects may be implemented over the longer term due to their complexity and cost. Lower-cost projects that do not require significant changes to the existing roadway cross section may also be prioritized.

- **Tier I Projects – Short-Term (1-5 years)** – Tier I projects, when possible, should be implemented in the short term, typically within five years.
- **Tier II Projects – Medium-Term (6-10 years)** – Tier II priority projects are intended to be implemented within six to ten years.
- **Tier III projects – Long-Term (11+ years)** – Tier III projects are intended for implementation after short- and medium-term projects.

Some projects, such as some Class I shared use paths, overcrossings/undercrossing of major barriers, and facilities facing other implementation constraints will necessitate a more sustained effort to come to fruition. While these projects may take longer to implement, the County should begin to consider the steps towards construction such as the development of work plans and initial studies/preliminary planning to increase implementation preparedness and public support. Implementation of these projects could occur through grants, funding allocation in capital improvement plans or proposed mitigation that corresponds to future development. If it's not possible to implement a Tier I project in the near term, consideration should also be given to providing an alternative, interim level of improvement that is more feasible to implement to improve the existing condition.

Ongoing High-Priority County Projects

Additional priority projects are those that were under consideration for development at the time of Plan adoption, given the importance of completing work already underway and the benefits of the projects to the County's active transportation network. The projects below have strong community support and will significantly improve conditions for walking and biking. The projects are in various stages of funding and implementation:

- The **Alpine Road Traffic Corridor Study** focuses on an approximate two-mile stretch of Alpine Road between Menlo Park and Portola Valley within unincorporated County. It identifies a series of near- and long-term improvements focusing on congestion reduction for regional commute trips off of I-280, as well as bicycle and pedestrian safety. This road is heavily utilized by recreational bicyclists, particularly on weekends.
- The **Midcoast Multimodal "Parallel" Trail** is a planned bicycle and pedestrian trail along the east side of Highway 1 through the unincorporated Midcoast communities connecting Montara, Moss Beach and El Granada to the Naomi Patridge Trail to the south in Half Moon Bay. The Parallel Trail, identified in the County's Connect the Coastside Plan, will provide a critical active transportation link for Midcoast residents and visitors. The first segment of the trail within the unincorporated County will be from Mirada Road to Coronado Street, and is slated to be under construction as of 2021.
- The **Middlefield Road Improvement Project** is a planned reconstruction of Middlefield Road from Pacific to 5th Avenue in North Fair Oaks. The design includes a road diet to calm traffic, reducing the number of motor vehicle through lanes from four to two, wider sidewalks, the addition of bike lanes, and the undergrounding of utilities. The project is funded and anticipated to begin construction in the summer of 2021.

- The **Santa Cruz Ave/Alameda de las Pulgas Improvement Project** is a planned reconstruction of Santa Cruz Avenue, from Sand Hill Road to the Alameda de las Pulgas, and from the Alameda De Las Pulgas between Santa Cruz Avenue to Avy Avenue. This project proposes a reduction in the number of motor vehicle through lanes from four to two on the Alameda de las Pulgas segment and from four to three lanes on the Santa Cruz segment, as well wider sidewalks, buffered bikes lanes and a number of other safety and access improvements. As of 2020, the County has secured grant funding to move this project through the environmental and final design phases prior to construction.
- A feasibility study for a new **pedestrian and bicycle crossing of the Caltrain tracks**, as identified in the North Fair Oaks Community Plan, is a project that the County is in the initial steps of pursuing funding to develop. The North Fair Oaks community is bifurcated by the Caltrain Corridor, with only one crossing of the Caltrain tracks at 5th Avenue. The feasibility study would explore options for a safe, grade-separated crossing in the vicinity of Pacific and Berkshire Avenues to Westmoreland Avenue in North Fair Oaks to increase accessibility and improve connections to community destinations on both sides of the train tracks. The study will also address options to improve walking and biking access along proposed connecting bicycle boulevards from the proposed crossing to Middlefield Road to the east and El Camino Real to the west.

PEDESTRIAN PROJECT PRIORITIZATION

Pedestrian Project Prioritization Categories

The following criteria, much of which is similar to the bicycle project prioritization criteria, will be used to evaluate pedestrian projects as they arise:

- **Connectivity** – *Is the project within a certain radius of key destinations? Consider proximity and access to destinations such as transit stops and stations, schools, community centers, libraries, parks and regional open space preserves, and retail and employment centers. Does the project provide connectivity across a major barrier? Consider the connections that the project provides across freeways, large intersections, rail alignments, and waterways.*
- **Safety** – *What are the crash frequency trends along the project alignment and, therefore, the potential to improve safety with the project?*
- **Equity** – *Does the project meet statewide equity measures? Determine if the project is in:*
 - a CalEnviroScreen Disadvantaged Community,
 - an area with a Median Household Income (MHI) less than 80% of the statewide MHI,
 - an area where at least 75% of students are eligible to receive free or reduced meals,
 - the top 25th percentile on the Healthy Places Index, or
 - an MTC Community of Concern.
- **Potential Demand** – *Based on geospatial analysis, is the project located in an area of high potential pedestrian demand?*
- Other considerations may include community support, cost, and feasibility.

Pedestrian Prioritization Criteria

Pedestrian projects were not prioritized as part of the Plan. Should the need arise to prioritize pedestrian projects in the future, the applicable bicycle project prioritization measures and weights can be applied to pedestrian projects.

Pedestrian Project Implementation

The discussion on implementation methods is bicycle-focused due to the more in-depth analysis of corridor trade-offs that typically occurs for bicycle projects. Pedestrian projects can typically be implemented as part of the following types of work:

Roadway Repaving & Restriping

- » Striped pedestrian walkways
- » High-visibility crosswalks

Roadway Reconstruction

- » Curb extensions
- » Crossing treatments (PHBs, RRFBs, raised crosswalks, crossing islands)
- » Pedestrian-scale lighting

Construction

- » Shared use paths
- » Sidewalks
- » Upgrading curb ramps with detectable warning panels

Pedestrian Project Phasing

The eleven pedestrian priority destination recommendations are identified as high-priority pedestrian projects to be targeted for implementation in the short term within the different character areas of the unincorporated county. The Plan provides the framework for the County to identify and implement additional pedestrian projects that align with Plan priorities and goals. The County will prioritize these projects as they are identified.

IMPLEMENTATION STRATEGY

The recommended projects will be implemented over time as more detailed planning occurs, funding is acquired, and other implementation opportunities arise. On-street projects can often be implemented as part of other road resurfacing or construction projects as well as through mitigation associated with new development. Since shared use paths are off-street facilities, they are almost always constructed as standalone projects instead of in conjunction with resurfacing or roadway construction projects. Right of way and environmental and political constraints can also impact the type of facility that is provided and influence project phasing.

Implementation Methods

Bicycle and pedestrian project implementation will vary based on the recommended facility type and the location and nature of the project. This section discusses methods that will be used by San Mateo County to expand its active transportation network. While bicycle network projects often address linear changes along a corridor, pedestrian projects can typically be implemented as location-specific spot treatments, and depending on the project, may require less analysis of trade-offs along a corridor. The Plan's bicycle network recommendations are tailored to the streets on which they are located; however, there are multiple ways to implement these recommendations. Further analysis, including input from community engagement and traffic and parking studies in environmental impact assessments, may be required prior to the implementation of network recommendations. Facility types may be subject to change based on that analysis. Similarly, the County will endeavor to provide the highest quality facility that is feasible, context-sensitive, and furthers our goals in transportation, in alignment with the Plan's goal of flexibility.

Many of the recommended projects will require further study and community engagement before they are finalized and implemented. For example, a bicycle boulevard is recommended along Coleman Avenue in Menlo Oaks due to existing constraints. However, San Mateo County recognizes that this is just one option for the design of this corridor and encourages additional community engagement and further study as this project progresses.

Roadway Repaving and Restriping

One of the best opportunities to implement on-street bike facilities is through resurfacing and paving projects. In these cases, the addition of bike facilities may be accomplished simply through striping. Restriping projects, which involve removing and replacing existing roadway striping, are also opportunities to reconfigure the street for a bike facility. Reconfiguring the existing roadway space can take the form of narrowing travel lanes or reallocating travel lanes or parking lanes to accommodate Class II bicycle lanes or Class IV separated bicycle lanes, as mentioned in the Chapter 4 discussion on road and lane diets. Each individual street will need to be studied at the time of implementation, and a community discussion about reallocation of space may be needed. Existing County processes surrounding parking removal, for instance, incorporate community engagement. Class III bicycle boulevard markings, shared lane markings, bikeable shoulders, and vertical traffic calming measures (like speed humps and speed tables) can also be implemented in conjunction with repaving and restriping.

Repaving and restriping projects can also create opportunities to install crossing improvement projects like “paint-and-plastic” curb extensions, refuge islands, no parking zones, or larger projects like installing Rectangular Rapid Flashing Beacons or pedestrian hybrid beacons. Planned repaving or restriping projects near schools offer an opportunity to install Safe Routes to School safety improvements.

Roadway Reconstruction

Reconstruction projects address a greater depth of the roadway, often fixing more significant structural or pavement issues than can be addressed through resurfacing. While restriping projects may only include changes like the striping of new bike facilities or the addition of vertical traffic calming elements, reconstruction projects may incorporate changes like moving curbs to accommodate bike facilities, implementing horizontal traffic calming measures (such as chicanes, curb extensions, tighter curb radii, or bulb-outs), and green infrastructure improvements. Reallocation of roadway

Consider the benefit of implementing pedestrian and bicycle projects concurrently, where applicable, to improve safety, access, and connectivity for multiple modes.

space and construction of vertical traffic calming elements are also possible with reconstruction projects. Most of the on-street recommendations in this Plan are designed to be implemented without widening of the paved roadway; but where that is needed, a project may require full or partial reconstruction rather than resurfacing. In some cases, reconstruction offers the opportunity to reconfigure intersections for increased bicyclist and pedestrian safety and comfort. For example, removal of dedicated right-turn lanes can benefit pedestrians and bicyclists by removing a point of potential conflict with automobiles. Class IV separated bicycle lanes and Class I shared use paths could be considered for implementation in reconstruction projects where the roadway edge is being addressed.

Construction

Off-street projects are often constructed as standalone projects. These projects include Class I shared use paths constructed outside the existing roadway as well as new overpasses and underpasses with bicycle and pedestrian facilities or those intended for explicit pedestrian and bicycle travel. Class I shared use paths can also be implemented as part of mitigation measures in larger projects or constructed through local development projects. Minor construction may include roadway widening to accommodate bike lanes or shoulders along a roadway, without repaving or reconstructing the entire roadway width. This can occur along the entire length of the facility or at select locations with poor sight lines, where spot widening would provide dedicated space for bicyclists, helping lower the possibility of collisions.

Implementation Considerations

Consider the benefit of beginning with a core, connected network rather than implementing disconnected projects that may be more feasible or quick to implement.

Prioritization is just a first step in the project implementation process. Beyond the initial prioritized project list, implementation considerations such as subsequent level of community engagement, topography and environmental constraints, available funds, and eligibility criteria associated with future funding opportunities will factor into the order of project implementation.

Answering the following questions about each project can help staff understand which projects are more readily implementable:

- Does a project require only striping and signage to be implemented?
- Does a project require the reallocation of street space, necessitating further community dialogue?
- Does a project require the acquisition of additional right-of-way?
- Does a project require further feasibility or environmental studies?
- Does a project require significant funding that needs to be obtained through external sources?
- Can a project be coordinated with a larger roadway or other public works project to reduce costs?

Public input received through the Plan process indicates greater interest in connecting to parks and trailheads, closely followed by libraries and community centers, and shopping and retail. Public input also shows a secondary desire to connect to employment centers, schools, and transit. These preferences are subject to survey respondents, but can be considered when selecting projects for earlier implementation.

Rapid Implementation

Projects that involve only striping and signage within the existing right-of-way can be implemented in a rapid, low-cost manner. Many Class II bicycle lane projects and Class III bicycle route projects fall into this category. Some project types can be implemented in either a high-cost or low-cost manner. Class IV separated bicycle lanes, for instance, can be implemented quickly with striped buffers and vertical elements like flexposts, parking stops, or planters, or they can be implemented with concrete curb or landscaped buffers, requiring higher cost and effort. Similarly, Class III bicycle boulevards can be implemented quickly with traffic calming elements like rubber speed cushions, curb extensions constructed of paint and flexposts, and quick-build traffic circles, or they can be implemented with higher cost and effort and include chicanes and curb extensions constructed of concrete curb and landscaping, and other more permanent elements. As off-street facilities requiring standalone construction, Class I shared use paths are unable to be implemented in a rapid manner.

Rapid implementation projects present an opportunity for the County to test out slow and open streets projects, roadway closures, and other space reallocation for different modes. While limiting in many regards, the COVID-19 pandemic has resulted in communities successfully implementing changes of this manner. While many slow and open streets projects were initiated to allow greater opportunities for socially-distanced recreation in neighborhoods, there are other significant environmental benefits and lessons learned from these projects. The temporary nature of projects initiated in response to COVID-19 and the rapidly evolving public health priorities require that temporary street uses are adaptable. This offers opportunities to iterate and learn from each project that is implemented. Moving forward, the County can apply these lessons learned to reallocate roadway space to accommodate bicyclists, pedestrians, and public spaces.

The temporary nature of these street configurations, unique challenges brought by the pandemic, and, in some cases, reduced traffic volumes offer opportunities to iterate and use materials more creatively than normal circumstances allow for. Public health needs and priorities have been shifting at a rapid pace, and we don't know how long physical distancing requirements will be necessary. Temporary street uses need to be adaptable in the short term as guidance evolves but can also offer an opportunity to pivot towards long-term implementation of successful street changes. Further modifications to guidance and/or this document are likely as conditions change and San Mateo County learns from its experiences with temporary street repurposing.

Development Opportunities

New development often presents the opportunity to leverage an upcoming project to construct pedestrian and bicycle infrastructure and install support facilities like bicycle parking, given that a nexus can be demonstrated. California's Senate Bill 743, effective July 1, 2020, requires developments to be evaluated and mitigated based on vehicle miles traveled (VMT). The inclusion of pedestrian and bicycle infrastructure, or an in-lieu fee in support of it, as part of a development helps encourage a shift from driving to walking and bicycling and can serve as a transportation demand management (TDM) mitigation measure.

PLANNING-LEVEL COSTS

This section outlines planning-level infrastructure, operations and maintenance, and program costs.

INFRASTRUCTURE PROJECT COSTS

Pedestrian and bicycle project recommendations are divided into two categories for cost estimation: linear treatments on continuous roadway segments and spot treatments at specific locations. Per-mile cost estimates are provided for linear treatments since these vary in length but have consistent infrastructure throughout. Low- and high-end costs are provided for select recommendations to account for various implementation strategies and materials used. When applied to the list of bicycle projects, bicycle project cost estimates assume high-end costs for Class II facilities and low-end costs for Class IV facilities unless otherwise noted, as this aligns with how these facilities are typically implemented. This means that Class II cost estimates assume that implementation will result in lane reconfiguration (\$290,000 per mile); however, some Class II projects may be implemented as part of repaving projects and be less expensive (\$90,000 per mile). Facility cost assumptions along with the costs for each bicycle facility recommendation can be found in *Appendix D*. The cost to implement the complete bicycle network is \$158,866,425.

Table 8 and **Table 9** present the rounded costs for linear treatments and spot treatments, respectively. Linear costs are rounded to the nearest \$10,000 and spot treatment costs are rounded to the nearest \$1,000.

Table 8: Planning-Level Pedestrian and Bicycle Linear Treatment Per-Mile Costs¹⁰

Facility Type	Per-Mile Cost
Sidewalk	\$1,080,000
Alternative Walkways	\$200,000
Class I Shared Use Path	\$1,690,000
Class II Bike Lanes (part of repaving project)	\$90,000
Class II Bike Lanes (lane reconfiguration)	\$290,000
Class II Buffered Bike Lanes (part of repaving project)	\$130,000
Class II Buffered Bike Lanes (lane reconfiguration)	\$340,000
Class III Bike Boulevards	\$240,000
Class III Rural Bike Routes¹¹	\$1,490,000
Class III Urban Bike Routes	\$70,000
Class IV Separated Bike Lanes (paint/post buffers)	\$400,000
Class IV Separated Bike Lanes (curb/landscaping buffers)	\$3,650,000

Table 9: Planning-Level Pedestrian Spot Treatment Costs¹⁰

Facility Type	Cost
Curb Ramp	\$5,000
Curb Extensions/ bulb-outs (paint/post)	\$25,000
Curb Extensions/ bulb-outs (concrete)	\$66,000
Crossing Islands (paint/post)	\$4,000
Crossing Islands (concrete)	\$10,000
Marked Crosswalks	\$8,000
Rectangular Rapid Flashing Beacons	\$43,000
Pedestrian Hybrid Beacons	\$210,000
Leading Pedestrian Interval	\$4,000
Pedestrian Lighting	\$20,000
Parking Restrictions (daylighting at intersections)	\$2,000

OPERATIONS & MAINTENANCE COSTS

In addition to the one-time capital costs associated with the installation of new pedestrian and bicycle infrastructure, it is important to note the ongoing costs that are required to operate and provide regular maintenance of infrastructure. Operations and maintenance include a variety of ongoing activities such as:

- Clearing trash and other debris
- Trimming vegetation
- Replacing and repairing out-of-date or damaged signage
- Restriping faded or eradicated pavement markings
- Preserving facility surface quality (paved or unpaved)
- Maintenance (and repair) of structures

¹⁰ These are rough order of magnitude estimated costs that were developed by identifying major pay items and establishing rough quantities typical of the listed facility type. Costs include materials, engineering and design, mobilization, traffic control, construction management, construction, utility contingency, drainage contingency, and environmental contingency. Contingencies are included to cover items that are undefined or are typically unknown early in the planning phase of a project. Unit costs are based on 2020 dollars and were assigned based on historical cost data from the Alameda CTC Cost Estimating Tool website and Caltrans Contract Cost Data. Cost opinions do not include easement and right-of-way acquisition; permitting; surveying, geotechnical investigation, environmental documentation, special site remediation, escalation, or the cost for ongoing maintenance. A general cost has been assigned to certain general categories such as utility relocations; however, these costs can vary widely depending on the exact details and nature of the work. The overall cost opinions are intended to be general and used only for planning purposes. Toole Design Group, LLC makes no guarantees or warranties regarding the cost estimate herein. Construction costs will vary based on the ultimate project scope, actual site conditions and constraints, schedule, and economic conditions at the time of construction.

¹¹ Costs for Class III rural bike routes are for facilities where wide shoulders are recommended.

- Illuminating facilities at night

Planning-level operations and maintenance costs are presented in **Table 10**. Maintenance costs of Class IV Separated Bike Lanes vary based on the specific design; however, important considerations for the maintenance of these facilities includes the need for smaller street sweeping vehicles. It is important to note that the deferral of maintenance over several years will result in an increase in corresponding costs, since bicycle and pedestrian infrastructure requires more substantial repairs after multiple years of disinvestment.

Table 10: Planning-Level Operations & Maintenance Costs for Active Transportation Infrastructure

Operations/Maintenance Activity	Estimated Frequency	Estimated Cost Per Mile
Sweep sidewalks or bike lanes	As needed	\$90 ¹²
Vegetation management and litter removal	Annually	\$2,500 ¹²³
Sign repair or replacement	Annually	\$600 ¹²
Reapply pavement markings of bike lanes or paved shoulders (cost for a single coat of paint; double cost for two coats of paint, triple cost for thermoplastic)	Annually	\$3,000 ¹²
Pavement crack sealing (10-foot width)	Every 4-5 years	\$3,400 ¹²
Add 3 inches of aggregate to unpaved trails	Every 15-20 years	\$24,000 ¹²
Bridge, boardwalk, underpass, and crosswalk maintenance	Annually	\$350 ¹²
Power one streetlight	Annually	\$150 ¹³

*Exact costs for roadway resurfacing are unavailable, however, the costs are similar to that of resurfacing on-street bike lanes.

¹² Washington County Bikeway and Trail Network Plan. Cost estimate presented in 2020 dollars. This cost estimate is lower than what can be expected in San Mateo County.

<http://www.co.washington.wi.us/uploads/docs/pln-preliminarydraftbikewayandtrailplan20190204.pdf>

¹³ <https://www.streetlights-solar.com/cost-comparison-between-solar-vs-traditional-lights.html>

SUPPORT PROGRAM AND POLICY COSTS

Support programs and policies are vital to increasing the use and enjoyment of active transportation investments; however, they, too, have ongoing costs. **Table 11** presents planning-level cost estimates for the top five program and policy recommendations detailed in Chapter 5. As additional program and policy recommendations arise as priorities, the County will develop staff time and cost assumptions for implementation.

Table 11: Planning-Level Cost Estimates for Top Five Program and Policy Recommendations

Program/Policy	SMC Staff Time Assumptions	SMC Staff Cost*	Consultant/ Operating Cost
One-Time Recommendations			
Develop and implement an equity framework for current and future transportation planning and practices.	Consultant	\$55,000	< \$50,000
Develop a framework for employing neighborhood traffic calming strategies	Consultant	\$55,000	< \$50,000
Annual Recommendations			
Develop strategies for rapid network implementation treatments	Consultant	\$55,000	< \$50,000
Develop and implement a Vision Zero policy and program	Part-time	\$110,000	\$100,000-\$250,000
Develop an active transportation project funding and implementation strategy ¹⁴	Part-time	\$110,000	-

*Assumes \$200,000 annual salary for County staff.

The total assumed San Mateo County staff cost for these five one-time and annual programs and policies is \$385,000. Assuming an average \$200,000 annual salary for County staff including benefits and overhead, the proposed programs and policies would require one to two full-time staff to manage these operations.

¹⁴ No consultant cost assumed for active transportation project funding strategy, but could work with consultant to develop funding strategy.

FUNDING STRATEGY

Various jurisdictions can fund bicycle and pedestrian projects and programs in a variety of ways, and funding may come from all levels of government, the private sector, and non-profits. San Mateo County has implemented most existing bicycle and pedestrian infrastructure in unincorporated areas through street maintenance resources as part of resurfacing projects and its own funding sources. The County has received some financial assistance in the past through competitive funding calls administered by the City/County Association of Governments of San Mateo County (C/CAG) and the San Mateo County Transportation Authority (SMCTA).

To implement the Plan's recommendations and support programs, San Mateo County may wish to designate projects in its Capital Improvement Program (CIP), seek grant funds, and/or require new land use development to provide facilities or in-lieu fees for them and maximize opportunities for implementation with other capital infrastructure projects. The County should seek to leverage its own local funding sources to seek regional, state, and federal funding opportunities, which often require local match. The County should also conduct initial project planning work to develop a well-vetted scope, schedule and budget prior to submitting a grant application to better ensure grant application competitiveness and successful project delivery. Repaving and other roadway infrastructure projects also present an opportunity to implement and update bicycle and pedestrian infrastructure projects in a cost-effective manner.

Many federal, state, and regional funding sources are often locally administered by C/CAG and the Metropolitan Transportation Commission (MTC). The California Department of Transportation (Caltrans) often includes a mix of federal and state funding sources in the transportation programs it administers. The State of California has dedicated funding through the Senate Bill 1 gas tax, which provides grant funding through programs such as the Active Transportation, Sustainable Communities, and Urban Greening programs. The State also generates funding for pedestrian and bicycle projects through bond proceeds, the general fund, local planning assistance grants, vehicle registration fees, and vehicle transfer fees.

At the countywide level, C/CAG has established funds for active transportation projects via Measure M motor vehicle registration fees that help fund local roadway projects as well as the County Office of Education's Safe Routes to Schools competitive grant program. C/CAG also administers the County's share of State Transportation Development Act Article 3 funds and federal funds for active transportation through MTC's One Bay Area Grant Program (OBAG). The SMCTA administers funds through its Measure A and W transportation sales tax measures, where a portion of these funds are dedicated to support active transportation capital infrastructure, planning and promotional activities and it also contributes funding toward the County Office of Education's Safe Routes to Schools competitive grant program.

Other jurisdictions have successfully used funds from bond measures as well as voter-approved sales taxes to pay for bicycle and pedestrian infrastructure. San Francisco's general obligation bond, Proposition B, was passed by voters for street improvements including bikeways. Los Angeles County's sales tax ballot measure, Measure M, authorized a ½ cent sales tax to fund transportation initiatives, two percent of which is set aside for active transportation. The City of Long Beach used Proposition C funds and San Francisco used Proposition K funds to pay for on-street bicycle facilities.

Refer to *Appendix F* for a summary of Federal, State, Regional, and County funding programs applicable to bicycle and pedestrian projects and programs in San Mateo County available in 2021. It is important to note that funding programs can and do change over time.

NEXT STEPS

FEASIBILITY ASSESSMENT

Some projects may require additional analysis to assess impacts to traffic operations, parking, right of way and other constraints and trade-offs. County staff will work to implement bicycle and pedestrian projects in a manner that aligns with the Plan goals and prioritization, while carefully assessing impacts and trade-offs that may occur and weighing those against the Plan goals and community priorities.

COORDINATION

Interagency and interdepartmental coordination will play a key role in the cost-effective implementation of projects. The County will identify projects that can be installed in coordination with repaving and restriping schedules, road reconstruction projects, and the land use development review process. Coordination with the County's Green Infrastructure Plan and C/CAG's upcoming Sustainable Streets Master Plan will allow the County to integrate pedestrian and bicycle projects into identified street reconstruction projects, or to integrate Green Infrastructure components into bicycle and pedestrian projects. Additionally, County staff will work with staff from adjacent towns and cities, as well as staff from other agencies like Caltrans and the Midpeninsula Regional Open Space District (Midpen), to develop and maintain pedestrian and bicycle networks that are connected between jurisdictions and along state-owned roadways. This coordination is especially important for projects at the boundary of the unincorporated county.

COMMUNITY INPUT

As projects begin to move into design and installation phases, community members will be involved in the conversations that shape the process. As a project is being developed, community members will be invited to provide input and feedback on the proposed design and voice any preferences and concerns. For projects that include design elements that are new to a community, conversations or educational campaigns will occur after project implementation and will be aimed at educating the community on how to navigate the redesigned space. Feedback will also be collected after a project is installed, which might result in adjustments to the design and will help inform future projects in the same community.

San Mateo County recognizes that, due to COVID-19 restrictions on in-person community engagement, shifting the focus of the second two phases of Plan to online outreach, resulted in limitations on the number and demographic profile of people that were able to provide feedback. This Plan is by no means the end of the process, and the County is committed to conducting ongoing additional community engagement as we move forward with proposed projects, including in-person outreach when appropriate.

EVALUATION

The County will monitor the success of a project after it is implemented. This can involve counting the number of cars, pedestrians, and bicyclists on the road, surveying the community and stakeholders for feedback on the project, measuring vehicle travel speeds, and additional data collection. Data collected in this post-project evaluation might result in design adjustments like changes in signal timing or striping, or installation of permanent design features after a rapid implementation or pilot project is deemed successful.



UNINCORPORATED SAN MATEO COUNTY ACTIVE TRANSPORTATION PLAN



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