San Mateo C/CAG Countywide LRSP

FINAL DRAFT

JUNE 2024

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Executive Summary

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The City/County Association of Governments (C/CAG) created this Local Road Safety Plan (LRSP) with the following safety partners:

SAFE SYSTEM APPROACH

The recommendations and policies contained within this plan align with the principles of the Safe System Approach, which aims to eliminate fatal and severe injuries for all road users.

The Safe System Approach works by taking a holistic approach to roadway safety: by layering safe policy, design, and behavior initiatives atop one another, it maximally reduces the chance that a crash will occur and, if it does, that its outcome will be severe.

VISION & GOALS

C/CAG, its 21 local jurisdictions, and its partner agencies will work together to:

- Identify safety improvements, strategies, and programs using the Safe System Approach to eliminate fatalities and severe injuries on local roads.
- Enhance the existing roadway network in a cost-effective manner that promotes traffic safety and social equity, meets the needs of the community, and enriches the lives of residents.
- Promote a culture across agencies and communities that puts roadway safety first in all actions.

The goals of this plan include the following:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Partner with other local agencies to incorporate roadway safety into all actions.
3. Implement context-appropriate safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.
4. Support agencies in providing opportunities for citizen engagement to identify issues and inform Countywide safety solutions.
5. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.
6. Work with agencies to monitor safety projects and implementation to track progress towards goals.

See the individualized jurisdiction LRSP chapters for each jurisdiction's specific goals.

PUBLIC ENGAGEMENT

C/CAG hosted multiple events throughout the development of this plan to hear from residents throughout the County. The timeline below offers an overview of the breadth of event types and locations.

HIGH INJURY NETWORK

To create a comprehensive network of high injury segments for San Mateo County and its local jurisdictions, the plan identifies separate high injury networks (HINs) for pedestrians, bicyclists, and motor vehicles. This comprehensive HIN is visualized in an interactive map online. Users can toggle the data by travel mode.

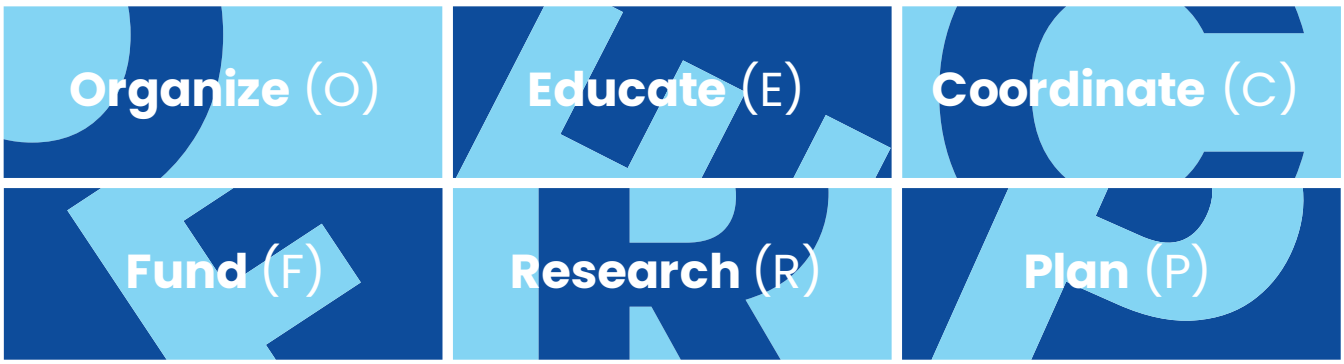
EMPHASIS AREAS

The project team analyzed crash data countywide to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that agencies can focus on to maximize their reduction of fatalities and severe injuries on local roads. The Countywide emphasis areas are:

- Pedestrian and bicyclist safety
- Nighttime/low light safety
- Unsignalized intersections on arterials/collectors
- Vulnerable age groups (youth and aging)
- Motor vehicle speed related roadway segment crashes
- High-speed roadways (35+ mph)
- Alcohol involvement

RECOMMENDATIONS

Because C/CAG doesn't own local roadways and instead provides support and coordination to County agencies, the plan identifies 18 plan and program recommendations organized into the following categories:



PROJECT PRIORITIZATION

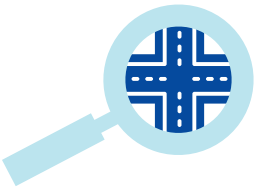
The spatial HIN analysis identified the highest crash locations by frequency and severity. Based on that work and the accompanying systemic analysis, the plan development team collaborated with partner jurisdictions to identify priority project locations. Prioritization used the following three factors:

Crash History

Used to identify the locations with the highest reported five-year crash frequency and severity.

Social Equity

Used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.



Systemic Factors

Used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach.

IMPLEMENTATION & MONITORING

A key part of achieving C/CAG's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The Plan includes monitoring strategies that will track the progress of this plan's implementation.

San Mateo C/CAG Countywide LRSP

Kittelson & Associates, Inc.

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the City's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the City can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach take a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This countywide Local Roadway Safety Plan (LRSP) was initiated by the City/County Association of Governments of San Mateo County (C/CAG) with funding provided by the Metropolitan Transportation Commission (MTC). The plan development team was C/CAG with a consultant team of Kittelson & Associates, Inc. (Kittelson), Safe Streets Research & Consulting (SSRC), and Circlepoint to provide a countywide vision for and assessment of transportation safety.

The plan is divided into two parts. The first part contains the Countywide LRSP, and the second part contains individual agency LRSPs for 10 participating agencies. C/CAG engaged its 21 constituent jurisdictions with the goal of providing an updated safety plan for those without one. The remaining 11 jurisdictions without a separate chapter in this plan already have or, at the time of this writing, are developing their own safety plans. Therefore, those agencies are not included individually in this plan. Links to their current safety plans are provided in a subsequent section. The jurisdictions with plans developed through this process include the following:

- Atherton
- Belmont
- Brisbane
- Colma
- East Palo Alto
- Foster City
- Half Moon Bay
- Hillsborough
- San Carlos
- Woodside

The completion of the LRSP will render jurisdictions in the County eligible for grant funding from the MTC OBAG 3 County & Local Program, future funding for Caltrans Highway Safety Improvement Program, and USDOT Safe Streets for All (SS4A) funding cycles.

What is an LRSP?

An LRSP is a systematic plan that assesses and identifies locations and strategies to improve local road safety. LRSPs take an interdisciplinary approach to traffic safety and rely on interagency and community collaboration to implement recommendations.

A Federal Highway Administration (FHWA) proven safety countermeasure, LRSPs provide crosscutting efforts to prioritize investments.[1] FHWA provides more than $2 billion each year in Highway Safety Improvement Program (HSIP) funds for States to address road safety challenges on all public roads.

In California, to pursue HSIP grant funds (estimated at $210 million for Cycle 11 in 2022), a local agency must have an LRSP or equivalent planning document. This LRSP helps C/CAG and participating agencies qualify for HSIP funds and gets the city one step closer to eliminating traffic deaths and severe injuries on its roads.

At the national level, USDOT requires a current LRSP that meets certain criteria in order for an agency to be eligible for implementation funding grant opportunities.[2] This plan has been structured to meet those criteria for C/CAG at the countywide level and for each of the 11 participating jurisdictions.

[1] FHWA maintains a list of Proven safety countermeasures with documented effectiveness in reducing roadway fatalities and severe injuries (totaling 28 at present). More information is available online at https://highways.dot.gov/safety/proven-safety-countermeasures.
[2] The most recently published eligibility information is available online at https://www.transportation.gov/sites/dot.gov/files/2023-03/SS4A-Self-Certification-Eligibility-Worksheet-FY23.pdf.

Safe System Approach

Figure 1: Safe System Approach Principles and Elements

In January 2022, the U.S. Department of Transportation (USDOT) released its National Roadway Safety Strategy (NRSS). In addition to setting the vision for the USDOT, the NRSS adopts the Safe System Approach (SSA) to safety planning, analyses, and project prioritization and implementation.[3, 4, 5, 6, 7, 8]

The SSA aims to eliminate fatal and severe injuries for all road users.[3] The SSA views crashes as systematic events that can be mitigated (or avoided completely) through a holistic approach to infrastructure, enforcement, programs, and policies. A core assumption of this approach is that roadway users make mistakes while traveling and that the price of these mistakes should not be death or severe injury.

The SSA has five core elements[3]:

- **Safe road users:** This element reflects that the SSA prioritizes the safety of all road users traveling in the system. It also encompasses the human behavior and human factors issues that lead to crashes, injuries, and death.
- **Safe vehicles:** Vehicle regulations and vehicle design should be designed to mitigate the safety impacts of vehicle-involved crashes.
- **Safe speeds:** Because speed is the method of energy transfer to the human body, the SSA identifies it as a core element that should be considered in infrastructure design and policy-making.
- **Safe roads:** Roadways are the context in which crashes occur. They should be designed to accommodate user error and mitigate the consequences when crashes occur. The SSA emphasizes that engineers and planners must rely on better design of roadways and speed management – rather than the traditional approach of relying on enforcement – to improve safety outcomes[5,7].
- **Post-crash care:** The final element acknowledges the importance of people receiving medical care after crashes occur, as well as post-crash analysis to understand contributing factors.

The large role speed plays in determining crash severity suggests the need to design a roadway safety strategy that slows speeds, thereby lessening the kinetic energy transferred to the human body in a crash.[3] Recent Federal Highway Administration (FHWA) guidance, which highlights key alignments between the SSA, the Highway Safety Improvement Program (HSIP), and a State's Strategic Highway Safety Plan (SHSP), focuses on

[3] Elissa Goughnour, Kara Peach, Michael Dunn, Meghan Mitman, and Dan Gelinne. *Primer on Safe Systems Approach for Pedestrians and Bicyclists*. Federal Highway Administration. Washington, DC, 2021.
[4] The Safe System Approach. Washington, DC, 2022.
[5] Federal Highway Administration. "Integrating Equity into the Safe System Approach" Presentation. Accessed Apr. 17, 2023: https://highways.dot.gov/safety/zero-deaths/integrating-equity-safe-system-approach-presentation.
[6] Institute of Transportation Engineers. Recommendations of the Safe System Consortium. 2022.
[7] National Roadway Safety Strategy. Washington, DC, 2022.
[8] Core Elements for Vision Zero Communities. Washington, DC, 2022.

roadway speed—not just speeding behavior—as a general risk factor.[9] Similarly, international authorities focus on a **systemic approach**—using risk factors to inform a rating system that helps to identify problematic roadways and prioritize projects for addressing safety concerns.[10, 11]

C/CAG and its 21 jurisdictions do not have full control over all Safe System elements. For example, the agencies cannot directly affect safe vehicle design and regulation. A Safe System would require State and Federal policy—like legislation to allow automated speed enforcement and continued regulation of vehicle safety standards—will be essential to build a system that is truly safe.

HOW DO AUTONOMOUS VEHICLES AFFECT A SAFE SYSTEM?

The presence of autonomous vehicles (AVs) is expanding in the Bay Area, including San Mateo County. Potential benefits of AVs could include improvements to safety, quality of life, access, and mobility for all citizens.[12] Ongoing research on AV technology helps clarify the potential benefits and risks to understand the impacts AVs have on safety of roadway users.

C/CAG and the 21 partnering agencies do not have the authority to regulate the presence of AVs on the roadways. Currently, USDOT's National Highway Traffic Safety Administration (NHSTA) develops and regulates vehicle safety standards for automated vehicles, including issuing recalls for vehicles that do not meet them. In California, the California Public Utilities Commission (CPUC) and Department of Motor Vehicles (DMV) oversee and issue permits for AV pilots.

Local governments have a role in helping create safer roads and safer speeds for all travelers today. For example, local agencies can update design guidelines to include roadway and curbside signs and markings that consider new technologies like AVs.

C/CAG is partnered with the San Mateo County Transportation Authority (SMCTA) to develop a Countywide Automated Vehicles Strategic Plan. SMCTA and C/CAG are currently working with stakeholders to develop a framework for AV pilot programs, projects, and activities that align with County policies, plans, and funding opportunities.

This issue is of keen local interest. The proposed Transportation Safety Advisory Committee (see *O1: Transportation Safety Advisory Committee* on page 55) may include this topic in future meetings for discussion and local coordination.

[9] Emily Finkel, Cullen McCormick, Meghan Mitman, Sarah Abel, Jackie Clark. 2020. *Integrating the Safe System Approach with the Highway Safety Improvement Program*. Federal Highway Administration. Washington, DC.

[10] PIARC Road Safety Manual. 2019. Accessed April 17, 2023: https://roadsafety.piarc.org/en

[11] New Zealand Ministry of Transport. 2010. *Safer Journeys - A National Strategy to Improve Road Safety*.

[12] National Science & Technology Council and USDOT. 2020. *Ensuring American Leadership in Automated Vehicle Technology.* https://www.transportation.gov/sites/dot.gov/files/2020-02/EnsuringAmericanLeadershipAVTech4.pdf

Safety and Social Equity

We know that nationwide and statewide, safety impacts and fatal/severe injury crashes affect the population unevenly. The burdens of inequitable infrastructure investments result in more death and severe injury among marginalized populations.

The 2022 USDOT *National Roadway Safety Strategy*[13] notes the following impacts:

- Nationally, the 40 percent of counties with the highest poverty rates in 2019 experienced a fatality rate 35 percent higher than the national average on a per population basis.[14]
- From 2019 to 2020, traffic-related fatalities among Black people increased by over three times higher than the overall nationwide increase of 7.2 percent.[15]
- People who are American Indian and Alaska Native have more than double the national fatality rate per population on a per population basis.

Within California, the American Indian/Alaskan Native, Black, and Hispanic population have per population fatality rates 16, 9, and 7 percent higher, respectively, than among the White population. Pedestrian fatality rates are 50, 65, and 37 percent higher, respectively.[16]

Within San Mateo County, Black and Hispanic travelers are victims in crashes at rates 2.2 and 1.2 times their share of the population, respectively.

Because of the continual disproportionate impact of crashes and the burden on disadvantaged communities, this plan incorporates social equity into the analysis, project prioritization, and plan recommendations. Social equity will be used to guide future investments and focus areas for non-engineering strategies that can improve safety in line with the Safe System approach.

Alignment with the SHSP

The 2020–2024 California Strategic Highway Safety Plan (SHSP) sets out California's vision, goals, and objectives for reducing fatal and severe injury crashes on public roads (local roads and State Highways). To draw this roadmap, the California Department of Transportation (Caltrans) analyzed crash data and collaborated with traffic safety partners across the state. As a result, the SHSP identified 16 challenge areas, or areas with the most potential to improve roadway safety. Of the challenge areas, six were identified as high-priority areas, or areas with the greatest opportunity to reduce fatality and severe injury.

Whereas the SHSP has historically used the five "Es" (education, enforcement, engineering, emergency response, and emerging technologies) to organize its strategies, as of 2021 State transportation officials shifted

[13] https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf
[14] 1 FARS 2019 data publication, 1st release; Poverty rates and Population data by County, U.S. Census. The fatality rate for the top 40 percent of counties by poverty rate was 14.9 per 100,000 population versus 11.0 for the country.
[15] https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813118
[16] https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/shsp/combined-shsp-fact-sheets-april-2022-a11y.pdf

focus toward principles that integrate social equity, take a Safe System Approach, and encourage proven countermeasures and emerging technologies. This plan is aligned with the SHSP's updated guidance.

SHSP challenge areas include (with high-priority challenge areas presented in **bold font**):

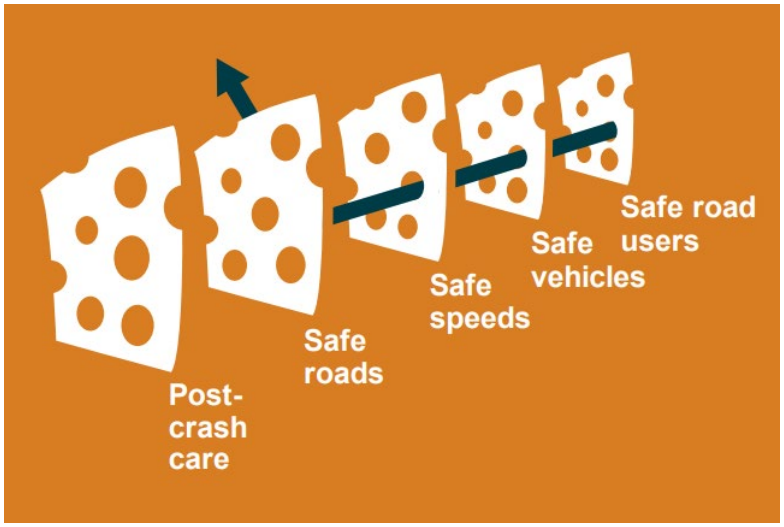
- Aging Drivers (65 and older)
- **Bicyclists**
- Commercial Vehicles
- Distracted Driving
- **Impaired Driving**
- **Intersections**
- **Lane Departures**
- Motorcyclists
- Occupant Protection
- **Pedestrians**
- **Speed Management/Aggressive Driving**
- Work Zones
- Young Drivers (15–20 years old)

Incorporating Vision Zero

Vision Zero is a local, national, and international movement to eliminate all traffic-related deaths and severe injuries. The traditional approach to traffic safety views deaths and severe injuries as the cost of getting around; Vision Zero rejects this inevitability and instead understands that traffic fatalities and severe injuries are preventable.

By using the principles of the Safe System Approach, Vision Zero initiatives build layers of protection and redundancy into the transportation system to protect all roadway users—even when they make mistakes. The layers of overlapping redundancy are sometimes referred to as the "Swiss Cheese" Model (see Figure 1)— death and severe injury would only occur when all layers fail.

Figure 1. "Swiss Cheese" Model Demonstrating Layers of Redundancy



Source: FHWA (https://cdn-wordpress.webspec.cloud/intrans.iastate.edu/uploads/sites/10/2021/11/SSA-Iowa-FHWA.pdf)

This plan is aligned with a Vision Zero approach. Although C/CAG does not own local or State roads within San Mateo County, its vision for this plan represents an aggregate of all 21 communities' visions and would result in significant near-term declines in fatal and severe injuries, with an eventual goal of zero.

MTC passed a Vision Zero policy in 2020 that identified actions to support cities like those in San Mateo County to pursue a Vision Zero commitment. Such a commitment means building a safer transportation system and creating and sustaining a culture where residents, workers, and visitors prioritize traffic safety and minimize the lethality of traffic mistakes. This plan will be implemented through coordination with identified safety partners, including both city agencies and external parties.

What's in the Plan

This LSRP includes the following:

- Vision and Goals: Countywide vision, accompanying local agency goals, and associated C/CAG goals
- Plan Development: A summary of the collaborative process for developing the LRSP.
- Countywide Data Analysis Findings: A description of major systemic and spatial findings from a countywide existing conditions analysis.
- State Highways in San Mateo County: A snapshot of the influence of Caltrans facilities on safety in the county and a commitment to work with Caltrans to improve safety on its network.
- Safe System Aligned Recommendations: Engineering, policy, and program recommendations for C/CAG and member agencies to realize the plan's vision and goals.
- Projects: A summary of identified countywide locations to consider for implementing safety projects.
- Implementation and Monitoring: Actions and performance measures to evaluate progress on plan goals.

VISION AND GOALS

Vision

This Countywide Plan vision establishes a desired future condition for San Mateo County, one which is achievable only with collaborative efforts from all relevant agencies.

As the lead agency in developing this plan, C/CAG envisions a County of diverse partners sharing resources and responsibility for maintaining a safe and equitable transportation system, with all actors consistently working together to eliminate death and severe injury on roads countywide.

Together, C/CAG, its 21 local jurisdictions, and partner agencies work to:

- Identify safety improvements, strategies, and programs using the Safe System Approach to eliminate fatalities and severe injuries on local roads.
- Enhance the existing roadway network in a cost-effective manner that promotes traffic safety and social equity, meets the needs of the community, and enriches the lives of residents.
- Promote a culture across agencies and communities that puts roadway safety first in all actions.

C/CAG will lead, coordinate, and support its 21 local jurisdictions in achieving their vision to reduce or eliminate fatalities and severe injury crashes across all public roadways. The desired quantitative reductions from each jurisdiction's plan is summarized below (with links to the current published plans):

- **Atherton:** Reduce fatal and severe injury crashes to zero by 2050.
- **Belmont:** Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2040.

- **Brisbane:** Reduce fatal and severe injury crashes to zero by 2050; establish and promote a Safe System culture to build overlapping layers of safety.
- **Burlingame:** Reduce fatal and severe injury crashes to zero by 2050.
- **Colma:** Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2040.
- **Daly City (published 2020)**[17]: Eliminate fatalities and serious injuries by 2035.
- **East Palo Alto:** Eliminate all traffic fatalities and reduce the number of non-fatal injury crashes by 50 percent by 2050.
- **Foster City:** Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2050 as part of a broader effort to promote roadway safety in Foster City's departments, businesses, and residents.
- **Half Moon Bay:** Eliminate all traffic fatalities and reduce non-fatal crashes by 50 percent by 2050.
- **Hillsborough:** Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2050.
- **Menlo Park (updated 2024)**[18]: Eliminate all traffic fatalities and serious injuries by 2040.
- **Millbrae (adopted 2022)**[19]: Systemically identify and analyze roadway safety problems and recommend improvements.
- **Pacifica (adopted 2023)**[20]: Residents and visitors to Pacifica are able to safety travel by car, foot, bicycle, transit, and other modes of transportation to access daily needs and recreational opportunities.
- **Portola Valley:**[21] To provide for safe and reasonably expeditious movement for local residents and minimize the disruptive influences of through traffic.
- **Redwood City (adopted 2022)**[22]: Eliminate traffic fatalities and severe injuries for all modes by 2030.
- **San Bruno (adopted 2023)**[23]: Identify and analyze road safety issues from a systemic perspective and recommend improvements.
- **San Carlos:** Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2050.
- **San Mateo (ongoing)**: The City is committed to reaching its goal of eliminating all preventable traffic fatalities and severe injuries by 2050.
- **South San Francisco (published 2022)**[24]: Support the California vision of moving towards significantly reducing fatalities and serious injuries for all road users.
- **Unincorporated County (published 2021)**[25]: Reduce the number of fatal crashes to zero by 2035.
- **Woodside:** Achieve 50 percent reduction in fatal and severe injury crashes by 2050.

Plan Goals

This plan acts in the service of achieving several Countywide safety goals. These goals have guided the creation of this plan and serve as markers C/CAG can use to measure the plan's success moving forward.

[17] https://www.dalycity.org/DocumentCenter/View/3369/Vision-Zero-Action-Plan-2020-PDF
[18] https://menlopark.gov/Government/Departments/Public-Works/Capital-improvement-projects/Vision-Zero-Action-Plan
[19] https://portal.laserfiche.com/Portal/DocView.aspx?id=15854&repo=r-c2783ec8&searchid=81b66911-b352-477f-ab4f-4a776cf7f808
[20] https://www.cityofpacifica.org/home/showpublisheddocument/15778/638278612505239698
[21] From the Town's Circulation Element
[22] https://www.redwoodcity.org/home/showpublisheddocument/25615/638016840641870000
[23] https://www.sanbruno.ca.gov/436/Projects
[24] https://www.ssf.net/home/showpublisheddocument/30166/638245818532000000
[25] https://www.smcsustainability.org/wp-content/uploads/San-Mateo-County-LRSP3-1.pdf

The goals include the following:

- Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
- Partner with local agencies to incorporate roadway safety into all actions.
- Implement context-appropriate safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.
- Support agencies in providing opportunities for citizen engagement to identify issues and inform Countywide safety solutions.
- Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.
- Work with agencies to monitor safety projects and implementation to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This plan, in addition to outlining a countywide vision for roadway safety, concludes with 11 tailored safety plans for various towns and cities within San Mateo County. The remaining 10 jurisdictions within San Mateo County already have or are developing their own safety plans and therefore are not included individually in this plan (links provided where available):

- Burlingame (2023)
- Daly City (2020)
- Menlo Park (2024)
- Millbrae (2022)
- Pacifica (2023)
- Portola Valley (2019)
- Redwood City (2022)
- San Bruno (2023)
- San Mateo (ongoing)
- South San Francisco (2022)
- Unincorporated County (2021)

Project Advisory Group

The project team convened an advisory group to review and guide the plan's progress. Throughout the plan's development, the project team engaged the advisory group regularly and in different ways, including whole-group meetings, specific break-out meetings, and one-on-one conversations.

The advisory group consisted of the following individuals and organizations:

Table 1. C/CAG Constituent Jurisdictions and Partner Agencies

Agency	Representative(s)	Agency	Representative(s)
Town of Atherton	Robert Ovadia	City of San Bruno	Hae Won Harry Yip
City of Belmont	Matt Hoang Tracy Scramaglia	City of San Carlos	Hanieh Houshmandi Steven Machida
City of Brisbane	Tomas Santoyo Karen Kinser	City of San Mateo	Bethany Lopez Azalea Mitch
City of Burlingame	Andrew Wong	City of South San Francisco	Jeff Chou Matthew Ruble
Town of Colma	Abdulkader Hashem	Town of Woodside	Yazdan Emrani Sindhi Mekala Sean Rose

Agency	Representative(s)	Agency	Representative(s)
City of Daly City	Richard Chiu, Jr.	County of San Mateo	San Mateo County Fire Marshal; Diana Shu
City of East Palo Alto	Irene Chiu Humza Javed Anwar Mirza	California Highway Patrol	Mackenzie Crouch
City of Foster City	Justin Lai Francine Magno Amy Zhou	Caltrans	Greg Currey Jake Freedman Sergio Ruiz
City of Half Moon Bay	Maz Bozorginia Jonathan Woo	County of San Mateo Sustainability Department	Joel Slavit
Town of Hillsborough	Paul Willis	Metropolitan Transportation Commission	Bryan Redmond
City of Menlo Park	Matthew Hui	SamTrans	Martin Reyes
City of Millbrae	Sam Bautista	San Mateo County Office of Education	Theresa Vallez-Kelly
City of Pacifica	Lisa Peterson	San Mateo County Health	Liz Sanchez
Town of Portola Valley	Howard Young	Silicon Valley Bicycle Commission	Anthony Montes
City of Redwood City	Malahat Owrang		

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support to create a culture of roadway safety. Additional partners may be identified in the future, but the advisory group shown above represents a group of invested parties that can be leveraged for plan implementation.

COMMUNITY ENGAGEMENT AND INPUT

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

Pop-up Events Conducted as Part of Public Engagement at Woodside Public Library (top) and at Brisbane Farmers' Market (bottom).

Events

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and each participating jurisdiction's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

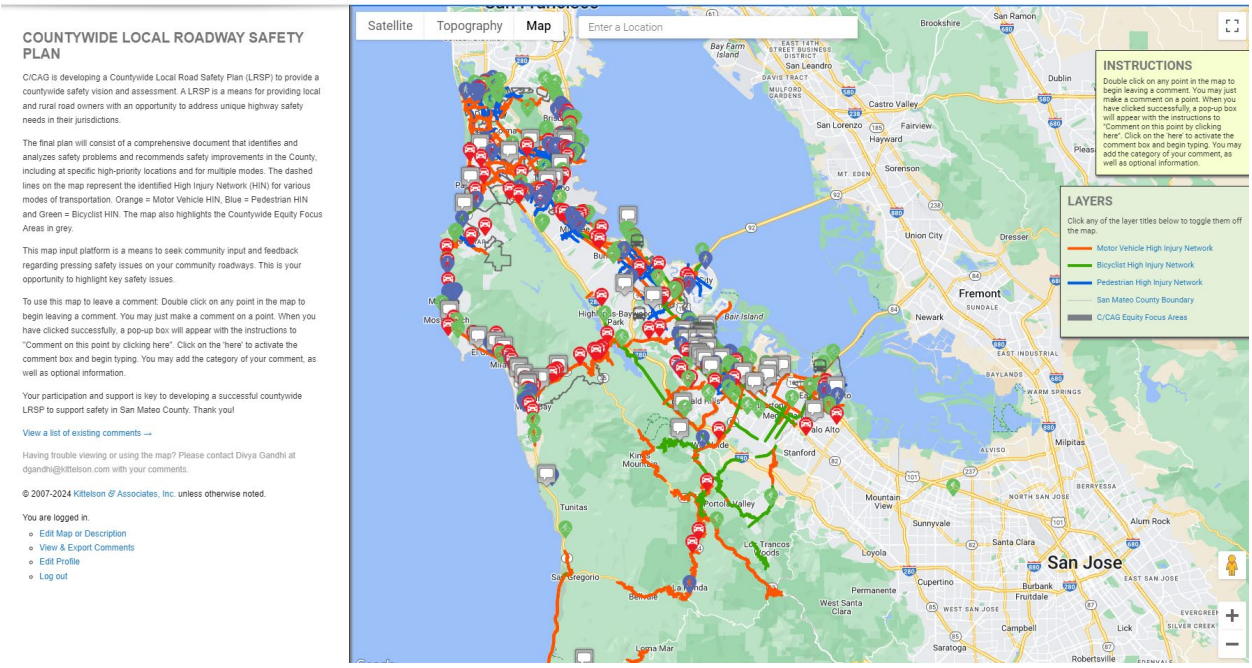
Table 2. Calendar of C/CAG Public Engagement Events

Date	Event	Location
August 10, 2023	Countywide Virtual Kickoff meeting – Sharing the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

Online Map Survey

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 2). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

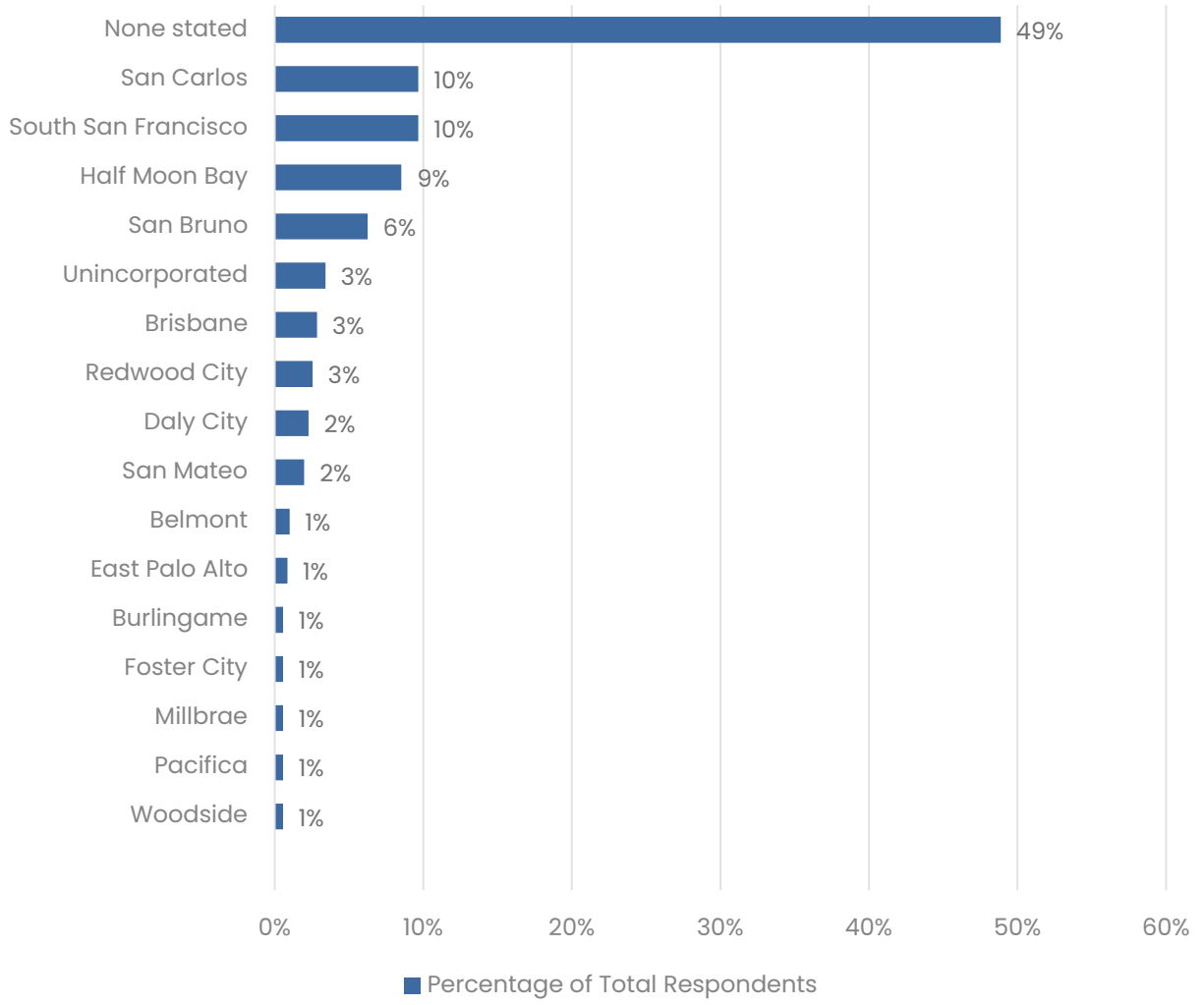
Figure 2. Online Map Survey Tool



Countywide, there were a total of 528 comments recorded by 352 respondents. Those comments are included in Appendix A, organized by local jurisdiction. Of the 352 respondents:

- 180 respondents mentioned their city of residence. Among the respondents who shared their city of residence, the top three were South San Francisco (19 percent), San Carlos (19 percent) and Half Moon Bay (17 percent). Figure 3 shows the percentage of total respondents by city of residence. (In many cases, respondents would leave a comment within a jurisdiction but not identify their city or town of residence. We have recorded those responses as "none stated.")
- 140 respondents identified their age group. Among the respondents who identified their age group, the top three categories were 35-39 years (26 percent), 30-34 years (24 percent), and 45-49 years (11 percent).
- 116 respondents identified their race/ethnicity. Among the respondents who identified their race/ethnicity, 83 percent were White, 7 percent were Asian, 6 percent were Hispanic, and 4 percent belonged to Other race/ethnicity groups.
- 106 respondents responded to whether they lived in a C/CAG Equity Focus Area. Of these respondents, 55 percent responded as "Yes", and 45 percent responded as "No".

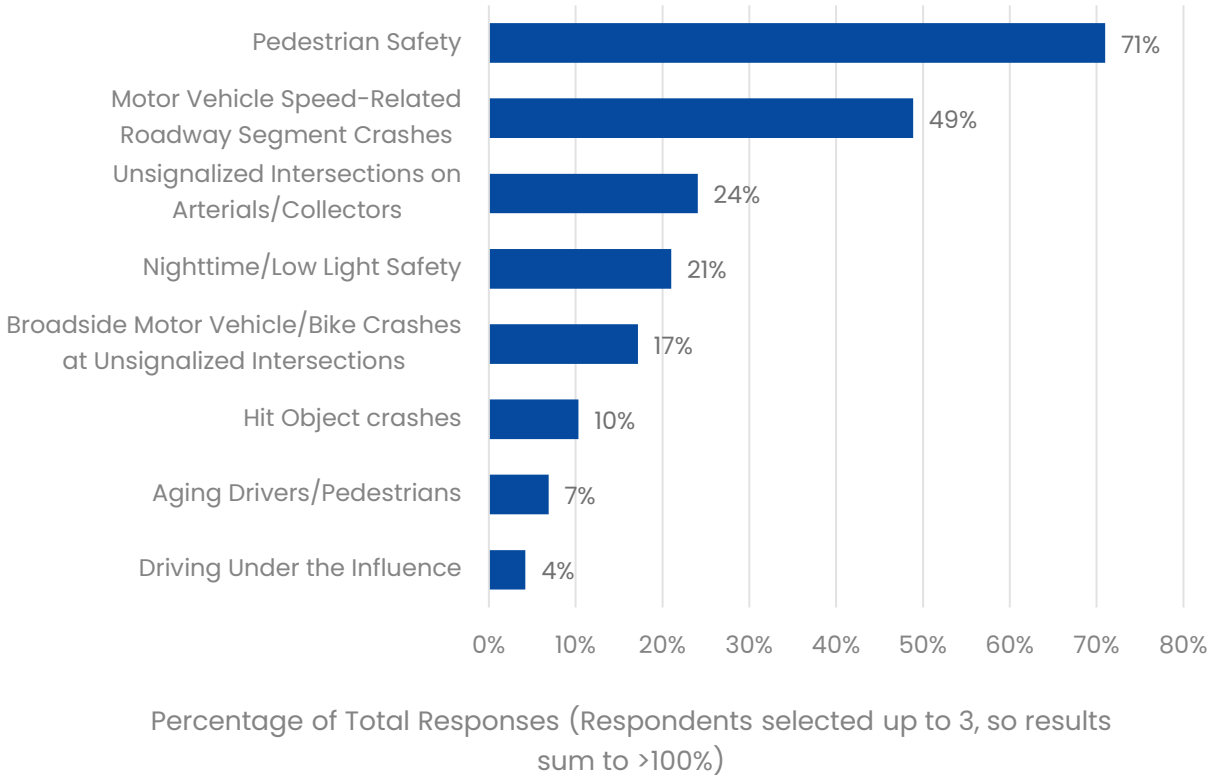
Figure 3. Percentage of Total Respondents by City of Residence



Of the 528 responses, the following trends emerged:

- Respondents were asked to identify the travel mode for their comment and safety concern. The most frequent travel modes identified were biking (26 percent), driving (22 percent) and walking (20 percent).
- Respondents were asked to pick their top three emphasis areas for the plan to focus on. The most frequently selected emphasis areas were pedestrian safety (71 percent of respondents), motor vehicle speed related roadway safety (49 percent), and unsignalized intersections on arterials/collectors (24 percent). Figure 4 shows the percentage of total responses by emphasis areas selected. (Because respondents could select multiple, the responses sum to more than 100 percent).

Figure 4. Percentage of Total Responses by Emphasis Areas Selected



Respondents were also asked which Safe System elements were most important for the plan to focus on (Safer People, Safer Roads, Safer Vehicles, Safer Speeds, or Post-Crash Care). Of those who responded to the question, the top three safe system elements selected were safer roads (70 percent), safer people (46 percent), and safer speeds (34 percent). Some respondents selected more than one, so results sum to more than 100 percent.

Phase 1 Feedback

This section describes the general themes/concerns gathered from community feedback. Additionally, maps of comment locations are included in the local jurisdiction chapters.

Biking Concerns/Requests

- Provide a more connected bike network: continuous bike lanes (especially through intersections) and install bike lanes to transit connections (Caltrain) and biotechnology business parks in South San Francisco.
- Upgrade or general maintenance concerns of existing bike infrastructure including widening and restriping bike lanes, installing raised barriers on overpasses, installing bike wayfinding signs, installing street lighting to increase visibility of bicyclists, removing speed humps, repairing potholes, and removing debris along bike lanes.
- Add new bike infrastructure such as protected bike lanes, separated bike lanes, road diets, bike tunnels, and bike bridges.
- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, vehicle speeds, right of way issues, and turning conflicts at intersections.
- Upgrade signal timing to provide a leading bicycle interval.
- Remove on-street parking to make more way for bikes along the roadway.
- Request to provide modal filters: to allow only bicycles and pedestrians on certain streets.

Pedestrian Concerns/Requests

- Add new pedestrian infrastructure or upgrade existing infrastructure such as building new sidewalks, widening existing sidewalks, providing midblock crossings, and high visibility crosswalks.
- Requests for sidewalk maintenance and trimming low hanging trees.
- Support for additional pedestrian infrastructure including Rectangular Rapid Flashing Beacons, push buttons for WALK signs and pedestrian hybrid beacons (HAWK), increasing pedestrian walk times and modifying signals to include a leading pedestrian interval (especially at intersections near transit connections and schools).
- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, speeding, and running STOP signs.
- Concerns related to sharing sidewalks with micromobility devices such as bicycles, electric scooters, skateboards, etc.
- Pedestrian visibility concerns: street lighting is absent or insufficient.
- Concerns regarding curb ramps being insufficient for wheelchairs or other mobility challenged roadway users.

Traffic Enforcement Concerns

- Multiple concerns regarding running STOP signs and red lights.
- Concerns regarding speeding observed at multiple locations – requests for traffic calming.
- Concerns regarding illegal on-street parking, double parking, parking on sidewalks and bike lanes and large vehicles parking on roadways or curves.

Roadway Infrastructure/ Traffic Operations Concerns

- Primary concerns include traffic congestion, the number of lanes not being sufficient for the traffic volumes during peak hours and poor signal timing design (signals show red when there are no vehicles at an approach)
- Concerns regarding maintenance of roadway infrastructure including friction of the roadway surfaces, potholes, lack of proper roadway markings, wayfinding signage and improving visibility at intersections.
- Requests to reduce vehicle conflict points at intersections through design.
- Requests to install barriers to separate two-way traffic, lengthening passing lanes and adding high occupancy vehicle lanes.

Public Transit Concerns

- Improve biking and walking connections to transit stations.
- Provide more public transportation options.
- Ensure reliable bus services and routes serving locations such as schools, parks and seniors.

Phase 2 Feedback

Phase 2 outreach included more detailed discussion of the Countywide High Injury Network and draft priority locations within communities. Participants were also asked to weigh in on potential engineering solutions. The project team received over 200 comments on priority locations and proposed countermeasures. The locations and themes of Phase 2 comments are presented in the individual plan chapters included in this plan document. Comments received, organized by event, are included in Appendix B. Themes from this feedback varied between communities but are summarized as follows:

General Comments

- Desire for better enforcement of motor vehicles speeding and stopping at stop signs.

Pedestrian Comments

- Concerns of pedestrian safety on major roadways and desire for pedestrian enhancements, such as sidewalks and pedestrian signals, to enhance safety,

Bicycle Comments

- Desire to improve bicycle facilities, specifically clearly marked and separated bike lanes.
- Concerns of poor visibility for bicyclists, especially where bicyclists and drivers share the road.

Motor Vehicle Comments

- Desire for traffic calming measures, such as speed bumps, stop signs, and traffic lights.
- Concerns of vehicles speeding, especially in areas with lots of pedestrians

COUNTYWIDE DATA ANALYSIS FINDINGS

A **systemic descriptive analysis** was conducted to identify patterns, trends, and potential risk factors based on five-year County crash data. The descriptive analysis identifies environmental, design, and user characteristics most associated with fatal and severe injury (F/SI) outcomes. The data were downloaded from the Transportation Injury Mapping System[26] (TIMS) Crash database representing injury and fatal crashes for the full years 2018 through 2022.

The analysis was limited to roadways and crashes that occur on locally owned roadways and along at-grade State Highway facilities. The analysis excluded all Caltrans-owned grade-separated freeways and ramps, with the exception of crashes occurring within the influence area of ramp terminal intersections (which typically include Caltrans and locally owned roadways).

The subsequent State Highways in San Mateo County Section beginning on page 43 describes at-grade State Highway trends in the county and provides recommendations for working with Caltrans to improve safety on State Highway roads in the County.

Table 3 shows an overview of crashes and share of local/State Highway locations for the data analyzed.

Table 3. Injury/Fatal Crash Data Overview, All Modes Aggregated (2018-2022), Non-Freeway Crashes

			Non-Freeway Injury/Fatal Crash Breakdown			
Year	Total Count	Crashes on Non-Freeway Roadways	State Highway Crashes	State Highway Share (percent)	Local Roadway Crashes	Local Roadway Share (percent)
2018-2022	12,526	8,468	2,712	43%	5,756	57%

Source: TIMS 2023

[26] Transportation Injury Mapping System, http://tims.berkeley.edu

Pre-Pandemic versus Pandemic Comparison

The COVID-19 pandemic has had a significant effect on travel patterns, behaviors, and traffic volumes. The analysis considered crashes that occurred before the pandemic (2017-2019) and during the pandemic years (2020-2022) to observe changes in safety due to the COVID-19 pandemic.

Based on the findings as listed in Table 4, the total number of crashes has decreased, but the number of F/SI crashes before versus after is quite similar (52 compared to 48 percent of the six-year total). This is also evident in the average crash severity score per crash, which indicates that in the pandemic era the average crash severity has been about 20 percent higher compared to 2017-2019.[27]

Based on Caltrans Traffic Census data, traffic volumes decreased from 2017 to 2021 along State Highway routes Countywide by between 3 and 38 percent (See Table 9 in Appendix C). This means that overall crash frequency decreased alongside traffic volumes—an expected trend—but that the frequency for the most severe crashes remained relatively stable.

Table 4. Injury/Fatal Crashes by Year, All Modes Aggregated (2017-2022), Non-Freeway Crashes

Year	Count	percent of 6-year Total Crashes	F/SI Count	percent of Total F/SI Crashes	Average Crash Severity Score
2017-2019	6,109	58%	555	52%	22.8
2020-2022	4,436	42%	518	48%	27.2
Total	**10,545**	**100%**	**1,073**	**100%**	**24.7**

Source: TIMS 2023

Table 5 shows the total number of crashes has decreased from pre-pandemic to pandemic era in most County jurisdictions with the exception of East Palo Alto, Half Moon Bay, and Woodside. The Cities of Atherton, Burlingame, Daly City, East Palo Alto, Foster City, Millbrae, Pacifica, Portola Valley, Redwood City, San Carlos, Woodside, and Unincorporated San Mateo County (64 percent of total jurisdictions) all recorded higher F/SI crashes in the pandemic era.

[27] The crash severity score is a normalized measure that scores a crash based on its average societal cost and compares it to a typical reported crash resulting in property damage only (PDO). For example, a crash at a signalized intersection resulting in death or severe injury is weighted 120 times a PDO crash; a crash resulting in a minor injury is weighted 11 times a PDO; and crash resulting in a possible injury is weighted six times a PDO. A higher average crash severity score means that those crashes resulted in more severe outcomes more often.

Table 5. Injury/Fatal Crashes by Year/Jurisdiction, All Modes Aggregated (2017-2022), Non-Freeway Crashes

Jurisdiction	Year	F/SI	Other Crashes	Total
Atherton	2017-2019	2	116	118
	2020-2022	3	41	44
Belmont	2017-2019	5	164	169
	2020-2022	5	130	135
Brisbane	2017-2019	8	53	61
	2020-2022	8	23	31
Burlingame	2017-2019	3	212	215
	2020-2022	11	116	127
Colma	2017-2019	22	9	31
	2020-2022	0	1	1
Daly City	2017-2019	4	544	548
	2020-2022	39	434	473
East Palo Alto	2017-2019	10	250	260
	2020-2022	33	229	262
Foster City	2017-2019	4	106	110
	2020-2022	10	74	84
Half Moon Bay	2017-2019	10	77	87
	2020-2022	9	82	91
Hillsborough	2017-2019	4	30	34
	2020-2022	2	13	15
Menlo Park	2017-2019	23	430	453
	2020-2022	15	252	267
Millbrae	2017-2019	11	142	153

Jurisdiction	Year	F/SI	Other Crashes	Total
	2020-2022	24	107	131
Pacifica	2017-2019	21	249	270
	2020-2022	24	167	191
Portola Valley	2017-2019	2	25	27
	2020-2022	10	11	21
Redwood City	2017-2019	41	783	824
	2020-2022	50	546	596
San Bruno	2017-2019	56	266	322
	2020-2022	23	187	210
San Carlos	2017-2019	15	155	170
	2020-2022	19	139	158
San Mateo	2017-2019	58	715	773
	2020-2022	23	326	349
South San Francisco	2017-2019	66	530	596
	2020-2022	43	424	467
Unincorporated	2017-2019	113	625	738
	2020-2022	137	529	666
Woodside	2017-2019	14	73	87
	2020-2022	30	87	117

Source: TIMS 2023

Hot Spot analysis/ High Injury Network Identification

A hot spot analysis involves analyzing historic crash data for the County and within each local jurisdiction. Hot spot analysis is a valuable method to identify locations with disproportionate histories of crashes, but it is not intended to reveal roadway factors that contribute to high crash risk. To identify the modal High Injury Networks (HINs) for pedestrians, bicyclists, and motor vehicles, a sliding window analysis was conducted as described in Appendix C

Dynamic maps of all local jurisdiction HINs, as well as of the combined Countywide HIN, can be viewed at this link. Static maps are contained in the body and as part of Appendix C of this plan. On these maps, routes labeled as "Non-Highway" are not part of the State's highway network.

- The pedestrian HIN is represented by 98 miles of the street network that had the highest concentration of weighted crashes on a per-mile basis. The minimum weighted crash threshold was substantially higher along State routes (i.e., Caltrans roadways) compared to local roads. This differential scoring was used to keep State routes from dominating the HIN and precluding insights about locally controlled roadways. The Pedestrian HIN covers just 3.4 percent of the street network for the County but accounts for half of all pedestrian crashes and 69 percent of fatal and severe injury pedestrian crashes from 2018 to 2022. Roughly 12 percent of the pedestrian HIN is along a State route, and 10 percent of the pedestrian HIN is along El Camino Real (SR 82).
- The bicyclist HIN was produced using the same approach as the pedestrian HIN (i.e., evaluating State routes separately from local streets and using the same relative scoring). The bicyclist HIN represents 96 miles of the street network and accounts for 3.3 percent of the street network. Twenty-seven percent of the network is along a State route, with El Camino Real comprising nearly 10 percent of the bicyclist HIN mileage. Most crashes along the bicyclist HIN involved both a bicyclist and a motorist (82 percent of total crashes; 67 percent of F/SI crashes), while the remaining crashes were solo bicyclist crashes.
- The Motor Vehicle HIN was developed using the same per-mile weighted analysis as the pedestrian and bicyclist HIN but the crash thresholds for State highways and local roadways. The motor vehicle HIN represents 283 miles of the street network and accounts for about 10 percent of the street network, 63 percent of all injury motor vehicle crashes, and 44 percent of F/SI motor vehicle crashes. Forty-two (42) percent of the network is along a State route.

To consolidate a network of high injury segments for San Mateo County and its specific jurisdictions, motor vehicle HIN, pedestrian HIN and bicycle HIN were combined to identify, for every roadway segment in the County, whether it is part of zero, one, two, or all three of the modal HINs.

Figure 5. Countywide Pedestrian High Injury Network

Figure 6. Countywide Bicyclist High Injury Network

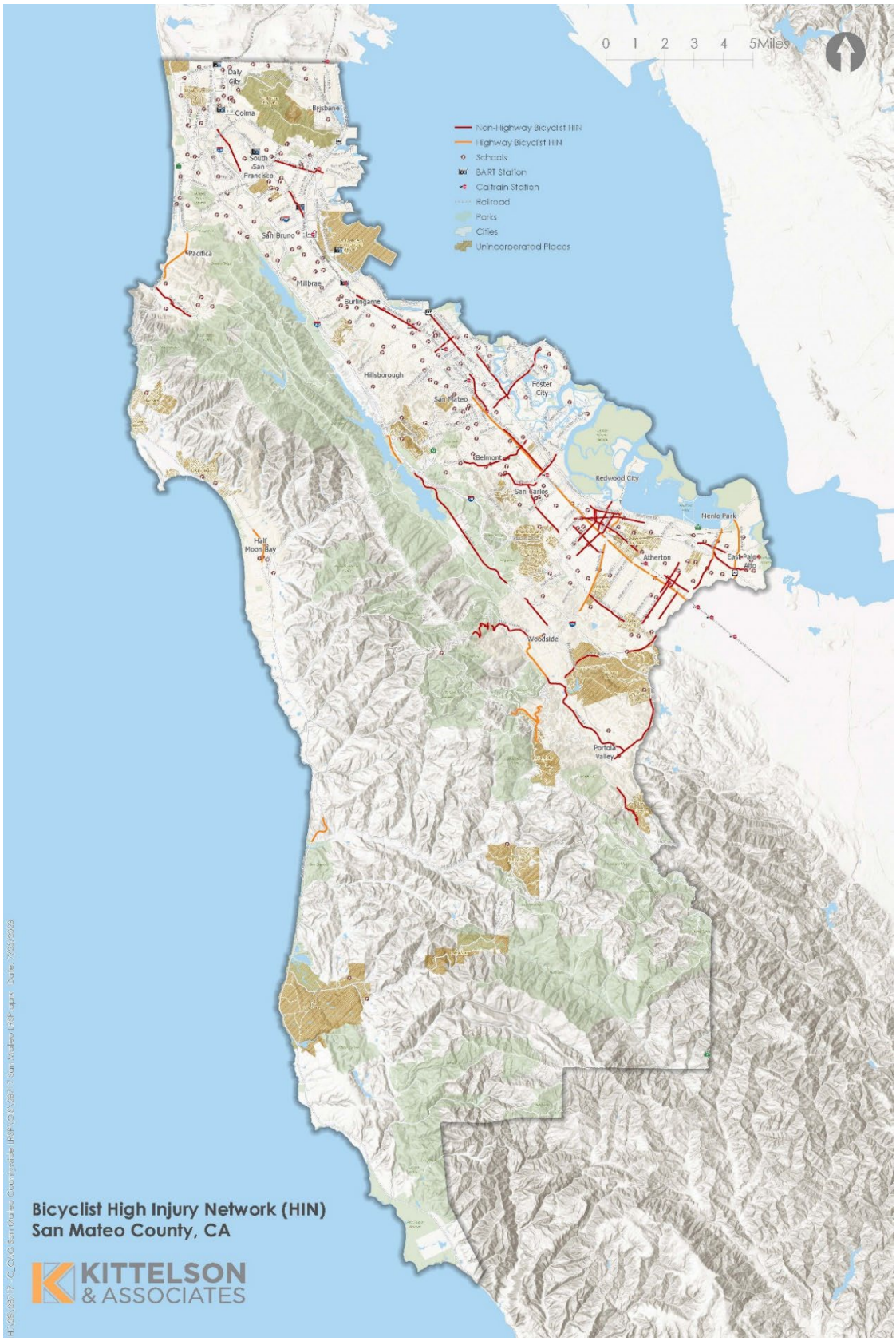


Figure 7. Countywide Motor Vehicle High Injury Network

Figure 8. Countywide Combined High Injury Network

SYSTEMIC DESCRIPTIVE FINDINGS

In addition to the spatial and location-based findings, the analysis analyzed the crash data for systemic findings. Those are organized by mode (pedestrian, bicyclist, and motor vehicles). An overview of crashes by mode for the 5-year period is provided in Table 6. The following pages describe high-level Countywide systemic crash findings. Pages 40-41 show countywide findings in relation to the County emphasis areas.

Table 6: Injury/Fatal Crashes by Mode, Countywide (2018-2022), Non-Freeway Crashes

Mode	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes
Pedestrians	1,064	13%	208	23%
Bicyclists	1,058	13%	175	20%
Motor Vehicle Alone	6,328	75%	515	57%
Total	**8,450**	**100%**	**898**	**100%**

Source: TIMS 2023

EMPHASIS AREAS

The project team analyzed crash data countywide to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that agencies can focus on to maximize fatal and severe injury reduction on local roads. Countywide emphasis areas are listed below.

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of all injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of all injury crashes but 20 percent of fatal/severe injury crashes.
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 and 69 and between 75 and 84 are more likely to be severely injured than other groups.
5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of all injury crashes and 23 percent of fatal/severe injury crashes)

6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.
7. **Alcohol involvement.** Countywide, one in ten (10 percent) of all motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol.

SYSTEMIC FINDINGS BY MODE

The systemic findings highlight the following topics for modes as appropriate. More detail is provided in a detailed analysis memo provided as Appendix C.

- Crashes by Year
- Lighting Conditions
- Weather Conditions
- Roadway Conditions
- Proximity to Transit Stop
- Crash Locations
- Functional Classification
- Intersection Control
- Number of Legs at Intersection
- Posted Speed Limit
- Functional Classification
- Pre-Crash Movements
- Violation Types
- Alcohol Usage
- Violation Types
- Victim Age

Pedestrian Findings

Crashes by Year

- There was a sharp reduction in crashes at the start of the pandemic; however, crashes appear to have increased in severity during the core pandemic years.
- Pedestrian crash frequencies increased in 2022 as pandemic-related restrictions eased and travel and activities begin to increase, although the overall share of severe and fatal crashes dropped back to about 16 percent.

Lighting Conditions

- Lighting condition has a strong correlation with F/SI outcomes. Crashes that occurred in darkness or low-light (i.e., dusk or dawn) conditions were much more likely to result in a F/SI outcome (27 percent) compared to those that occurred during daylight (15 percent), and this disproportionality was even stronger in dark, unlit conditions (32 percent F/SI).

Proximity to Transit Stop

- Intersections within 250 feet of a transit stop had a crash rate of 20 crashes per 100 intersections, compared to just four crashes per 100 intersections for those intersections further away.

Crash Locations

- Most crashes occurred at an intersection (76 percent of injury/fatal crashes; 68 percent of F/SI crashes), with the remainder coded to segment locations (24 percent of injury/fatal crashes; 32 percent of F/SI crashes).
- Segment and unsignalized intersection pedestrian crashes tended to be more severe, compared to crashes at signalized intersections. Motorist speeds may be higher midblock than at intersections, resulting in higher kinetic energy and limited reaction time, both of which may contribute to greater injury severity from segment crashes.

Functional Classification

- Primary streets had the highest rate of crashes per 100 miles (340 crashes per 100 miles) and F/SI crashes (81 F/SI crashes per 100 miles), followed by secondary streets (137 crashes per 100 miles; 29 F/SI crashes per 100

miles). This finding supports research showing consistent pedestrian crash risk along major arterials, which generally have higher vehicle speeds, higher vehicle volumes, and greater crossing widths.

- At intersections, crashes occurred most frequently at:
  - Secondary and residential streets (23 percent of injury/fatal crashes; 28 percent of F/SI crashes),
  - Primary and residential streets (20 percent of injury/fatal crashes; 23 percent of F/SI crashes), and
  - Residential and residential streets (19 percent of injury/fatal crashes; 13 percent of F/SI crashes).

Intersection Control

- A majority of intersection crashes occurred at unsignalized intersections (63 percent of injury/fatal and 61 percent of F/SI crashes).
- Crashes were concentrated at signalized intersections (51 crashes per 100 intersections; 9 F/SI crashes per 100 intersections).
- Crashes that involved a pedestrian crossing in a crosswalk at a signalized intersection with a motorist going straight accounted for the second largest share of F/SI crashes (23 percent); these crashes were also disproportionately severe when they occurred, with 42 percent resulting in a F/SI outcome.

Posted Speed Limit

- Roadways with 25 mph speed limits are underrepresented in F/SI crashes even though they accounted for the largest share of pedestrian crashes. They accounted for 38 percent of pedestrian crashes and 34 percent of F/SI crashes, but 80 percent of the street network has a speed limit of 25mph or less.
- Streets with a posted speed limit of 45 mph had the second largest share of crashes (27 percent) and F/SI crashes (29 percent), followed by 35 mph streets (23 percent of injury/fatal crashes; 27 percent of F/SI crashes). These higher speed streets had some of the highest percentages of crashes resulting in an F/SI outcome, average crash severity scores, and crash severity scores per 100 miles.[28] These findings support the current understanding that higher speed roads have serious safety implications for vulnerable road users.

Pre-Crash Movements

- Most pedestrian crashes involved the following:
  - A pedestrian crossing at an intersection with a motorist turning left (24 percent). These crashes most frequently occurred at a signalized intersection (45 percent), but most of the F/SI crashes with this crash type occurred at unsignalized intersections.
  - A pedestrian crossing at an intersection with a motorist proceeding straight (15 percent). These crashes most frequently occurred at unsignalized intersections for overall crashes (77 percent) and F/SI crashes (59 percent).
  - A pedestrian crossing not in a crosswalk with a motorist proceeding straight (13 percent). These crashes most often occurred at segment locations (46 percent of injury/fatal crashes; 53 percent of F/SI crashes), followed by unsignalized intersections (39 percent of injury/fatal crashes; 31 percent of F/SI crashes).

[28] The crash severity score is a normalized measure that scores a crash based on its average societal cost and compares it to a typical reported crash resulting in property damage only (PDO). For example, a crash at a signalized intersection resulting in death or severe injury is weighted 120 times a PDO crash; a crash resulting in a minor injury is weighted 11 times a PDO; and crash resulting in a possible injury is weighted six times a PDO. A higher average crash severity score means that those crashes resulted in more severe outcomes more often.

- Of those three crash types, those that involved a motorist proceeding straight had a higher share of crashes that resulted in a F/SI outcome and a higher average crash severity score.

Alcohol Usage

- The vast majority of crashes did not have any road user found to be under the influence of alcohol (96 percent of injury/fatal crashes; 94 percent of F/SI crashes).

Victim Age

- Pedestrian victims aged between 15 and 29 years of age and between 55 and 59 years of age accounted for the largest share of victims for all injury severities. However, pedestrian victims aged from 40 to 44 and from 55 to 74 years of age had the largest share of F/SI victims.

Bicyclist Findings

Crashes by Year

- Bicyclist crash frequencies were highest during the first two years of the five-year study period and lowest during the core period of the COVID-19 pandemic (2020-2021).
- Crash severity appears to be getting worse. Bicyclist injury trends showed that 20-23 percent of crashes resulted in a F/SI outcome in 2021-2022, compared to 11-15 percent of crashes in 2018-2020.

Lighting Conditions

- The vast majority of bicyclist crashes occurred during daylight conditions (84 percent), which fits with when most bicyclist trips occur.
- Bicyclist crashes were more likely to result in an F/SI outcome during dark lighting conditions (21 percent) compared to daylight conditions (16 percent).

Weather Conditions

- More than 90 percent of total crashes and F/SI bicyclist crashes occurred during clear weather conditions.

Roadway Conditions

- Most crashes occurred at locations with no unusual conditions (95 percent of crashes).
- Though a comparatively small sample, the majority of F/SI bicyclist crashes that occurred with any type of non-typical roadway condition (n=17) were solo bicyclist crashes (n=13), underscoring the vulnerability of bicyclists and the need for well-maintained roads.

Crash Locations

- Most bicyclist crashes (43 percent) occurred at unsignalized intersections, but most F/SI crashes occurred at segment locations (43 percent). Roughly one-third of the F/SI crashes at unsignalized intersections were solo bicyclist crashes.
- Among the crashes at unsignalized intersections, and excluding solo bicyclist crashes, it was most common for both parties to be traveling in the same direction (e.g., an overtaking or dooring crash) in both overall crashes (45 percent) and F/SI crashes (58 percent).
- Among the unsignalized same-direction crashes, most involved both the bicyclist and motorist going straight (17 percent).
- Most F/SI crashes at unsignalized intersections involved both parties traveling in perpendicular directions, either both going straight (n=7) or the bicyclist going straight and the motorist making a left turn (n=4).

Functional Classification

- Most bicyclist crashes occurred along:

  - Secondary streets (39 percent),
  - Residential streets (20 percent), and
  - Primary streets (20 percent).

- At intersections, crashes occurred most frequently at:
  - Secondary-residential intersections (28 percent of injury/fatal crashes; 24 percent of F/SI crashes),
  - Residential-residential intersections (18 percent of injury/fatal crashes; 13 percent of F/SI crashes),
  - Primary-residential intersections (17 percent of injury/fatal crashes; 16 percent of F/SI crashes), and
  - Tertiary-residential intersections (16 percent of injury/fatal crashes; 18 percent of F/SI crashes).

Intersection Control

- Most crashes occurred at unsignalized intersections, accounting for 67 percent of injury/fatal crashes and 70 percent of F/SI crashes. When looking at crashes per 100 intersections, crashes were concentrated at signalized intersections (38 crashes per 100 intersections; 5 F/SI crashes per 100 intersections). The percentage of crashes that resulted in a F/SI outcome was comparable between location types, with 15 percent of crashes resulting in a F/SI outcome at unsignalized intersections compared to 13 percent at signalized intersections.

Posted Speed Limit

- Higher-speed streets tend to higher crash severity scores per 100 miles. Most crashes and F/SI crashes occurred along 45 mph roadways (32 percent of injury/fatal crashes; 31 percent of F/SI crashes), while only 8 percent of the network is made up of 45 mph streets.
- Streets with a posted speed limit of 40 mph had the largest rate of crashes per 100 miles (n=166) and F/SI crashes per 100 miles (n=138). Given that these streets comprise less than 1 percent of the network, these statistics indicate that a disproportionate share of overall crashes and F/SI crashes occur on these roads.

Pre-Crash Movements

- Most bicyclist crashes involved:
  - Both roadway users proceeding straight at the time of the crash (21 percent of injury/fatal crashes; 18 percent of F/SI crashes). These crashes occurred most frequently at unsignalized intersections (53 percent), whereas F/SI crashes occurred most frequently at signalized intersections (43 percent).
  - A bicyclist proceeding straight and a motorist turning left (12 percent of injury/fatal crashes; 9 percent of F/SI crashes). Most of these crashes occurred at unsignalized intersections (25 percent of injury/fatal crashes; 46 percent of F/SI crashes).
  - A bicyclist proceeding straight and a motorist turning right (11 percent of injury/fatal crashes; 6 percent of F/SI crashes). Most of these crashes occurred at unsignalized intersections (43 percent of injury/fatal crashes; 29 percent of F/SI crashes) and signalized intersections (32 percent of crashes; 53 percent of F/SI crashes).

Violation Types

The most frequent violation types included:

- Automobile right-of-way (19 percent of crashes; 15 percent of F/SI crashes),
- Unsafe speed (18 percent of crashes; 28 percent of F/SI crashes), and
- Improper turning (17 percent of crashes; 12 percent of F/SI crashes).

Alcohol Usage

- Few reported crashes identified either the motorist or bicyclist as being under the influence of alcohol (less than 2 percent of injury/fatal crashes; less than 5 percent of F/SI crashes).

Motor Vehicle Findings

Crashes by Year

- Motor Vehicle crash frequencies were highest during the first two years of the five-year period and lowest during the core period of the COVID-19 pandemic (2020-2021).
- Crash severity has decreased, with the highest crash severity observed in 2018 which then decreased during the pandemic years (2020-2021).

Lighting Conditions

- About 26 percent of motor vehicle crashes were observed to have occurred in the dark—22 percent under street lights and 5 without street lights. Crashes with no streetlights had approximately double the per-crash severity score of daylight crashes and 70 percent higher average score than crashes under street lights.

Crash Locations

- About 39 percent of motor vehicle crashes and 52 of F/SI motor vehicle crashes occurred at a segment or midblock location. Unsignalized intersection and roadway segment crashes are both more severe on average than signalized intersection crashes.

Functional Classifications

- Secondary roadways are overrepresented in in F/SI share (36 percent) compared to total share (29 percent).
- Intersection crashes along primary and secondary roads account for the majority of intersection crashes (36 and 29 percent each) and similarly large shares of F/SI crashes (35 and 29 percent). The highest crash severity scores were at intersections along the trunk and primary roadway system where they intersect with lower-order intersections—particularly at unsignalized intersections. This indicates that unsignalized minor-street intersections along arterial roadways have a disproportionate severity burden in the county.

Intersection Control

- The majority of motor vehicle crashes occurred at unsignalized intersections, but signalized intersections have a much higher crash rate per 100 intersections.

Posted Speed Limit

- Higher-speed streets tend to have very high crash severity. Most crashes and F/SI crashes occurred along roadways with speed greater than 40 mph roadways (56 percent of all crashes; 70 percent of F/SI crashes).
- Notably, almost 47 percent of the 40 mph+ unsignalized intersection crashes occurred along secondary roadways A majority of crashes at 45 mph or higher intersections were at unsignalized intersections (56 percent)
- Roadways with posted speed limits of 40 mph or higher consist of 12 percent of County roadways but make up 44 percent total crashes and the majority (55 percent) of total F/SI crashes. Crashes that occurred on roadways with a posted speed limit of 40 mph or higher had an average crash severity per mile that was more than thirteen times that of crashes occurring on roadways with a posted speed limit of 25 mph or less.

Crash Types

- At intersections, the most frequent and severe motor vehicle crashes were the following types and locations:

  - Broadside: 61 percent occurred unsignalized intersections,
  - Rear-end: 55 percent at occurred at signalized intersections, and
  - Head-on: 51 percent occurred at signalized intersections.

- On roadway segments, the predominant crash types are rear-end (29 percent), hit-object (21 percent), and broadside (18 percent). Weighted by severity, hit-object crashes are disproportionately overrepresented.

Violation Types

The most frequent violation types included:

- Unsafe speed (27 percent of injury/fatal crashes, 23 percent of F/SI crashes),
- Automobile right-of-way (19 percent of crashes; 12 percent of F/SI crashes), and
- Improper turning (18 percent of crashes; 19 percent of F/SI crashes).

Alcohol Usage

About 10 percent of the motor vehicle crashes included a driver under the influence, but those accounted for 19 percent of F/SI crashes and had an average crash severity score about 1.5 times as high as other motor vehicle crashes.

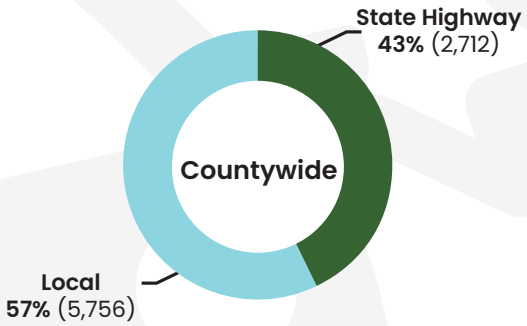
- Victims between the ages of 10 and 29 are more likely to be injured, including F/SI as result of traffic safety issues on average than other groups. Victims between the ages 15 to 24 are especially overrepresented with victims and F/SI ratios over 2.
- Victims ranging from ages 0 to 14 (children) account for 18 percent of the countywide population and 14 percent of total crashes and 8 percent of F/SI motor vehicle crash victims.
- Victims ranging from ages 15 to 24 (young adult) account for 11 percent of the countywide population but account for 22 percent of total crashes and 26 percent of F/SI motor vehicle crash victims.

Victims ranging from ages 65 and up account for 16 percent of the countywide population but account for 10 percent of total crashes and 14 percent of F/SI motor vehicle crash victims.

San Mateo County—Crash History

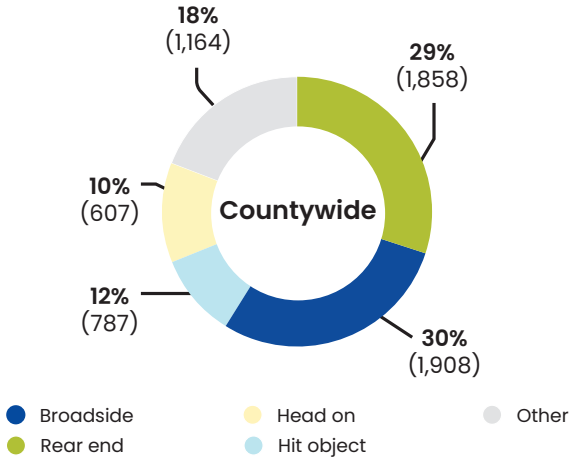
Total Crashes

In San Mateo County, 8,464 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

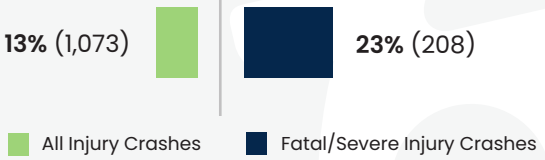
Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in San Mateo County.



Mode Involvement

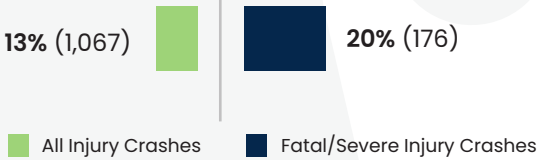
Pedestrian Crashes (1,073)

Countywide



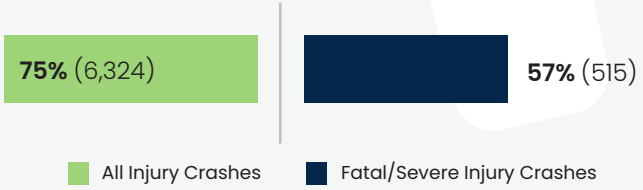
Bicycle Crashes (1,067)

Countywide



Motor Vehicle[1] Crashes (6,324)

Countywide



8% (625)

of reported collisions in the Countywide total involved drugs or alcohol

5% (472)

of reported collisions in the Countywide total involved young drivers[1]

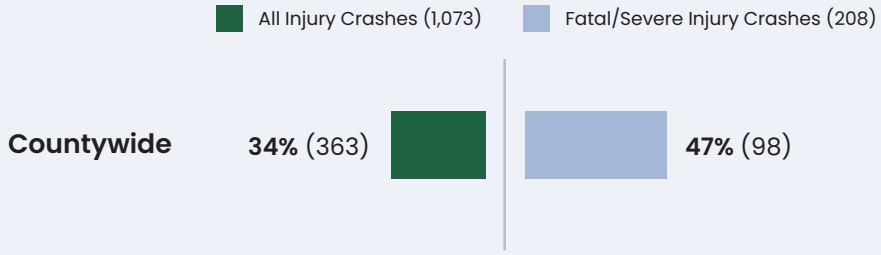
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

San Mateo County—Crash History

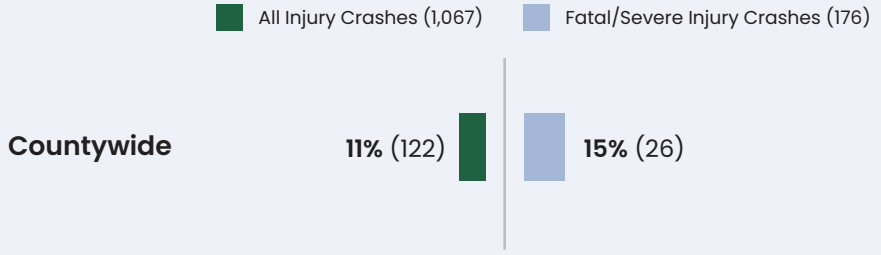
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here are the Countywide crashes in dark conditions:

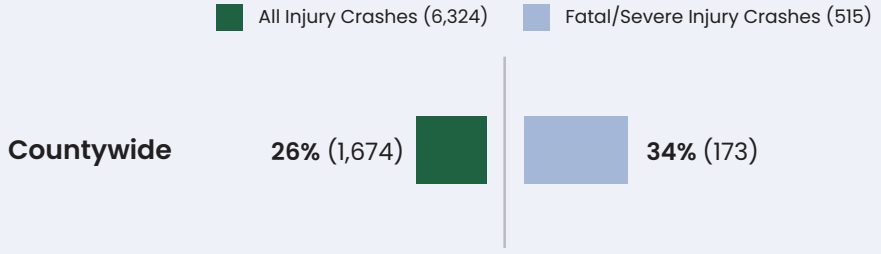
Share of Pedestrian Crashes in Dark Conditions (363)



Share of Bicyclist Crashes in Dark Conditions (122)

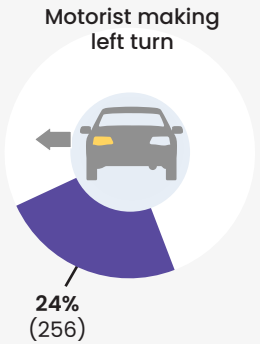


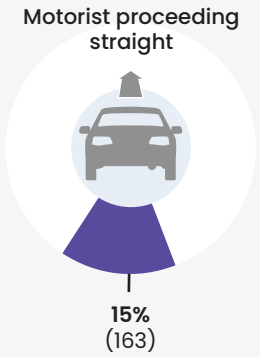
Share of Motor Vehicle Crashes in Dark Conditions (1,674)



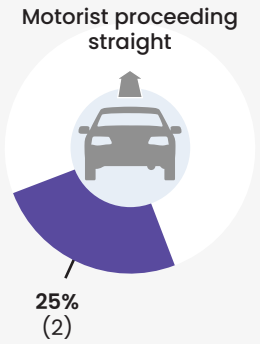
Reported Pedestrian Crashes (1,073)

Pedestrian Crossing at Intersection





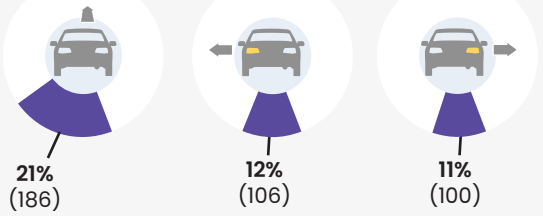
Pedestrian Crossing Not at a Crosswalk



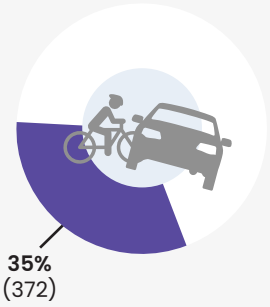
Countywide

Reported Bicycle Crashes (1,067)

Bicyclist Proceeding Straight



Perpendicular Bicyclist Crashes



Countywide

STATE HIGHWAYS IN SAN MATEO COUNTY

State Highways are some of the most critical interjurisdictional facilities across the C/CAG region. They connect multiple jurisdictions; move high volumes of people across many travel modes; serve critical freight needs; and in some communities serve as high-activity walking, biking, and commercial corridors.

Any planning and project development requires cross-jurisdictional coordination.

The County includes the at-grade State Highways which run through the jurisdictions shown in Table 7.

Table 7. San Mateo County State Highways and Local Jurisdictions

	At-Grade State Routes							Freeways		
Local Jurisdictions	1	35 (Skyline Blvd)	82 (El Camino Real)	84	92 (Half Moon Bay Rd)	109 (University Ave)	114 (Willow Rd)	US 101	I-280	I-380
Atherton			X							
Belmont			X					X		
Brisbane								X		
Burlingame			X					X	X	
Colma			X						X	
Daly City	X	X	X						X	
East Palo Alto						X	X	X		
Foster City					X					
Half Moon Bay	X		X		X					
Hillsborough		X							X	
Menlo Park			X	X		X	X	X	X	
Millbrae			X					X	X	
Pacifica	X	X								
Portola Valley										
Redwood City			X	X				X		
San Bruno		X	X					X	X	X
San Carlos			X					X		
San Mateo			X		X			X		

Local Jurisdictions	At-Grade State Routes							Freeways		
	1	35 (Skyline Blvd)	82 (El Camino Real)	84	92 (Half Moon Bay Rd)	109 (University Ave)	114 (Willow Rd)	US 101	I-280	I-380
South San Francisco		X	X					X	X	
Unincorporated County	X	X	X	X	X				X	
Woodside		X		X					X	
Total	**3**	**4**	**13**	**5**	**3**	**2**	**2**	**12**	**11**	**1**

Safety on At-Grade State Highways

At-grade State Highways serve a high volume of traffic to, though, and within San Mateo County. As a result, they account for a considerable share of countywide crashes.

Table 8 provides a breakdown of reported non-freeway crashes from 2018 to 2022 in the County and a share occurring within each jurisdiction on the State Highway network. Overall, the State Highway network accounted for 43 percent of at-grade crashes within the County and was as high as 77 percent within any jurisdiction.

The following jurisdictions showed the highest variation from that share:

- Brisbane (contains no at-grade State Highways): 100 percent local
- Portola Valley (SR 35 defines the southwestern boundary, but otherwise contains no at-grade State Highways): 100 percent local
- Hillsborough: 100 percent local
- Half Moon Bay: 23 percent local
- Unincorporated: 37 percent local
- Woodside: 39 percent local

Table 8. Injury/Fatal Crashes by Jurisdiction, All Modes Aggregated (2018-2022), Non-Freeway Crashes

Jurisdiction	Count	State Highway Crashes	Percent (%) State Highway Crashes	Local Roadway Crashes	Percent (%) Local Roadway Crashes
Atherton	121	36	30%	85	70%
Belmont	244	66	29%	178	71%
Brisbane	69	-	0%	69	100%
Burlingame	267	90	30%	177	70%
Colma	11	3	59%	8	41%
Daly City	863	143	29%	720	71%
East Palo Alto	458	150	33%	308	67%
Foster City	150	7	29%	143	71%
Half Moon Bay	145	116	77%	29	23%
Hillsborough	38	-	0%	38	100%
Menlo Park	542	188	33%	354	67%
Millbrae	230	94	38%	136	62%
Pacifica	394	141	56%	253	44%
Portola Valley	39	-	0%	39	100%
Redwood City	1,137	295	26%	842	74%
San Bruno	412	171	36%	241	64%
San Carlos	281	48	18%	233	82%
San Mateo	869	176	29%	693	71%
South San Francisco	866	168	17%	698	83%
Unincorporated	1,147	704	61%	443	39%
Woodside	185	111	61%	74	39%
Total	**8,468**	**2,712**	**43%**	**5,756**	**57%**

Source: TIMS 2023

Existing Plans and Directives to Improve Safety

Caltrans has already taken steps to address safety on at-grade State Highways in San Mateo County, as included in the following documents, discussed in more detail below:

- Director's Policy 36: Road Safety
- Road Safety Action Plan 2023-24
- District 4 Bike Plan
- District 4 Pedestrian Plan

CALTRANS DIRECTOR'S POLICY 36: ROAD SAFETY – ESTABLISHES THE VZ COMMITMENT

Director's Policy 36, issued in February 2022, establishes a vision for Caltrans to eliminate fatalities and severe injuries (F+SIs) on California's roadways by 2050.[29] The statement includes the following intended results:

- "….to establish a corporate expectation to prioritize safety in order to achieve its goal of zero fatalities and severe injuries by 2050."
- "All Divisions shall align their programs, plans, policies, procedures, and practices with the Safe System Approach as appropriate to their division."
- This statement includes a commitment to:
- A safety first mindset
- Prioritize eliminating F+SIs through existing programs and the development of new programs.
- Eliminate race-, age-, ability- and mode-based disparities in road safety outcomes.

The policy statement also formally adopts the Safe System Approach, which aligns with this Countywide Local Roadway Safety Plan.

CALTRANS ROAD SAFETY ACTION PLAN 2023-24

The Caltrans Road Safety Action Plan 2023-24 lays out a coordinated plan to support Caltrans' goal of eliminating fatal and severe injury crashes by 2050.[30] Importantly, the Plan includes the following actions relevant to this Countywide LRSP.

[29] Available online at https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/policy/dp_36-a11y.pdf
[30] Available online at https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/safety/road-safety-action-plan-2023-24-a11y.pdf

Table 9. Caltrans SAP Actions Related to LRSP

Action	Relevance to this Plan
1.5 Propose to extend Caltrans' delegation to approve proactive safety projects in addition to reactive projects.	This plan includes countywide and jurisdiction-specific priority locations identified through a combination of reactive and proactive measures. C/CAG and local jurisdictions will look for opportunities to coordinate with Caltrans to identify proactive safety projects (i.e., the locations may not have risen to the top of Caltrans' own prioritization process).
2.1 Develop best-practice guidance to improve the safety of pedestrians and bicyclists on the State Highway System.	This plan includes a list of context-appropriate recommended countermeasures, including for pedestrians and bicyclists, for each jurisdiction to improve safety. This list of countermeasures aligns with the Caltrans *Local Roadway Safety Manual*, and jurisdictions may cross check available countermeasures against forthcoming Caltrans best-practice guidance to identify alignment and, therefore, opportunities to coordinate on projects.
3.1 Develop a statewide inventory of safety devices to support proactive safety initiatives and create a framework to extend the database to include additional roadside safety features.	

DISTRICT 4 BIKE PLAN

The 2018 District 4 Bike Plan includes a list of top tier bicyclist/pedestrian projects on Caltrans facilities.[31] The plan includes over 100 bicycle/pedestrian projects on Caltrans facilities based on how they address safety, mobility, and/or equity. Many of these projects are located on at-grade State Highways. Those are included as an attachment. For those that have not yet been implemented, Caltrans and the relevant jurisdictions will use the advisory group to be formed as a recommendation from this plan to coordinate and bring forward pathways to implementation.

DISTRICT 4 PEDESTRIAN PLAN

The 2021 District 4 Pedestrian Plan includes an assessment of walking conditions and a tiered ranking of priority highway segments and crossings for pedestrian improvements.[32] The plan also includes recommendations for local coordination to advance pedestrian projects.

Improvements to Date in the County

Local jurisdictions have successfully partnered with Caltrans to bring forward safety projects on State Highways in the County. The following projects can serve as a model for cross-jurisdictional coordination in the name of safety improvements:

- Town of Colma – El Camino Real

[31] Available online at https://dot.ca.gov/-/media/dot-media/district-4/documents/d4-bike-plan/caltransd4bikeplan_report_lowres-r6.pdf
[32] Available online at https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/active-transportation-complete-streets/district4-finalreport-a11y.pdf

The Town of Colma worked closely with Caltrans to develop the 2021 *El Camino Real Bicycle and Pedestrian Improvement Plan* which proposes a series of projects along the corridor along with potential funding sources..[33] The Town has successfully received SMCTA and OBAG funding to improve the El Camino Real/Mission Road intersection as a result of this plan. The Town is continuing to look for funding and implementation opportunities.

- South San Francisco El Camino Real
  The City of South San Francisco has teamed with the San Mateo County Transportation Authority, the San Mateo County Office of Education, and the Silicon Valley Bike Coalition to install a demonstration project along a 0.3-mile stretch of El Camino Real. The project includes a class IV separated bike lane, a newly striped crosswalk, and a boarding platform for SamTrans buses. The project proceeded with Caltrans coordination.

Caltrans Recommendations and Actions

Given the nature and scale of crash history along at-grade State Highways, and in light of C/CAG's and Caltrans' Vision Zero commitment, Caltrans will participate in the recommended County Safety Advisory Group and will work with the group to achieve the following outcomes:

- Consult the Caltrans District 4 Bike Plan and Pedestrian Plan Project list to further advance projects not yet funded.
- Develop a list of safety treatments or project types meeting each of the following three criteria:
  - "Caltrans maintained" – Local jurisdictions would be able to install these treatments provided they reach agreement with Caltrans for Caltrans to maintain the treatments.
  - "Locally maintained" – Local jurisdictions would be able to install these treatments and would be required to maintain on at-grade State Highways without the need for a maintenance agreement.
  - "Coordination required" – Caltrans would be generally supportive of such a project, but some maintenance details would need to be negotiated.
- Develop a template or exemplar for a maintenance agreement that agencies can use in an "off-the-shelf" fashion to more easily advance safety projects in partnership with Caltrans.
- Caltrans will proactively identify when projects are moving into certain project development phases or project streams, to provide the opportunity for local jurisdiction input and coordination to improve safety.
- Caltrans will listen to input and help shape areas of need and project opportunity countywide, including proactive safety projects.

[33] Available online at https://www.colma.ca.gov/documents/ecr-improvement-plan/

SAFE SYSTEM-ALIGNED RECOMMENDATIONS

This section offers engineering recommendations, which include physical countermeasures to be implemented onto roadways, as well as policy and program recommendations, which work to increase safe travel behavior in roadway users through action-based outreach, strategic funding, and equitable prioritization of resources.

Each individual recommendation is designed to bring the Countywide roadway network and its users into better alignment with the values and practices of the Safe System Approach. When implemented in tandem, however, these twin tracks of recommendations will create the holistic, layered protection in the Countywide roadway network that the Safe System Approach requires.

Engineering

C/CAG does not own any local roadways and therefore will not design, implement, or maintain engineering countermeasures. However, through this project it has coordinated with the participating jurisdictions to develop lists of city- or town-approved countermeasures. The following table presents the cumulative list of countermeasures developed among agencies

Table 10: Engineering Countermeasures

Location Type [1]	Countermeasure	Crash Types	Cost
All	Lighting [2]	Nighttime	$$
All	Roadside Design Features [4]	All	Varies
SI	Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number [2]	Signalized Local/Arterial Intersections	$
SI	Install left-turn lane and add turn phase [2]	Signalized Local/Arterial Intersections	$-$$
SI	Convert signal to mast arm (from pedestal-mounted) [2]	Signalized Local/Arterial Intersections	$$$
SI	Install raised median on approaches [2]	Signalized Local/Arterial Intersections	$
SI	Create directional median openings to allow (and restrict) left-turns and U-turns (signalized intersection) [2]	Pedestrian Crashes, Signalized Local/Arterial Intersections	$
SI	Install raised pavement markers and striping [2]	Wet, Night, all	$
SI	Install flashing beacons as advance warning (S.I.) [2]	read-end, broadside	$$$
SI	No Right Turn on Red (RTOR)	Pedestrian Crashes, Signalized Local/Arterial Intersections	$
SI	Centerline Hardening or Continuous Raised Median [3]	All crashes	$
SI	Convert intersection to roundabout (from signal) [2]	Signalized Local/Arterial Intersections	$$$
SI	Install pedestrian countdown signal heads [2]	Pedestrian Crashes, Signalized Local/Arterial Intersections	$
SI	Install pedestrian crossing [2]	Pedestrian Crashes, Signalized Local/Arterial Intersections	$

Location Type [1]	Countermeasure	Crash Types	Cost
SI	Install pedestrian scramble [2]	Pedestrian Crashes, Signalized Local/Arterial Intersections	$
SI	Install Bicycle Box [2]	Bicyclist Crashes, Signalized Local/Arterial Intersections	$
SI	Modify signal phasing to implement a Leading Pedestrian Interval (LPI) [2]	Pedestrian Crashes, Signalized Local/Arterial Intersections	$
SI	Install painted safety zone	Pedestrian Crashes, Signalized Local/Arterial Intersections	$
SI	Install Protected Intersection Elements	Pedestrian Crashes, Signalized Local/Arterial Intersections	$
SI	Extend pedestrian crossing time	Pedestrian	$
SI	Pedestrian Phase Recall	Pedestrian	$
SI	Extend green time for bikes	Bikes	$
SI	Extend Yellow and All Red Time	All	$
SI	Bicycle Crossing (Solid Green Paint)	Bikes	$
SI	Bicycle Signal/Exclusive Bike Phase	Bikes	$
SI	ADA-compliant directional curb ramps and audible push buttons	Pedestrian	$
SI,UI	Splitter Islands [4]	All	$
SI,UI	Approach Curvature [4]	All	Varies
SI,UI	Curb Radius Reduction [3]	All	$-$$

Location Type [1]	Countermeasure	Crash Types	Cost
UI	Convert intersection to roundabout (from all way stop) [2]	All	$$$
UI	Convert intersection to roundabout (from stop or yield control on minor road) [2]	All	$$$
UI	Convert intersection to mini-roundabout [2]	All	$$$
UI	Create directional median openings to allow (and restrict) left-turns and u-turns (unsignalized intersections) [2]	All	$
UI	Install raised medians (refuge islands) [2]	Pedestrian and Bicyclists	$
UI	Install pedestrian crossings (signs and markings only) [2]	Pedestrian and Bicyclists	$
UI	Install pedestrian crossings (with enhanced safety features) [2]	Pedestrian and Bicyclists	$$$
UI	Install/upgrade larger or additional stop signs or other intersection warning or regulatory signs [2]	Rear-end, right-angle, or turning crashes related to lack of driver awareness	$
UI	Install flashing beacons at stop-controlled intersection [2]	Broadside, Rear-end	$$$
UI	Install Pedestrian Signal, Pedestrian Hybrid Beacon, or Rectangular Rapid Flashing Beacon [2]	Pedestrian and Bicycle	$$$
UI	Install transverse rumble strips on approaches [2]	All	$
UI	Install splitter islands on the minor road approaches [2]	All	$
UI	Curb Extensions	All	$
UI,SI	Splitter Islands [4]	All	$
UI,SI	Approach Curvature [4]	All	Varies

Location Type [1]	Countermeasure	Crash Types	Cost
UI,SI	Curb Radius Reduction [3]	All	$-$$
R	Road diet (Reduce travel lanes from 4 to 3 and add a two way left-turn and bike lanes) [2]	All	Varies
R	Corridor access management [2]		Varies
R	Install edgeline rumble strips/stripes [2]	All	Varies
R	Install separated bike lanes [2]	Pedestrian and Bicyclists	$$$
R	Install/upgrade pedestrian crossing (with enhanced safety features) [2]	Pedestrian and Bicyclists	$$$
R	Install raised pedestrian crossing [2]	Pedestrian and Bicyclists	$
R	Remove or relocate fixed objects outside of Clear Recovery Zone [2]	Hit Object	Varies
R	Install delineators, reflectors and/or object marker [2]	All	$
R	Install/upgrade signs with new fluorescent sheeting (regulatory or warning) [2]	All	$
R	Install dynamic/variable speed warning signs [2]	Driver Behavior	Varies
R	Lane Narrowing	All	$

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above

Sources: [2] Caltrans Local Roadway Safety Manual (2022); [3] NCHRP Report 926; [4] NCHRP Report 613

$ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Policy and Program

Based on the goals, existing conditions, and opportunities identified in the development of this plan, this section identifies categories of actions C/CAG and identified partners can take to support LRSP implementation. The recommendations fall into a few categories, as shown in Table 11.

The recommendations are described in more detail following the table, and Table 12 on page 62 provides a list of recommendations and partner roles.

Table 11. Recommendations and Categories

Category	Near-Term Recommendations	Ongoing Recommendations	Long-Term or Ongoing Recommendations
Organize (O)	O1: Transportation Safety Advisory Committee		
		O2: High-Visibility Media Campaign	
Educate (E)		E1: Best Practices Training E2: Law Enforcement Training E3: Technical Assistance for Safety Education in Schools	
			E4: Communication Protocol
Coordinate (C)	C1: AB413 Implementation		C2: Safe System Enabling Legislation C3: Graduated Traffic Fine Structure
Fund (F)	F1: Dedicated Funding	F2: Equitable Investment F3: Prioritize Investments F4: Identify Targeted Enforcement Funding	
Research (R)			R1: Safety and Equity Impacts Evaluation R2: Data Quality Improvements R3: Crash Data Enhancements R4: Big Data
Plan (P)		P1: Safe Routes to School P2: Annual Review	
			P3: Plan Update

ORGANIZE

O1: Transportation Safety Advisory Committee

Convene the Plan's Advisory Group as the newly-established San Mateo County Transportation Safety Advisory Committee (TSAC) to coordinate on safety plan implementation and discuss relevant safety topics in the region, like enforcement coordination and AVs. The TSAC will include seats for the agencies listed in this table and will identify additional seats dedicated to representatives of equity priority communities, vulnerable road users, youth, older adults, parents of school-age children, local businesses, traffic violence victim families, etc.

The TSAC will include representation from Caltrans to allow coordination on State Highway locations in the County. As a member of the TSAC, Caltrans will proactively identify when projects are moving into certain project development phases or project streams, to provide the opportunity for local jurisdiction input and coordination to improve safety. Caltrans will also listen to input and help shape areas of need and project opportunity countywide, including proactive safety projects.

Convene meetings quarterly. Expected agenda topics include (but are not limited to):

- Scheduling and developing and approach for interim evaluations and updated plans (at the jurisdiction and county level)
- Tracking and coordinating funding opportunities, especially where cross-jurisdiction collaboration is desirable
  - Keeping agencies apprised of Caltrans, MTC, USDOT, SMCTA, and other funding guidelines and requirements
  - Prioritizing items among the remaining recommendations within this plan

Lead agency: C/CAG

Coordinating partners: Constituent jurisdictions, County Public Health, Sustainability Department, County Office of Education, SMCTA, California Highway Patrol, MTC, SVBC, Caltrans, County Sheriff's Office, BART

O2: High-Visibility Media Campaign

Conduct a safety media campaign. This may be exclusively a media campaign to raise awareness about the emphasis areas identified in this plan, or this may be a high-visibility enforcement campaign. If the latter, the campaign includes dedicated law enforcement with media supporting the enforcement activity to ensure public awareness. Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health

Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, San Mateo County Office of Education

EDUCATE

E1: Best Practices Training

Through the TSAC, convene best practices training to keep local jurisdictions informed of state-of-the art practices related to safety planning and implementation. Example education session topics may include: (1) support for developing competitive grant applications, (2) share safety best practices including updated safety countermeasure recommendations, (3) training on available data sources.

C/CAG will organize and schedule the workshops and will seek assistance from MTC and Caltrans in identifying relevant topics and training resources (especially related to grant-related topics).

Lead agency: C/CAG
Coordinating partners: MTC, Caltrans, constituent jurisdictions

E2: Law Enforcement Training

Integrate safety into training for new officers (e.g., NHTSA's pedestrian training for law enforcement).

Lead agency: County Sheriff's Office
Coordinating partners: California Highway Patrol

E3: Technical Assistance for Safety Education in Schools

Continue to fund School Travel Fellowship Program to provide the following:

- technical assistance to schools and planners to implement roadway safety demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: San Mateo County Office of Education
Coordinating partners: C/CAG, County Public Health, Sustainability Department, SVBC

E4: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident to emphasize shared responsibility.

Lead agency: C/CAG
Coordinating partners: Constituent jurisdictions

COORDINATE

C1: AB413 Implementation

Coordinate among jurisdictions through the TSAC to provide an implementation pathway for Assembly Bill 413, which prohibits the stopping, standing, or parking of a vehicle within 20 feet of the approach of any marked or unmarked crosswalk, or 15 feet where a curb extension is present. Prior to January 1, 2025, jurisdictions may only issue warnings unless the violation occurred where red paint or signage prohibits the stopping, standing, or parking.

Communicating and enforcing AB413 presents logistical challenges for local jurisdictions, but through the TSAC they may prepare common and individualized implementation pathways.

Lead agency: C/CAG
Coordinating partners: Constituent jurisdictions

C2: Safe System Enabling Legislation

Consider advocating for legislation that could support the Safe System Approach—for example, authorization to implement automated enforcement. Include public engagement and input from constituent jurisdictions while the implementation of Assembly Bill 645 brings speed cameras to Glendale, Long Beach, Los Angeles, Oakland, San Jose, and San Francisco.

Lead agency: C/CAG
Coordinating partners: MTC, Caltrans, California Transportation Commission (CTC)

C3: Graduated Traffic Fine Structure

Through legislative agenda, consider advocating for an income-based graduated traffic fine structure at the state level, so fines do not disproportionately impact people with lower incomes. Such a change would allow traffic enforcement to occur where necessary while tempering disproportionate burdens.
Lead agency: C/CAG
Coordinating partners: TSAC members

FUND

F1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: C/CAG
Coordinating partners: SMCTA, MTC, Caltrans, CTC

F2: Equitable Investment

Prioritize investments in disadvantaged communities. Include social equity criteria in scoring when making funding available. Consider using a combination of indices in allowing local agencies to identify disadvantaged communities. For example, consider including C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, USDOT Areas of Persistent Poverty, and other relevant indices subsequently developed locally, regionally, or federally.
Lead agency: C/CAG

F3: Prioritize Investments

Incorporate the regional High Injury Network and local jurisdictions' prioritized locations when allocating and scoring funding opportunities for local jurisdictions. (This includes identified locations for the 11 jurisdictions with safety plan updates as part of the regional LRSP and for the ten jurisdictions not included in this plan document.) Award points or a similar priority mechanism for projects that improve conditions in these identified locations. Stipulate community engagement requirements for projects receiving funding.
Lead agencies: C/CAG, SMCTA

F4: Identify Targeted Enforcement Funding

Identify grant opportunities to expand targeted traffic enforcement of emphasis areas or other targeted behaviors associated with fatal/severe injury outcomes. Local jurisdictions lack discretion over law enforcement priorities and some cities who contract with the County Sheriff's Office would benefit from additional resource allocation dedicated specifically to target behaviors. One such funding opportunity would be through the California Office of Traffic Safety, which has a grant program related to priority program areas provided documented crash data are available: alcohol impaired driving, distracted driving, drug-impaired driving, emergency medical services, motorcycle safety, occupant protection, pedestrian and bicycle safety, and police traffic services.

Lead agency: C/CAG, SMCTA

Coordinating partners: County Sheriff's Office

RESEARCH

R1: Safety and Equity Impacts Evaluation

Conduct a study to address traffic injury and enforcement inequities to inform policies, projects, programs, and needed data quality improvements. Solicit feedback on the report's equity analysis from groups representing equity priority communities. Topics for the study may include injury burdens related to homelessness, race/ethnicity, language, income, and immigration status, citations by demographics, citation type, and location.

Lead agency: C/CAG

Coordinating partners: MTC, County Sheriff's Office

R2: Data Quality Improvements

Conduct one or more studies and/or convene working groups to address the following challenges:

- Integrating hospital and police data
- Providing a means to collect and incorporate near-miss data into safety analysis
- Collecting and incorporating crash data where AVs are involved
- Developing a consistent countywide crash database that would prevent the time lag present in SWITRS, provide accurate and timely monitoring of crashes and allow monitoring of injury trends over time.

Some agencies have successfully used video-based conflict monitoring algorithms to capture near-miss information at select locations. The techniques show promise for identifying conflicts that correlate to crashes, but the ability to scale the technology is still unclear.[34] Funding may be available through the California Office of Traffic Safety grant program, which lists *Roadway Safety and Traffic Records* as a category among its priority program areas.

Lead agency: C/CAG

Coordinating partners: County Public Health, County Sheriff's Office, constituent jurisdictions, local police departments

R3: Crash Data Enhancements

Study integrating crash data with Police Department's tracking system for timely, efficient reporting and sharing of injury crashes, including geolocated data. Review current crash data form and study existing best practices. Consider adding select visible disability statuses to the crash data form. If feasible and prudent, add this field to the crash data form.

Lead agency: County Sheriff's Office

Coordinating partners: California Highway Patrol, C/CAG, MTC

R4: Big Data

Identify a pathway for obtaining and incorporating integrated curb-level activity data including volumes, paths, speeds, and behaviors of pedestrians, bicycles, vehicles, etc. These data are available from a number of big data sources on the market. The goal would be to enable improved data availability for safety planning.

Lead agency: C/CAG

Coordinating partners: MTC, SMCTA, Constituent Jurisdictions

[34] For example, the Pennsylvania Department of Transportation evaluated the technology as part of its SMART intersections project. More information is available online at https://www.penndot.pa.gov/ProjectAndPrograms/Planning/Research-And-Implementation/Documents/Smart%20Intersections.pdf

PLAN

P1: Safe Routes to School

Continue to conduct school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.

Lead agency: San Mateo County Office of Education

P2: Annual review

Provide an annual review of plan implementation progress. This review includes an update and presentation to the C/CAG board and information posted on the C/CAG website.

Lead agency: C/CAG

P3: Plan Update

Update the plan within five years of publication and approximately every subsequent five years. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.

Alternately, coordinate with all 21 jurisdictions to see that local plans are pursued and updated consistent with best practices within the five-year timeframe.

Lead agency: C/CAG

Coordinating partners: Constituent jurisdictions

Table 12: Policy/Program Recommendations and Partner Roles

Recommendation	Agency Involvement (L = Lead; P = Participate)										
	C/CAG	California Highway Patrol	Caltrans	Constituent Jurisdictions	County Office of Education	County Public Health	County Sheriff's Office	Sustainability Department	MTC	SMCTA	SVBC
O1: Transportation Safety Advisory Committee	L	P	P	P	P	P	P	P	P	P	P
O2: High-Visibility Media Campaign		P			P	L	P	P			
E1: Best Practices Training	L		P	P					P		
E2: Law Enforcement Training		P					L				
E3: Technical Assistance for Safety Education in Schools					L	P		P			P
E4: Communication Protocol	L			P							
C1: AB413 Implementation											
C2: Safe System Enabling Legislation	L		P						P		
C3: Graduated Traffic Fine Structure	L	P	P	P	P	P	P	P	P	P	P
F1: Dedicated Funding	L		P						P	P	
F2: Prioritize Investments	L									P	
F3: Equitable Investment	L										
F4: Identify Targeted Enforcement Funding	L									L	
R1: Safety and Equity Impacts Evaluation	L								P		
R2: Data Quality Improvements	L			P		P	P				
R3: Crash Data Enhancements	P	P					L		P		
R4: Big Data	L								P	P	
P1: Safe Routes to School				P	L						
P2: Annual Review	L			P							
P3: Plan Update	L			P							

PROJECT PRIORITIZATION

The spatial HIN analysis identified the regionally highest-crash locations by frequency and severity. Based on that work and the accompanying systemic analysis, the plan development team worked with participating jurisdictions to identify priority project locations. The methodology and jurisdiction-specific results are included as Appendix D.

For those jurisdictions, the prioritization used the following three factors:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

In line with this plan's goals, C/CAG supports the development of safety projects and solutions along countywide HIN corridors or along subsequently identified project priority locations. For the 11 participating jurisdictions, those remaining priority locations are included in subsequent chapters. For the 10 jurisdictions with existing or developing plans, refer to those plans documents for identified priority project locations.

This plan places particular emphasis on locations where projects could provide safety benefits to disadvantaged neighborhoods. Accordingly, Table 13 and Table 14 provide summary statistics on the mileage of the Countywide HIN by modal emphasis and by the jurisdictions they are located within. The tables also provide the percentage of each HIN corridor that passes through identified social equity areas:

- **C/CAG Equity Focus Areas**, as defined in the C/CAG Comprehensive Bicycle and Pedestrian Plan.
- **MTC Equity Priority Communities** (formerly called "Communities of Concern") as guided by MTC's Equity Platform.
- **USDOT Areas of Persistent Poverty**, as defined by the Climate and Economic Justice Screening Tool (CEJST) developed by the Council on Environmental Quality.
- **USDOT Historically Disadvantaged Communities**, as defined by the CEJST.

This plan identifies the following emphasis areas which local agencies may use to define systemic treatments for safety problems town- or city-wide, or to further screen locations among those on the Countywide HIN or on their priority project lists.

1. **Pedestrian and bicyclist safety**
2. **Nighttime/low light safety**
3. **Unsignalized intersections on arterials/collectors**
4. **Vulnerable age groups (youth and aging)**
5. **Motor vehicle speed related roadway segment crashes**
6. **High speed roadways (35+mph)**
7. **Alcohol involvement**

Table 13: Local HIN Segments by Mode, Jurisdiction, and Social Equity Neighborhoods

Road name	Length (mi) of appliable criterion / location																									Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Total	**87.7**	**70.8**	**167.7**	**231.7**		**3.4**	**5.4**	**4.2**	**9.1**	**2.2**	**24.4**	**8.5**	**5.5**	**2.2**	**0.0**	**11.5**	**5.4**	**6.7**	**5.7**	**27.2**	**10.0**	**11.6**	**25.4**	**30.9**	**36.4**	**5.6**				
2nd	**0.6**	**0.0**	**0.6**	0.6	554																		0.6					89%	29%	
3rd	**1.8**	**0.0**	**0.7**	1.8	569																0.7		1.1					28%	18%	
42nd	**0.0**	**0.0**	**0.7**	0.7	339																		0.7					100%		
4th	**0.0**	**0.0**	**0.4**	0.4	384																		0.4					100%		
5th	**1.1**	**0.0**	**0.0**	1.1	571																		1.1					45%	29%	
87th	**0.0**	**0.0**	**1.2**	1.2	352						0.3														1.0			87%		78%	
9th	**0.8**	**0.0**	**0.0**	0.8	389																		0.8					64%			
Adams	**0.0**	**0.0**	**0.1**	0.1	499															0.1									100%	100%	
Airport	**2.6**	**0.0**	**2.9**	3.0	991																			3.0				93%	97%	57%	
Alameda De Las Pulgas	**2.0**	**3.5**	**1.7**	6.7	732	1.0	0.3													0.5		1.6	3.0		0.7						
Alpine	**0.0**	**4.5**	**3.0**	7.5	628										0.5			3.3							4.1			15%			
Amphlett	**0.0**	**0.0**	**1.5**	1.5	572				0.1														1.5						100%	20%	
Avalon	**0.0**	**0.0**	**1.0**	1.0	264																0.1			1.0					74%	
Baden	**1.3**	**0.0**	**1.3**	1.3	1,075																			1.3				8%	100%	100%	
Bay	**1.8**	**0.0**	**3.3**	3.3	1,051							1.8								0.7					1.2		27%	55%	100%	70%	
Bayshore	**2.0**	**0.8**	**4.7**	4.7	1,177			2.7			0.3	1.7												0.1				9%	37%	31%	
Beech	**0.0**	**0.0**	**0.2**	0.2	601															0.2									100%	100%	
Belmont	**0.0**	**0.0**	**0.6**	0.6	268																	0.6									
Brewster	**0.0**	**0.0**	**1.5**	1.5	527															1.5											

Road name	Length (mi) of appliable criterion / location																										Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Brittan	**1.4**	**0.0**	**1.4**	1.4	1,383												1.4													
Broadway	**3.3**	**2.4**	**3.2**	3.8	1,647												1.3			2.5							37%	8%	42%	34%
California	**0.0**	**2.5**	**1.3**	2.5	789				2.5														0.1					48%		
Canada	**0.0**	**6.3**	**3.2**	7.1	554																				5.5	1.7				
Capitol	**0.0**	**0.0**	**0.2**	0.2	506							0.2																	100%	100%
Carlos	**0.0**	**0.0**	**0.0**	0.0	352																				0.0					
Chester	**0.0**	**0.0**	**0.4**	0.4	407						0.4														0.1					68%
Chestnut	**0.9**	**0.8**	**1.4**	1.8	714															0.8				0.9	0.0		35%		63%	65%
Claremont	**1.2**	**0.0**	**0.0**	1.2	275																		1.2					58%	33%	17%
Clarke	**0.0**	**0.0**	**0.3**	0.3	286							0.3																	100%	100%
Coast	**0.0**	**0.0**	**1.4**	1.4	1,067																				1.4					
Commercial	**1.3**	**0.0**	**0.0**	1.3	686																			1.3					94%	94%
Crocker	**1.1**	**0.0**	**0.0**	1.1	418						1.1																			61%
Crystal Springs	**1.1**	**0.0**	**0.0**	1.1	400															1.1									9%	9%
Cypress	**0.0**	**0.0**	**0.5**	0.5	231																			0.5				43%	100%	100%
Delaware	**2.3**	**1.4**	**1.1**	3.6	569																		3.6					11%	39%	9%
Donohoe	**0.0**	**0.5**	**0.5**	0.5	888							0.5																	100%	100%
Dwight	**0.0**	**0.0**	**0.6**	0.6	448				0.6														0.1							
Eastmoor	**0.0**	**0.0**	**0.7**	0.7	737						0.7																	85%		85%
Edgewood	**0.0**	**0.0**	**2.5**	2.5	635																				2.5					
Eucalyptus	**0.5**	**0.0**	**0.0**	0.5	488																			0.5					55%	82%

Road name	Length (mi) of appliable criterion / location																									Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Farm Hill	**0.0**	**0.0**	**1.8**	1.8	565															1.4						0.5				
Foster City	**1.7**	**0.0**	**1.2**	1.7	678								1.7																	
Gellert	**1.2**	**0.0**	**2.7**	2.7	527						1.7													1.1						33%
Geneva	**0.8**	**0.0**	**0.8**	0.8	1,241						0.8																	100%	13%	100%
Grand	**1.9**	**1.8**	**3.4**	3.4	1,347																			3.4				50%	89%	48%
Grant	**0.0**	**0.0**	**0.6**	0.6	356																		0.6					71%	35%	
Guadalupe Canyon	**0.0**	**0.0**	**2.5**	2.5	719			0.1			0.4														2.2					8%
Harvey	**0.0**	**0.0**	**0.1**	0.1	829															0.1										
Haven	**0.0**	**0.0**	**0.3**	0.3	275										0.3													100%	100%	
Hickey	**1.3**	**0.0**	**2.8**	2.8	759						1.9									0.9				0.2				18%	18%	25%
Hillcrest	**0.0**	**0.0**	**0.4**	0.4	329						0.4																			100%
Hillsdale	**3.1**	**2.6**	**2.4**	3.9	953								1.9										2.1					13%		18%
Hillside	**1.4**	**0.0**	**1.9**	3.3	531				0.7		1.2													1.1	0.5				14%	46%
Holly	**0.0**	**1.0**	**0.8**	1.0	713															0.2		0.9								20%
Hopkins	**0.0**	**0.0**	**1.3**	1.3	461															1.3										
Howard	**0.0**	**0.0**	**1.1**	1.1	536			1.1															0.1						9%	
Hudson	**0.0**	**1.4**	**0.0**	1.4	385															1.4									71%	43%
Humboldt	**2.0**	**1.8**	**2.0**	2.0	2,172			0.4															1.7					20%	85%	15%
Huntington	**1.1**	**1.0**	**0.0**	1.2	758																1.0			0.3				28%	60%	60%
Industrial	**1.7**	**0.0**	**2.4**	2.4	881															0.5		2.0								
James	**1.2**	**0.0**	**0.0**	1.2	361															1.2										

Road name	Length (mi) of appliable criterion / location																											Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Jefferson	**1.7**	**1.3**	**1.6**	1.7	942						1.9									1.7							32%	32%	11%	35%	24%
Jenevein	**0.8**	**0.0**	**0.0**	0.8	494																0.8								13%	49%
John Daly	**1.8**	**0.0**	**1.9**	1.9	1,152						1.9																			11%	32%
Junipero Serra	**2.0**	**1.6**	**5.4**	5.8	935					1.3	1.7													3.1				9%		27%
King	**0.0**	**0.0**	**1.3**	1.3	785						1.3							0.0						0.1							82%
Kings Mountain	**0.0**	**3.5**	**0.0**	3.5	528																				2.1	1.7					
Laurel	**1.5**	**1.0**	**0.0**	2.5	406	0.2										1.0						1.5									
Lincoln	**0.0**	**0.0**	**0.5**	0.5	668															0.5									100%	76%
Linda Mar	**1.1**	**1.6**	**1.9**	1.9	880													1.9												21%
Linden	**1.6**	**0.0**	**1.8**	1.8	1,195																0.1			1.8				83%	100%	100%
Lyall	**0.0**	**0.0**	**0.3**	0.3	246		0.3																								
Magnolia	**1.5**	**0.0**	**0.0**	1.5	454			0.3									1.3												13%		47%
Main	**0.0**	**0.0**	**2.0**	2.0	451									1.1						0.9										31%	75%
Maple	**0.7**	**1.1**	**1.2**	1.9	889															1.2				0.7			26%	16%	79%	74%
Market	**0.8**	**0.0**	**0.0**	0.8	356						0.8																				91%
Marsh	**0.0**	**0.0**	**1.3**	1.3	543	0.4										0.7									0.5				47%	47%	38%
Menlo	**0.0**	**0.0**	**0.3**	0.3	449											0.3															
Metro Center	**0.0**	**0.0**	**0.7**	0.7	361									0.7																	
Middle	**0.0**	**1.1**	**0.0**	1.1	416											1.1															
Middlefield	**2.2**	**2.2**	**3.8**	3.8	2,166	1.2										0.6				1.5					1.0		26%	8%	39%	24%
Millbrae	**1.5**	**0.0**	**1.5**	1.5	878												1.5											39%		20%

Road name	Length (mi) of appliable criterion / location																									Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Miller	**1.3**	**0.0**	**1.1**	1.3	682																			1.3					23%	45%
Mission	**1.9**	**0.0**	**1.9**	1.9	1,062						1.8														0.2					5%	68%
Newbridge	**0.0**	**1.0**	**1.0**	1.0	1,089							0.4				0.7												70%	100%	100%
Norfolk	**0.0**	**1.9**	**0.0**	1.9	384																		1.9							9%
Oak Grove	**1.1**	**1.2**	**0.0**	1.2	527	0.4										0.9														
O'Connor	**0.0**	**0.0**	**0.6**	0.6	319							0.6																	100%	72%
Old Bayshore	**1.3**	**0.0**	**1.4**	1.4	815				1.2								0.3											85%		
Old Canada	**0.0**	**0.0**	**1.1**	1.1	606																				1.1					
Old County	**0.0**	**1.9**	**3.4**	3.4	884	1.2														0.1		2.2			0.3					
Old Page Mill	**0.0**	**0.0**	**0.5**	0.5	393																				0.5			100%		
Orange	**0.0**	**0.0**	**1.0**	1.0	330																			1.0				60%	80%	70%
Oyster Point	**0.0**	**0.0**	**1.1**	1.1	482																			1.1				100%	100%	9%
Palmetto	**0.0**	**0.0**	**2.1**	2.1	635														2.1											
Park Plaza	**0.4**	**0.0**	**0.0**	0.4	362						0.4																100%	100%	100%	100%
Peninsula	**1.0**	**0.0**	**0.0**	1.0	1,101				0.1														1.0						10%	
Pescadero Creek	**0.0**	**0.0**	**1.4**	1.4	341																				1.4			100%		
Poplar	**1.4**	**0.0**	**0.9**	1.4	1,361																		1.4						37%	
Portola	**0.0**	**4.2**	**2.4**	4.2	1,277															2.4					0.4	1.7				
Price	**0.0**	**0.0**	**0.8**	0.8	264						0.8														0.1					93%
Pulgas	**1.3**	**0.0**	**1.5**	1.5	862							1.5																13%	100%	20%
Railroad	**0.0**	**0.0**	**0.7**	0.7	253																			0.7				41%	100%	100%

Road name	Length (mi) of appliable criterion / location																									Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Ralston	**0.0**	**2.5**	**3.5**	3.5	488		3.5																		0.1					
Randolph	**0.0**	**0.0**	**0.8**	0.8	539																			0.8				38%	38%	
Ravenswood	**0.0**	**0.6**	**0.6**	0.6	580	0.2										0.6														
Redwood Shores	**0.0**	**0.0**	**2.0**	2.0	444															2.0										35%
Rollins	**0.0**	**0.0**	**2.4**	2.4	407				2.4														0.1					38%	4%	
Roosevelt	**0.0**	**1.1**	**1.2**	1.2	429															1.2									58%	33%
Runnymede	**0.0**	**0.9**	**0.0**	0.9	449							0.9																	100%	86%
San Anselmo	**0.0**	**0.0**	**0.9**	0.9	363											0.4				0.6									68%	21%
San Bruno	**1.7**	**0.0**	**0.8**	1.7	1,940															1.7									23%	23%
San Carlos	**0.0**	**1.4**	**0.0**	1.4	471																	1.4								
San Marco	**0.0**	**0.0**	**0.0**	0.0	356															0.0									100%	
San Mateo	**1.4**	**0.0**	**9.8**	9.8	1,101									1.1						1.4			1.2	0.6	5.6			10%	13%	34%
San Pedro	**0.0**	**0.0**	**0.5**	0.5	839						0.5																	16%		100%
Sand Hill	**0.0**	**2.6**	**0.0**	2.6	734										1.1										1.7				4%	
Santa Cruz	**0.0**	**1.6**	**0.0**	1.6	503										1.6															
Santa Domingo	**0.0**	**0.0**	**0.0**	0.0	532															0.0									100%	
Santa Inez	**0.0**	**0.0**	**0.3**	0.3	499																		0.3							
Scofield	**0.0**	**0.0**	**0.1**	0.1	374							0.1																	100%	100%
Sequoia	**0.8**	**0.0**	**0.0**	0.8	363			0.4								0.6												64%		
Serramonte	**0.0**	**0.0**	**1.0**	1.0	253				0.1	1.0																		33%	33%	33%
Sharp Park	**0.0**	**0.0**	**2.1**	2.1	858												1.6			0.6										69%

Road name	Length (mi) of appliable criterion / location																										Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Shell	**1.1**	**0.0**	**0.0**	1.1	641								1.1																	
Sierra Point	**0.0**	**0.0**	**1.4**	1.4	352			1.4																						
Sister Cities	**0.0**	**0.0**	**0.9**	0.9	570																			0.9					11%	
Sneath	**1.0**	**0.0**	**1.3**	1.8	418																1.8									5%
Southgate	**3.1**	**0.0**	**2.7**	3.1	792					0.1	3.1																10%	52%	26%	61%
Spruce	**1.7**	**0.0**	**1.7**	1.7	817																			1.7				60%	72%	84%
Stafford	**0.0**	**0.0**	**0.4**	0.4	11															0.4		0.1								
Sullivan	**0.5**	**0.0**	**1.3**	1.3	781						1.2														0.2			100%	1%	100%
Tilton	**0.8**	**0.8**	**0.0**	0.8	758																		0.8					43%	69%	
Valota	**0.0**	**0.0**	**1.2**	1.2	395															1.2										
Veterans	**1.2**	**1.1**	**1.7**	1.7	877															1.7							17%		17%	
Walnut	**0.3**	**0.0**	**0.0**	0.3	235																			0.3				25%	63%	63%
Washington	**0.9**	**0.0**	**0.9**	0.9	758						0.4														0.6			89%		43%
Westborough	**1.8**	**0.0**	**2.7**	2.7	1,501																0.1			2.3	1.2					64%
Westmoor	**0.0**	**0.0**	**0.4**	0.4	396						0.4																	75%		100%
Whipple	**0.0**	**0.0**	**1.8**	1.8	1,057															1.8										
Willow	**0.0**	**2.3**	**1.8**	2.3	504							0.5		2.1														25%	43%	43%
Winslow	**0.0**	**0.0**	**0.8**	0.8	330															0.8										

Table 14: State Highway HIN Segments by Mode, Jurisdiction, and Social Equity Neighborhoods

Road name	Length (mi) of appliable criterion / location																										Percent of Corridor in Social Equity Area			
	Pedestrian HIN	Bicyclist HIN	Motor Vehicle HIN	Total HIN Length, Any Modes	Max 1/2 Mile Crash Severity Score	ATHERTON	BELMONT	BRISBANE	BURLINGAME	COLMA	DALY CITY	EAST PALO ALTO	FOSTER CITY	HALF MOON BAY	HILLSBOROUGH	MENLO PARK	MILLBRAE	PACIFICA	PORTOLA VALLEY	REDWOOD CITY	SAN BRUNO	SAN CARLOS	SAN MATEO	SOUTH SAN FRANCISCO	UNINCORPORATED	WOODSIDE	USDOT APP	USDOT HDC	MTC EPC	C/CAG Equity Focus Areas
Total	**15.2**	**27.1**	**120.1**	**122.6**		**3.4**	**5.4**	**4.2**	**9.1**	**2.2**	**24.4**	**8.5**	**5.5**	**2.2**	**0.0**	**11.5**	**5.4**	**6.7**	**5.7**	**27.2**	**10.0**	**11.6**	**25.4**	**30.9**	**36.2**	**5.6**				
El Camino Real	**10.2**	**9.3**	**23.2**	23.5	2,670	1.5	1.6		3.0	1.2						1.5	1.8			2.5	2.1	2.0	4.3	2.9	0.8			17%	13%	18%
Golf Course	**0.0**	**0.0**	**0.2**	0.2	246																				0.2					
John Daly	**1.8**	**0.0**	**1.9**	1.9	1,152						1.9																32%	32%	11%	32%
La Honda	**0.0**	**1.1**	**13.7**	14.0	1,874																				10.5	3.5		59%		
Marsh	**0.0**	**0.0**	**1.3**	1.3	543	0.4										0.7									0.5			47%	47%	38%
Mission	**1.9**	**0.0**	**1.9**	1.9	1,062						1.8														0.2				5%	68%
San Jose	**0.0**	**0.0**	**0.2**	0.2	279						0.2																			100%
San Mateo	**1.4**	**0.0**	**9.8**	9.8	1,101								1.1								1.4	1.2	0.6	5.6				10%	13%	34%
Skyline	**0.0**	**3.0**	**24.2**	25.3	1,160						7.0							2.5			2.3		0.6	14.8	0.5			24%	6%	15%
State Highway 1	**0.0**	**4.2**	**26.7**	26.7	1,511								5.3					5.4						16.8				34%		16%
State Highway 84	**0.0**	**0.0**	**2.6**	2.6	658											2.2									0.4			83%	83%	4%
State Highway 92	**0.0**	**0.0**	**1.8**	1.8	844																	0.1		1.7						
Tom Lanos Tunnel	**0.0**	**0.0**	**2.2**	2.2	407																			2.2						
University	**0.0**	**2.1**	**1.8**	2.1	2,597							1.7				0.5												56%	100%	100%
Willow	**0.0**	**2.3**	**1.8**	2.3	504							0.5				2.1												25%	43%	43%
Woodside	**0.0**	**5.2**	**6.9**	7.0	1,666															3.1					0.5	3.6	11%		23%	8%

SamTrans Bus Stop Prioritization

The plan development team analyzed bus stop data provided by SamTrans to identify correlation of roadway and intersection risk factors with crash history around high-ridership bus stops. Systemic roadway and intersection characteristics were identified and used to develop a priority list of bus stops for SamTrans. The detailed methodology and results are included in Appendix E. Table 15 presents the priority bus stop locations as they relate to pedestrian and bicycle crash history, equity, and systemic risk factors.

Table 15. Priority Bus Stop Locations for Pedestrian and Bicycle Improvements

RANK	STOP ID	STOP LOCATION	JURISDICTION	CRASH HISTORY				EQUITY	SYSTEMIC CHARACTERISTICS				TOTAL SCORE (0-1)
				Ped & Bike Crash Severity Score (0-432)	Ped HIN	Bike HIN	Ped & Bike Crash History Score (Normalized 0-1)	Equity Score (0-1)	Uncontrolled Location (0-1)	Absence of Sidewalks (0-1)	> 35 MPH (0-1)	Char. Score (Normalized 0-1)	
1	344658	Jefferson Ave at Adams St	Redwood City	235	1	1	1.27	1	1	0	1	0.67	0.97
2	344657	Jefferson Ave at Adams St	Redwood City	224	1	1	1.26	1	1	0	1	0.67	0.97
3	344086	El Camino Real & Lincoln Ave	Redwood City	219	1	1	1.25	1	1	0	1	0.67	0.96
4	344095	El Camino Real & Winklebleck St	Redwood City	202	1	1	1.23	1	1	0	1	0.67	0.96
5	344203	Middlefield Rd & Dumbarton Ave	North Fair Oaks	399	1	1	1.46	1	1	0	0	0.33	0.92
6	344204	Middlefield Rd & Dumbarton Ave	North Fair Oaks	399	1	1	1.46	1	1	0	0	0.33	0.92
7	344207	Middlefield Rd & Flynn Ave	Redwood City	28	1	1	1.03	1	1	0	1	0.67	0.89
8	341111	N Delaware St & Tilton Ave	San Mateo	22	1	1	1.03	1	1	0	1	0.67	0.89
9	344087	El Camino Real & Main St	Redwood City	22	1	1	1.03	1	1	0	1	0.67	0.89
10	351002	3745 Bayshore Blvd-Andrys Trailer Park	Brisbane	165	1	0	0.69	1	1	1	1	1.00	0.89
11	344085	El Camino Real & Jefferson Ave	Redwood City	11	1	1	1.01	1	1	0	1	0.67	0.88
12	344195	Middlefield Rd & Cassia St	Redwood City	0	1	1	1.00	1	1	0	1	0.67	0.88
13	344196	Middlefield Rd & Elm St	Redwood City	0	1	1	1.00	1	1	0	1	0.67	0.88
14	344659	Jefferson Ave at Grand St	Redwood City	0	1	1	1.00	1	1	0	1	0.67	0.88
15	335099	Huntington Ave & Sneath Ln	San Bruno	0	1	1	1.00	1	1	0	1	0.67	0.88
16	361094	E Hillsdale Blvd & Center Park Ln	Foster City	285	1	1	1.33	1	0	0	1	0.33	0.88
17	334127	Grand Ave & Maple Ave	South San Francisco	263	1	1	1.30	1	0	0	1	0.33	0.87
18	334128	Grand Ave & Maple Ave	South San Francisco	263	1	1	1.30	1	0	0	1	0.33	0.87
19	336039	El Camino Real & Silva Ave	Millbrae	371	1	0	0.93	1	1	0	1	0.67	0.86
20	334122	Grand Ave & Eucalyptus Ave	South San Francisco	224	1	1	1.26	1	0	0	1	0.33	0.86
21	334123	Grand Ave & Eucalyptus Ave	South San Francisco	224	1	1	1.26	1	0	0	1	0.33	0.86
22	344193	Middlefield Rd & 5th Ave	North Fair Oaks	213	1	1	1.25	1	0	0	1	0.33	0.85
23	334131	Grand Ave & Spruce Ave	South San Francisco	153	1	1	1.18	1	0	0	1	0.33	0.83
24	334132	Grand Ave & Spruce Ave	South San Francisco	153	1	1	1.18	1	0	0	1	0.33	0.83
25	344900	El Camino Real & Dumbarton Ave	North Fair Oaks	0	0	1	0.50	1	1	1	1	1.00	0.83
26	341278	Peninsula Ave & Humboldt St	San Mateo	131	1	1	1.15	1	0	0	1	0.33	0.82
27	344082	El Camino Real & Hopkins Ave	Redwood City	120	1	1	1.14	1	0	0	1	0.33	0.82
28	344083	El Camino Real & Hopkins Ave	Redwood City	120	1	1	1.14	1	0	0	1	0.33	0.82
29	332221	Mission St & Evergreen Ave-Daly City	Daly City	252	1	0	0.79	1	1	0	1	0.67	0.81
30	334124	Grand Ave & Linden Ave	South San Francisco	55	1	1	1.06	1	0	0	1	0.33	0.79

IMPLEMENTATION AND MONITORING

A key part of achieving C/CAG's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. C/CAG will develop a process to regularly collect data and information around the performance measures that can be used to assess changes city-wide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which C/CAG can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for C/CAG and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 16. Implementation Goals and Measures of Success

Goal	Measure of Success
■ Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities. ■ Partner with local agencies to incorporate roadway safety into all actions.	■ Convene TSAC meetings 2-4 times per year. ■ Number of project locations identified in this plan advanced through project development, reported at the agency level, and aggregated regionally. ■ Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified. ■ Improved data availability or maintenance to enhance safety analysis and practice. ■ Amount of grant funding money awarded for safety projects.
■ Implement context-appropriate safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.	■ Share of project locations identified in this plan advanced through project development by presence within equity focus areas, reported at the agency level, and aggregated regionally.
■ Support agencies in providing opportunities for citizen engagement to identify issues and inform Countywide safety solutions.	■ Implementation of a high-visibility media campaign ■ Percent of school participation in SRTS and roadway safety education opportunities. ■ Quantification of education campaigns, through number of participants reached, events held, and similar measures. ■ Number or percent of C/CAG-funded safety project development activities that include community engagement. ■ Number of engagement touchpoints and number of community member interactions countywide for safety plans or projects. ■ Report-backs from local jurisdictions to the TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable.
■ Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	■ Number of trainings conducted regarding Safe System elements, available tools, or practices.

Town of Atherton

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the Town's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the Town can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the Town of Atherton. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The Town will revisit and update this LRSP at least every five years.

The Town of Atherton has a 2023 population of 6,678 per California Department of Finance. The town has 51 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 121 reported crashes on surface streets in the Town and 4 fatal/severe injury crashes. Pedestrians were involved in 10 percent of all reported crashes and 50 percent of fatal/severe injury crashes. Bicyclists were involved in 21 percent of all reported crashes and no fatal/severe injury crashes. Of reported at-grade crashes, 36 (30 percent) occurred on or along state highways. The LRSP provides Safe System-aligned strategies tailored to Atherton's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the Town for public viewing.

VISION & GOALS

The Town of Atherton's vision for roadway safety is:

- Reduce fatal and severe injury crashes to zero by 2050.
- Promote a culture of roadway safety in Atherton's departments, educational institutions, and residents.

To support this vision, the Town has established the following goals:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Implement context-appropriate safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.
3. Promote plan recommendations with identified safety partners to incorporate roadway safety through safety projects and educational campaigns in Atherton.
4. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.
5. Embrace the Safe System approach to promote engineering and non-engineering strategies in the community.
6. Identify opportunities to incorporate social equity into safety improvements.
7. Monitor implementation of the Atherton LRSP to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on the Town of Atherton's solid foundation of plans, policies, and programs that support safe, equitable mobility in the city. For a list of Atherton's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. Town of Atherton Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
Bicycle and Pedestrian Master Plan	The Town's Bicycle and Pedestrian Master Plan outlines identified needs and active transportation routes.	Safe Roads Safe Road Users
Neighborhood Traffic Management Plan	The Town's Neighborhood Traffic Management Plan outlines neighborhood traffic calming measures and programs to reduce travel speeds and cut-through traffic with an intent to improve safety for all modes of travel.	Safe Roads Safe Road Users

Program Name	Program Description	Safe System Elements
Alameda de las Pulgas Traffic and Safety Improvements	The Town is currently preparing project plans for Alameda de las Pulgas Drive, which project will include a traffic signal and reconfiguration at Atherton Avenue, signalization at Cam al Lago, pedestrian crossing improvements at Stockbridge, and relocation of a midblock pedestrian signal between Cam al Lago and Mills Avenue.	Safe Roads
El Camino Real Complete Streets Gap Closure Planning Study	The Town is currently working with the San Mateo County Transportation Authority on a planning study for El Camino Real to identify active transportation improvements on the roadway between Selby and Valparaiso.	Safe Roads

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their

support of the Town of Atherton's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- Atherton Police Department

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the Town's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

Table 2. C/CAG Public Engagement Events

Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff meeting** – Sharing the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
December 17, 2023	**Phase 2 Pop-up/Tabling Event** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, and Traffic Safety Committee Meeting

ONLINE MAP SURVEY

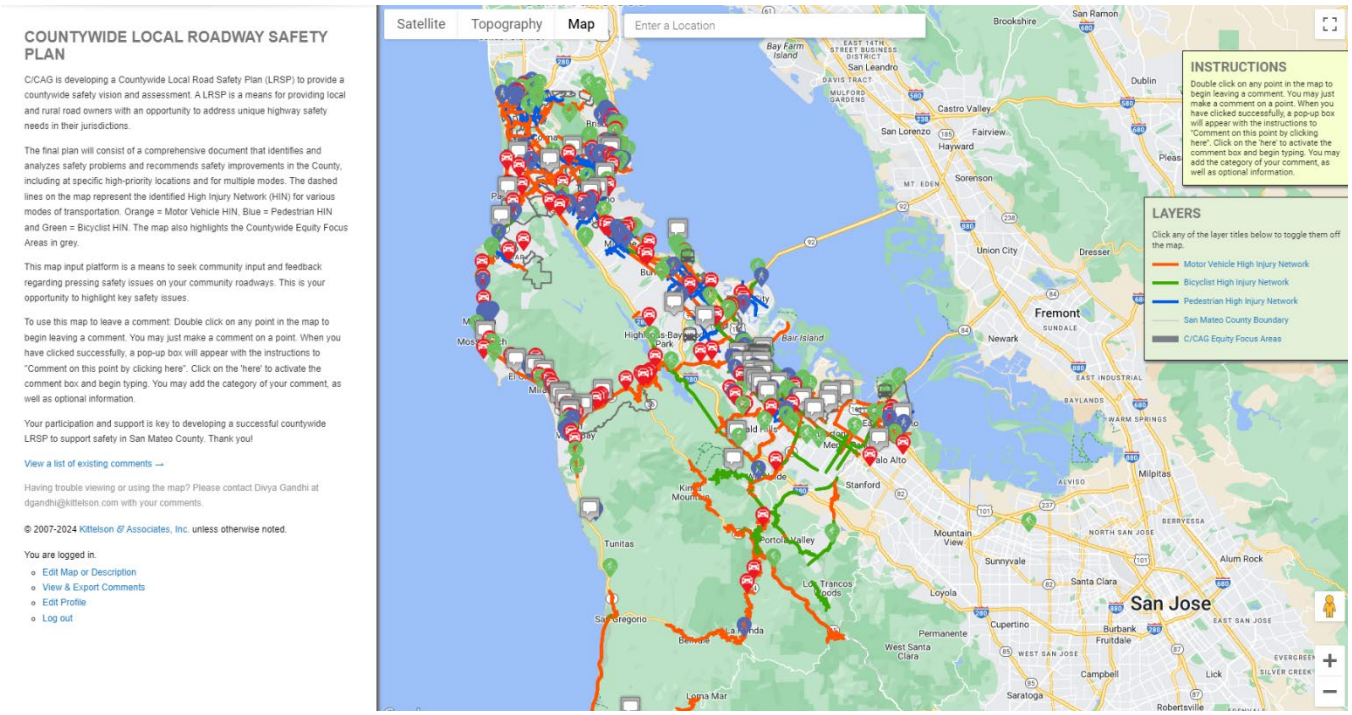
The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 2. Online Map Survey Tool). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Countywide, there were a total of 528 comments recorded by 352 respondents. There were two comments made within the Town of Atherton. The comments included the following:

- Request to provide modal filters: to allow only bicycles and pedestrians on certain streets.
- Noted locations include Selby Lane at Stockbridge Avenue, and Barry Lane.

The comments received are provided in Appendix A. The project team also identified common themes in the responses made countywide which may be relevant to the Town. Those are presented in the Community Engagement section of the Countywide LRSP.

Figure 2. Online Map Survey Tool



PHASE 2 COMMUNITY ENGAGEMENT FEEDBACK

The project team held an event at the Atherton Library in January as part of Phase 2, which provided the project team with input on specific location concerns, general traffic safety/behavioral concerns, and opinions on specific engineering treatments or strategies. Comments received are provided in Appendix B. The following themes were identified:

Pedestrian Comments

- Desire for pedestrian facilities, such as sidewalks, curb ramps, crosswalks, and pedestrian signals, to make walking safer and more comfortable, especially along El Camino Real and in the neighborhood east of Middlefield Road
- Desire for better pedestrian crossings over the Caltrain rail tracks

- Concern that drivers are running through stop signs and red signals, specifically along Isabella Avenue and at El Camino Real / Fair Oaks Lane (signalized) and Maple Avenue / Dinkelspiel Station Lane (unsignalized).

Bicycle Comments

- Concerns that there is not enough separation between bicyclists and drivers along El Camino Real. [There are no bike lanes on El Camino Real.]
- Concerns of poor visibility—due to curved roads, inadequate lighting, and parked cars at corners—that makes biking unsafe

Motor Vehicle Comments

- Desire for lighting to improve visibility along roadways
- Concerns over traffic and congestion in Atherton
- Concerns over blind corners and site line issues, especially along El Camino Real and at the Fair Oaks Lane / Dinkelspiel Station Lane intersection.

Countermeasures Comments

- Desire for lane or road narrowing, specifically along Atherton Avenue and El Camino Real and side, and a desire to do more to improve safety
- Concerns that bike lane improvements are dangerous to drivers

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations.

Emphasis Areas

The project team analyzed crash data in Atherton and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the Town can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the Town of Atherton:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of all injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of all injury crashes but 20 percent of fatal/severe injury crashes. In Atherton, pedestrians were involved in 50 percent of fatal/severe injury

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

crashes, higher than their overall share of all injury crashes (10 percent). Bicyclists were involved in 21 percent of all reported injury crashes. None of the bicyclist-involved crashes resulted in fatality or severe injury.

2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Atherton, one of the four fatal/severe injury crashes occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In Atherton, 9 crashes or 7 percent of all reported injury crashes involve at fault drivers who are under 30 years old.
5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of all injury crashes and 23 percent of fatal/severe injury crashes). In Atherton, "Too fast for conditions" was the top-cited violation among reported injury crashes (37 percent).
6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.

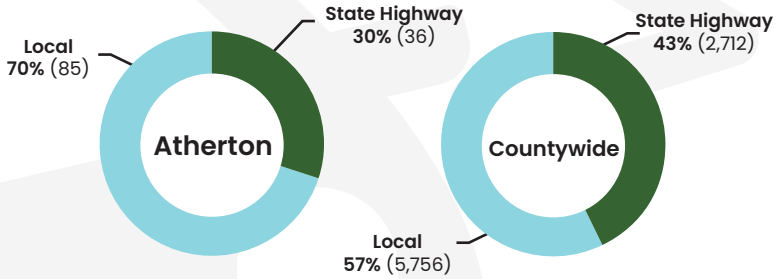
The next pages present summary findings from a crash data review that compares the Town of Atherton to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

Atherton—Crash History

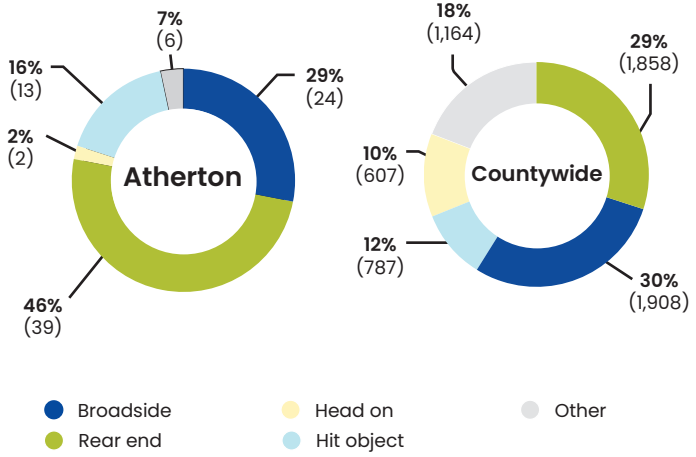
Total Crashes

In Atherton, 121 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Atherton compares:



Mode Involvement (Local Road Crash Count, State Highway Count)

Pedestrian Crashes (12 Total: 8 Local , 3 State Highway)

	All Injury Crashes	Fatal/Severe Injury Crashes
Atherton	10% (8, 4)	50% (0, 2)
Countywide	13% (1,073)	23% (208)

Bicycle Crashes (25 Total: 20 Local, 5 State Highway)

	All Injury Crashes	Fatal/Severe Injury Crashes
Atherton	21% (20, 5)	0% (0)
Countywide	13% (1,067)	20% (176)

Motor Vehicle[1] Crashes (84 Total, 57 Local, 27 State Highway)

	All Injury Crashes	Fatal/Severe Injury Crashes
Atherton	69% (57, 27)	50% (0, 2)
Countywide	75% (6,324)	57% (515)

2% (2, 0)

of reported collisions in Atherton involved drugs or alcohol

44% (39, 14)

of reported collisions in Atherton involved young drivers[1]

8% (625)

Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

5% (472)

Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

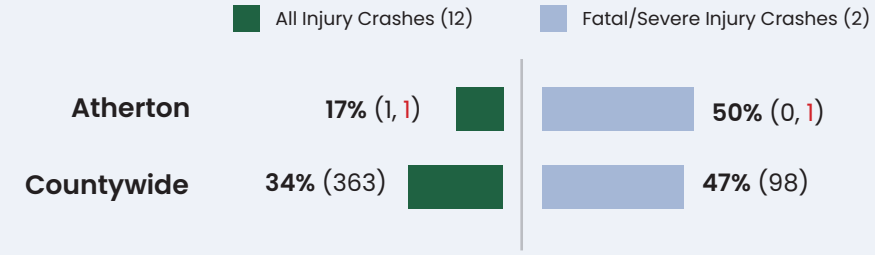
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

Atherton—Crash History

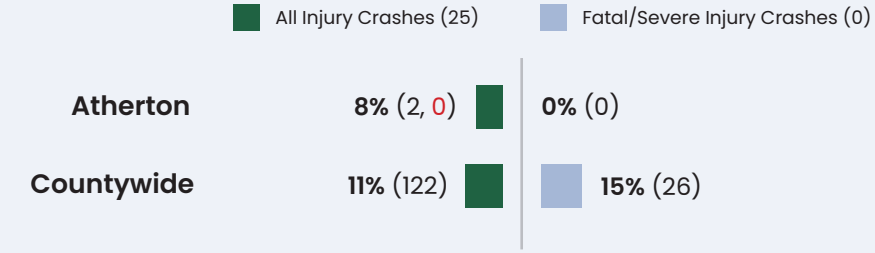
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Atherton compares to Countywide crashes:

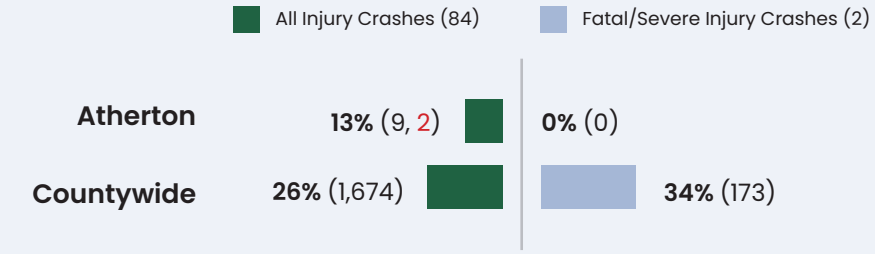
Share of Pedestrian Crashes in Dark Conditions (2)



Share of Bicyclist Crashes in Dark Conditions (2)

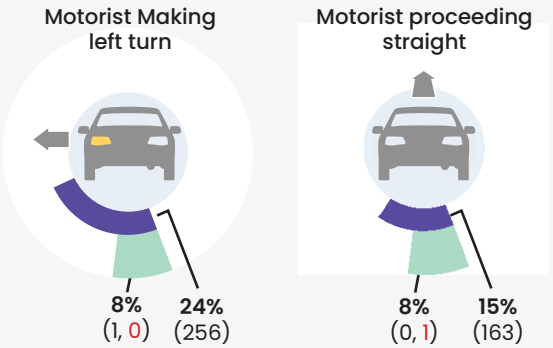


Share of Motor Vehicle Crashes in Dark Conditions (11)

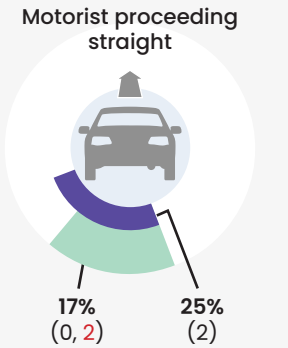


Reported Pedestrian Crashes (12)

Pedestrian Crossing at Intersection



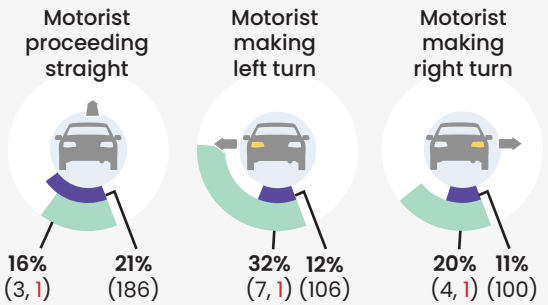
Pedestrian Crossing Not at a Crosswalk



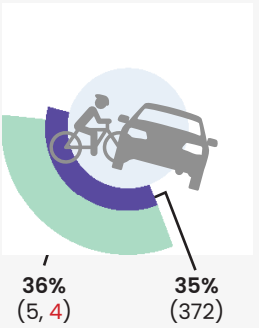
Agency Countywide

Reported Bicycle Crashes (25)

Bicyclist Proceeding Straight



Perpendicular Bicyclist Crashes



Agency Countywide

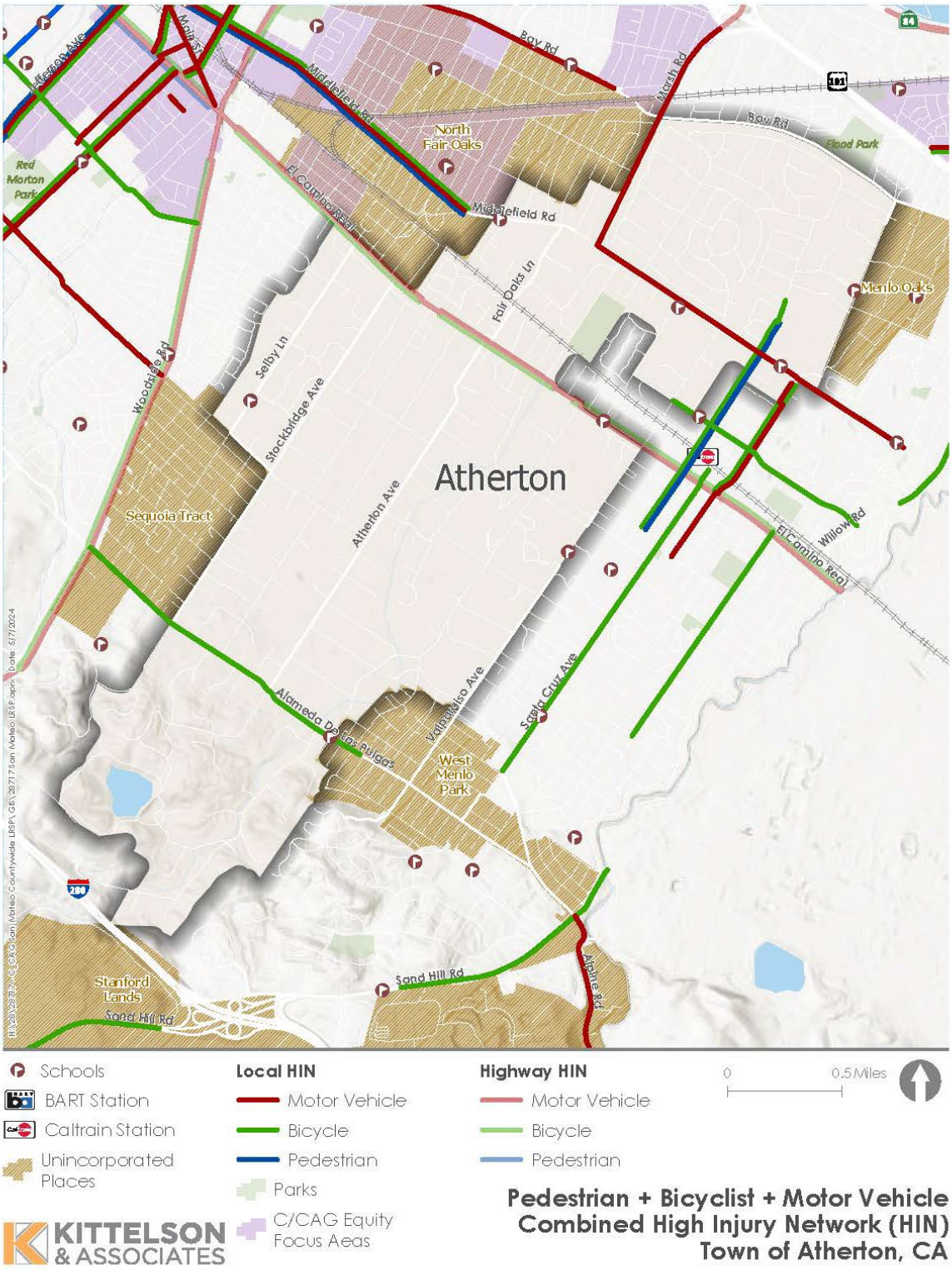
Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 4 show the HIN segments identified within the Town.

Table 3. Countywide HIN Segments in Atherton

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Length within Atherton (mi)	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Oak Grove Ave	Atherton, Menlo Park	0.3	1.2		X	X
Ravenswood Ave	Atherton, Menlo Park	0.1	0.6	X	X	X
Middlefield Rd	Atherton, Menlo Park, Redwood City, Unincorporated	1.1	3.8	X	X	X
Marsh Rd	Atherton, Menlo Park, Unincorporated	0.2	1.3	X		
El Camino Real	San Carlos, Atherton, Menlo Park, Redwood City, Millbrae, San Bruno, Belmont, San Mateo, Burlingame, South San Francisco, Colma, Unincorporated	0.9	23.5	X	X	X
Alameda de las Pulgas	San Carlos, Atherton, Redwood City, Belmont, San Mateo, Unincorporated	0.9	6.7	X	X	X

Figure 3. Countywide HIN within the Town of Atherton



PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the Town to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 4, Figure 5, and Figure 6). The resulting scores are sorted per jurisdiction, so that Atherton's prioritized locations are compared to themselves rather than to other County jurisdictions.

Figure 4. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

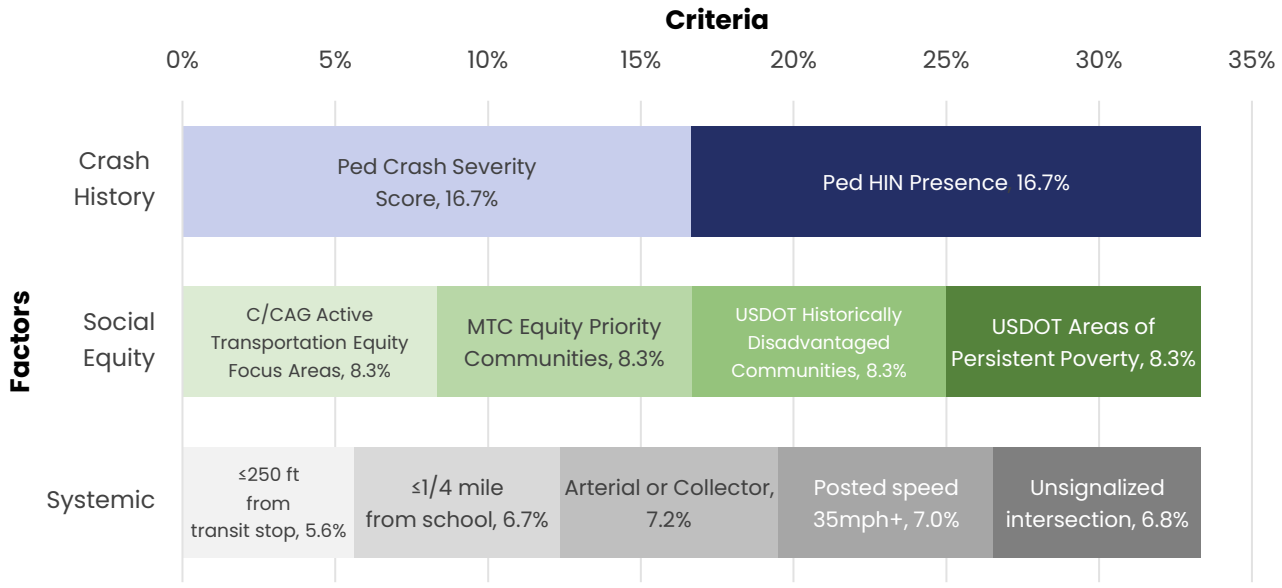


Figure 5. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

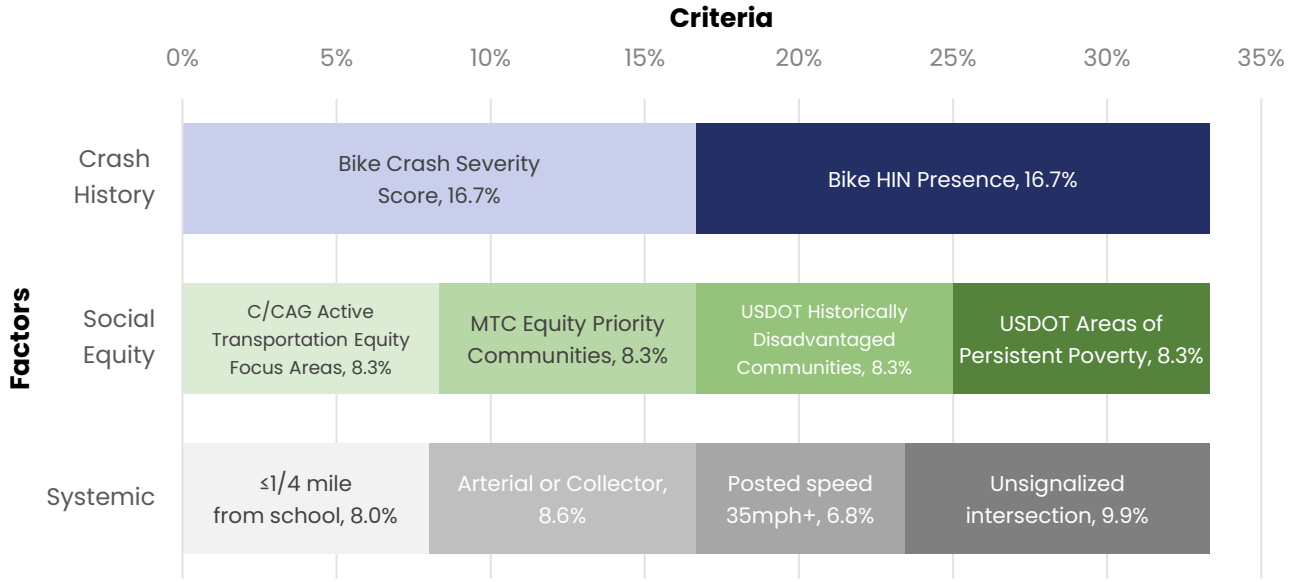
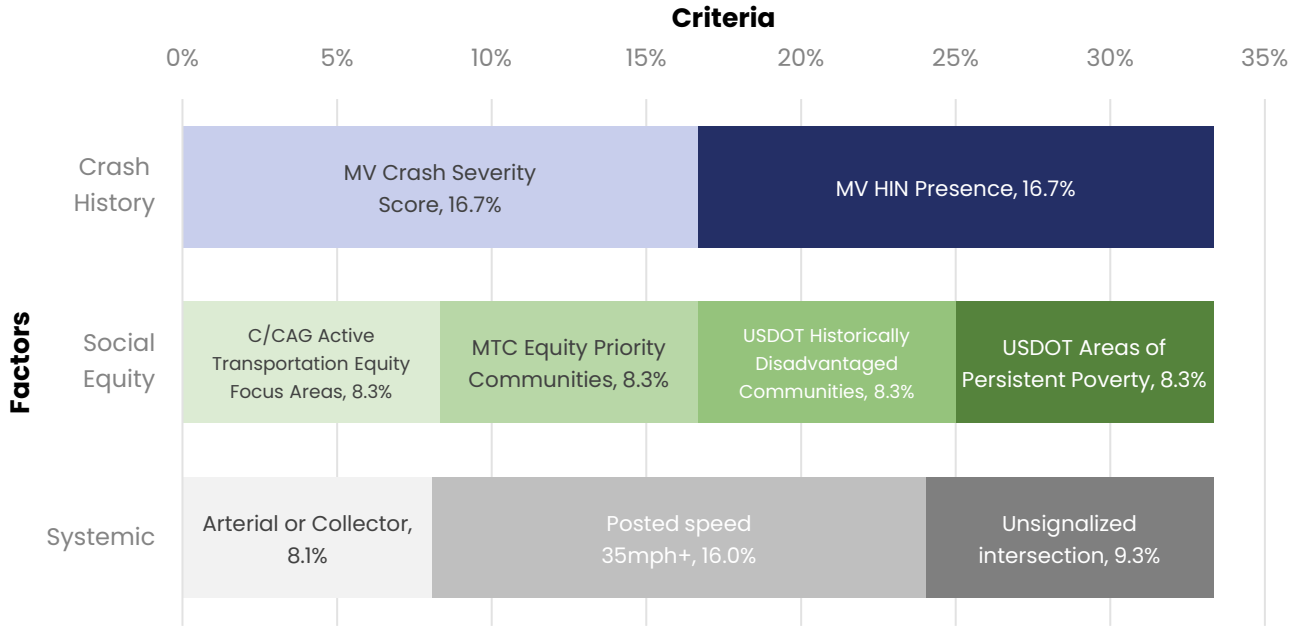


Figure 6. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical consideration for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. Ultimately the prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the Town to understand which locations meet which measures.

Results

The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix C. Figure 7 also shows the locations.

Table 4. Priority Locations

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
	El Camino Real, Berkshire Ave to Spruce Ave (E to W town limits)****	**Corridor**	**Yes**	**X**	**X**	**X**
1	El Camino Real and Columbia Ave*,**	Intersection	Yes	**X**	**X**	**X**
2	Loyola Ave and El Camino Real*,**	Intersection	Yes	**X**	**X**	**X**
3	El Camino Real and 5th Ave*,**	Intersection	Yes	**X**	**X**	**X**
4	Amherst Ave and El Camino Real*,**	Intersection	Yes	**X**	**X**	**X**
5	El Camino Real and Berkshire Ave*,**	Intersection	Yes	**X**	**X**	
6	El Camino Real and Stockbridge Ave	Intersection	Yes	**X**	**X**	**X**
7	Selby Ln and El Camino Real*,**	Intersection	Yes	**X**	**X**	**X**
8	Wilburn Ave and El Camino Real	Intersection	Yes	**X**	**X**	
9	El Camino Real and Almendral Ave	Intersection	Yes	**X**		

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
10	El Camino Real and Spruce Ave***	Intersection	Yes	**X**		
11	El Camino Real and Isabella Ave	Intersection	Yes		**X**	
12	El Camino Real and Ashfield Rd	Intersection	Yes		**X**	
13	Maple Ave and El Camino Real	Intersection	Yes		**X**	
14	El Camino Real and Walnut Ave	Intersection	Yes		**X**	
15	El Camino Real and Tuscaloosa Ave	Intersection	Yes		**X**	
16	El Camino Real and Redwood Way	Intersection	Yes		**X**	
17	El Camino Real and Lloyden Dr	Intersection	Yes		**X**	
	Alameda de las Pulgas, Stockbridge Ave to Cam Al Lago (E to W town limits)****	**Corridor**	**No**	**X**	**X**	**X**
18	Alameda de las Pulgas and Stockbridge Ave*	Intersection	No	**X**	**X**	
19	Alameda de las Pulgas and Walsh Rd	Intersection	No		**X**	**X**
20	Callado Way and Alameda de las Pulgas	Intersection	No		**X**	
21	Fletcher Dr And Alameda De Las Pulgas	Intersection	No		**X**	
22	Alameda De Las Pulgas and Atherton Ave	Intersection	No		**X**	
23	Alameda De Las Pulgas and Polhemus Ave	Intersection	No		**X**	
24	Alameda De Las Pulgas and Karen Way	Intersection	No		**X**	
	Valparaiso Ave, Camino por los Arboles to Victoria Dr*	**Corridor**	**No**	**X**		**X**
25	Robert S Dr and Valparaiso Ave***	Intersection	No	**X**		
26	Valparaiso Ave and Lee Dr	Intersection	No	**X**		**X**
27	Park Ln and Valparaiso Ave***	Intersection	No	**X**		

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
28	Elder Ave and Atherton Oaks Ln	Intersection	No	**X**		
	Middlefield Rd, Encina Ave to Ringwood Ave	**Corridor**	**No**	**X**		**X**
29	Middlefield Rd and Ravenswood Ave***	Intersection	No	**X**		**X**
30	Middlefield Rd and Ringwood Ave***	Intersection	No	**X**		**X**
31	Middlefield Rd and Encina Ave*	Intersection	No	**X**		**X**
32	Middlefield Rd and Palmer Ln	Intersection	No	**X**		
33	Middlefield Rd and Watkins Ave	Intersection	No	**X**		
34	Middlefield Rd and Oak Grove Ave	Intersection	No			**X**
35	Lane Pl and Middlefield Rd	Intersection	No			**X**
36	De Bell Dr and Middlefield Rd	Intersection	No			**X**
37	Middlefield Rd and San Benito Dr	Intersection	No			**X**
Other Corridors						
38	Oak Grove Ave and Oak Grove Ave	Intersection	No		**X**	**X**
39	Glenwood Ave and Laurel St***	Intersection	No	**X**	**X**	**X**
40	Oak Grove Ave and de Bell Dr	Intersection	No		**X**	

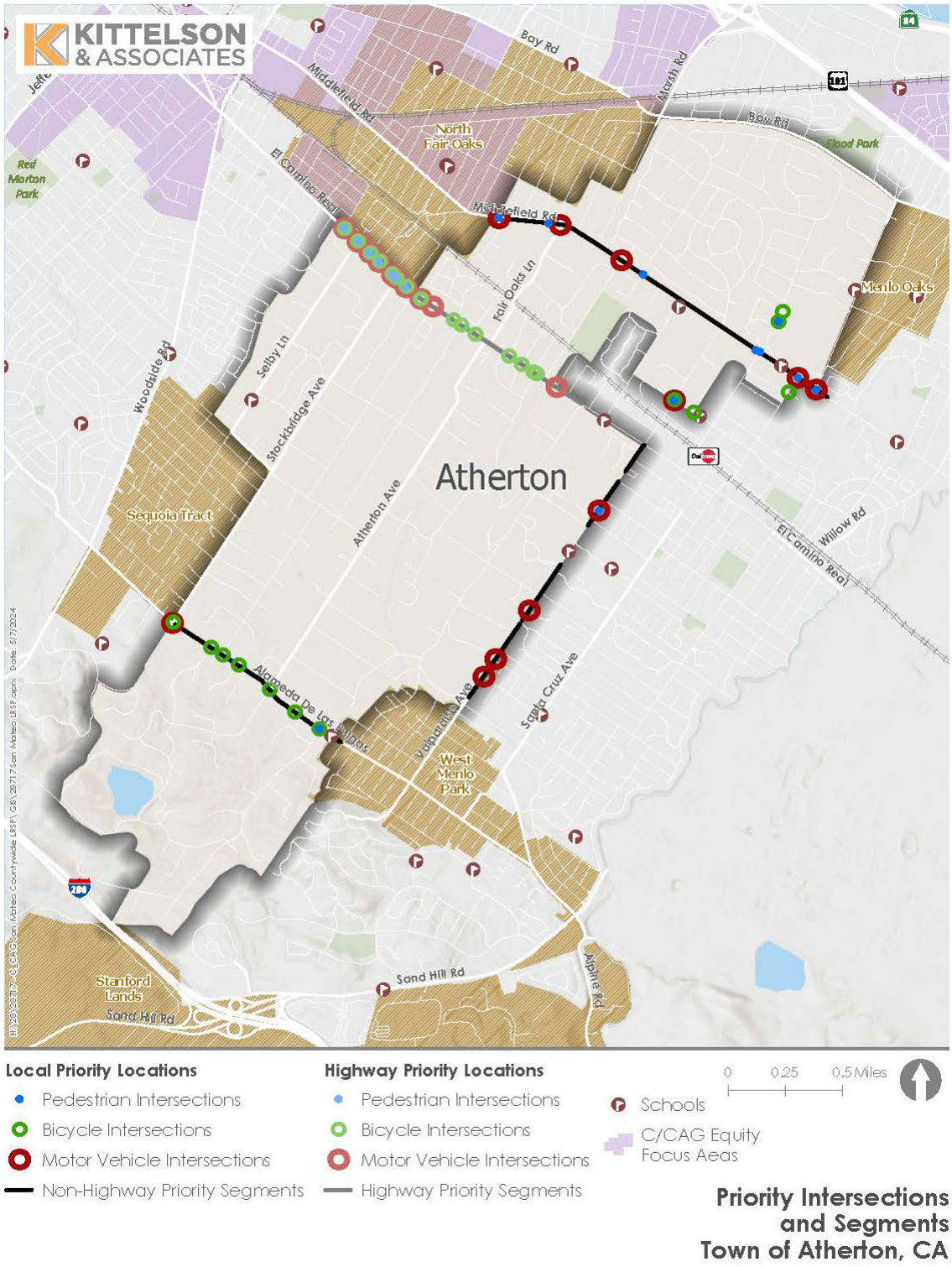
*Intersection is shared jurisdictionally with Unincorporated San Mateo County.

**Roadway is Caltrans jurisdiction.

***Intersection is shared jurisdictionally with Menlo Park.

****The Town is currently preparing a study on this corridor (see Table 1).

Figure 7: Atherton Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the Town of Atherton. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align Town departments and partners in pursuit of the plan's vision and goals.

Engineering Countermeasure Toolbox

Table 5. Town of Atherton Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
All Location Types					
Lighting along high speed corridors*	All	Nighttime	0.4	$$	Medium
Signalized Intersections					
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Improve signal hardware: lenses, back plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very High
Install advance stop bar before crosswalk (bicycle box)*	SI	Bicycle crashes, signalized local/arterial intersections	0.15	$	High
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$-$$	High
Install raised pavement markers and striping*	SI	Wet, night, all	0.1	$	High
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
No Right Turn on Red (RTOR)	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	Medium
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Unsignalized Intersections					
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Covert intersection to mini-roundabout*	UI	All crashes	0.3	$$	Low
Convert intersection to roundabout (from stop or yield control on minor road)*	UI	All crashes	Varies	$$$	Low
Curb extensions	UI	All crashes	N/A	$-$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features like Rectangular Rapid Flashing Beacons)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Install buffered or separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Install raised pedestrian crossing*	UI	Pedestrian and bicycle	0.35	$	Medium
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High
Roadways					
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Lane Narrowing	R	All	Varies	$	Medium

*****Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above
2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the Town aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the Town's Safe System Approach.

Table 5. Town of Atherton Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee Participation	LCS2: High-Visibility Media Campaign LCS3: Communication Protocol
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)	LF1: Dedicated Funding	LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleet LEO6: Conspicuity Enhancements and Education
Local Planning/ Evaluation (LPE)		LPE1: Annual Review LPE2: Plan Update LPE4: Safe Routes to School LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)

- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: Town of Atherton Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: Town of Atherton Public Works

LONG-TERM OR ONGOING ACTIONS

LCS3: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident.
Lead agency: C/CAG
Coordinating partners: Town of Atherton Public Works

LF2: Equitable Investment

Prioritize townwide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: Town of Atherton Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: Town of Atherton Public Works

LEO1: Roadway Safety Education in Schools

- Continue School Travel Fellowship Program to provide the following:
- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.
Lead agency: Town of Atherton Public Works

LEO5: Safe City Fleets

Provide educational materials for Town staff who drive Town vehicles and integrate safety awareness training into contracting process with vendors who provide Town services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on Town vehicles and reporting on correction plans against unsafe driving.
Lead agency: Town of Atherton Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to Town Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: Town of Atherton

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: Town of Atherton Public Works

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.
Develop a plan and timeline to include all schools in the Town.
Lead agency: SMCOE
Coordinating partners: Town of Atherton Public Works

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds. To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.
Lead agency: Town of Atherton Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Atherton's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. Atherton will develop a process to regularly collect data and information around the performance measures that can be used to assess changes townwide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Atherton can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for Atherton and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 6. Town of Atherton Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities. Review proposed improvement plans to ensure that roadway projects, retrofits, and maintenance projects incorporate complete streets that support multiple modes of travel.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
2. Implement context-appropriate safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities. 3. Promote plan recommendations with identified safety partners to incorporate roadway safety through safety projects and educational campaigns in Atherton. 4. Provide opportunities for community engagement in roadway capital improvement projects to identify safety solutions. 5. Identify opportunities to incorporate social equity into safety improvements.	• Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and community member interactions for safety plans or projects. • Report-backs to the Town Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable • Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) versus outside these areas • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the Town
6. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings Town staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice
7. Monitor implementation of the Atherton LRSP to track progress towards goals.	• See above in this table

Town of Atherton

San Mateo C/CAG Countywide LRSP

City of Belmont

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the City's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the City can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the City of Belmont. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The City will revisit and update this LRSP at least every five years.

The City of Belmont has a 2023 population of 26,793 per California Department of Finance. The city has 68 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 244 reported crashes on surface streets in the City and 8 fatal/severe injury crashes. In that time period, pedestrians were involved in 11 percent of all reported crashes and 13 percent of fatal/severe injury crashes. Bicyclists were involved in 14 percent of all reported crashes and 25 percent of fatal/severe injury crashes. The LRSP provides Safe System-aligned strategies tailored to Belmont's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the City for public viewing.

VISION & GOALS

The City of Belmont's vision for roadway safety is:

- Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2040.

To support this vision, the City has established the following goals:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.
3. Promote plan recommendations with identified safety partners to incorporate roadway safety through safety projects and educational campaigns in Belmont.
4. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.
5. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.
6. Identify opportunities to incorporate social equity into safety improvements.
7. Monitor implementation of the Belmont LRSP to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on Belmont's solid foundation of plans, policies, and programs that support safe, equitable mobility in the city. For a list of the City of Belmont's existing initiatives and ongoing efforts to build a Safe System,, see Table 1:

Table 1. City of Belmont Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
Comprehensive Pedestrian and Bicycle Plan	The key goals of the plan are to support efforts to increase the rate of walking and bicycling, as well as to support adopted policies that are aimed at providing complete streets.	Safe Roads, Safe Speeds, Safe Road Users
Traffic-Calming Policy	This policy seeks to address speeding and other driving behavior issues.	Safe Road Users, Safe Speeds

Program Name	Program Description	Safe System Elements
Parking and Traffic Safety Committee (PTSC)	This committee is comprised of senior members of the Department of Public Works, Police Department, and Fire Department. Residents may submit traffic and parking problems and/or recommendations to the Parking Traffic and Safety Committee (PTSC). The PTSC will evaluate the request based on current policy, perform field investigations if required, review existing traffic information, and schedule the item for discussion at a public PTSC meeting if needed.	Safe Roads
Stop Sign Warrant Policy	The City maintains a policy for all-way stop, 2-way stop, and 3-way stop sign installation. It is available on the City's Parking & Traffic Safety Committee website.	Safe Speeds, Safe Road Users, Safe Roads
Speed Cushion Guidelines	The City's Guidelines for the Installation of Speed Humps provides criteria for the placement and design of speed humps. They are available on the City's Parking & Traffic Safety Committee website.	Safe Roads, Safe Speeds
Truck Parking Policy	This policy states that no large trucks can park at an intersection.	Safe Roads, Safe Road Users
Complete Streets Policy	The City's commitment to creating and maintaining Complete Streets that provide safe, comfortable, and convenient travel for all users.	Safe Roads, Safe Road Users, Safe Speeds, Post-Crash Care, Safe Vehicles

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of the City of Belmont's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- Belmont Police Department
- Parking and Traffic Safety Committee (PTSC)

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the City's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

Table 1. Community Engagement Phases and Events

Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Biking Concerns/Requests

- Add new bike infrastructure such as protected bike lanes and separated bike lanes.
- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, vehicle speeds, right of way issues, and turning conflicts at intersections.
- Remove on-street parking to make more way for bikes along the roadway.
- Request to provide modal filters: to allow only bicycles and pedestrians on certain streets.

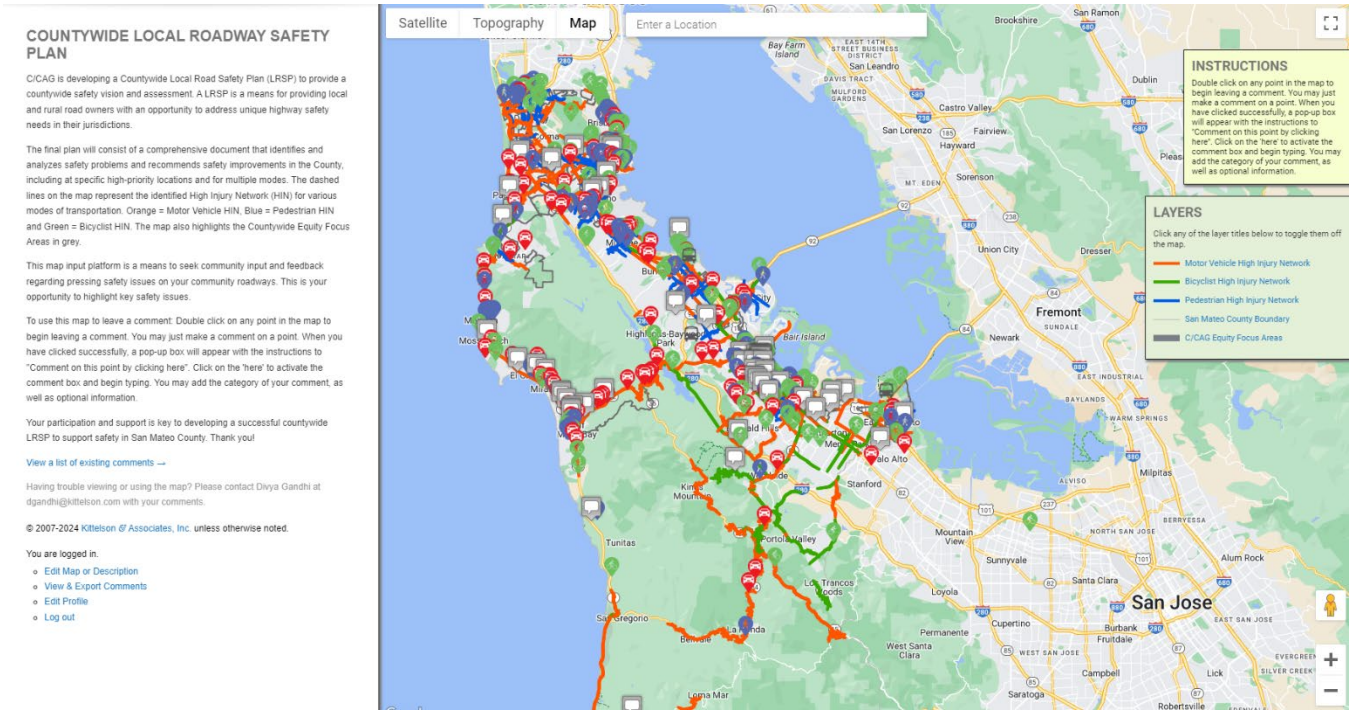
Pedestrian Concerns/Requests

- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, speeding, and running STOP signs.
- Traffic Enforcement Concerns
- Concerns regarding speeding and on-street parking.

Roadway Infrastructure/ Traffic Operations Concerns

- Clear sight triangles to improve visibility on intersection approaches.
- Requests to install STOP signs at unsignalized intersections.
- Concerns regarding narrow and windy roads.
- Concerns regarding maintenance of roadway infrastructure including high friction of the roadway surfaces.

Figure 1. Online Map Survey Tool



The location and modal emphasis of comments in Belmont is presented in Figure 2. Webmap Comments in Belmont. The comments received are provided in Appendix A. The project team also identified common themes in the responses made countywide which may be relevant to the City. Those are presented in the Community Engagement section of the Countywide LRSP.

PHASE 2 COMMUNITY ENGAGEMENT FEEDBACK

The project team held an event at the Belmont Farmers' Market in December as part of Phase 2, which provided the project team with input on specific location concerns, general traffic safety/behavioral concerns, and opinions on specific engineering treatments or strategies. The comments received are provided in Appendix B.

The following themes were identified:

General Comments

- Desire to reduce speed limits
- Desire for better signage and lighting near speed bumps
- Concerns around traffic near schools during drop-off and pick-up

Pedestrian Comments

- Desire for more signage around crosswalks so pedestrians can cross safely, especially around schools
- Concern that pedestrians do not have enough time to cross the street
- Concern that bicyclists using sidewalks to ride bikes and e-bikes put pedestrians in danger

Bicycle Comments

- Desire for separated bike lanes, specifically on El Camino Real, Alameda de las Pulgas and Old County Road

Motor Vehicle Comments

- Desire for signal improvements to make traveling more efficient

Countermeasures Comments

- Desire for more lighting at intersections, specifically flashing lights
- Desire for larger signal backplates and signal visibility during sunrise and sunset
- Concerns that curb extensions would impact bicyclist safety
- Concerns that lane narrowing would make driving and biking more dangerous
- Concerns that pedestrian refuge islands are dangerous to vehicles

Figure 2. Webmap Comments in Belmont

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix C.

Emphasis Areas

The project team analyzed crash data in Belmont and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the City can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the City of Belmont:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In Belmont, pedestrians and bicyclists were involved in 13 percent and 25 percent of the 8 reported F/SI crashes—higher than their overall share of all injury crashes (11 percent and 14 percent, total).
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Belmont, one in every four crashes (25 percent) occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In Belmont, 17 crashes or 7 percent of all reported injury crashes involve at fault drivers who are under 30 years old.
5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes).

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

In Belmont, "Too fast for conditions" was the top-cited violation among motor vehicle crashes (in 26 percent of injury crashes).

6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.
7. **Alcohol involvement.** Countywide, one in ten (10 percent) of motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol. In Belmont, 12 crashes or 5 percent of all reported injury crashes involve impaired driving.

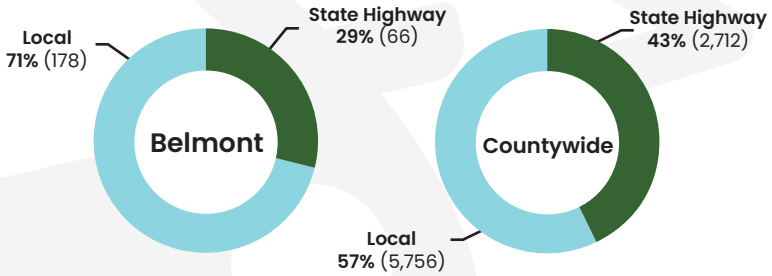
The next pages present summary findings from a crash data review that compares the City of Belmont to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

Belmont—Crash History

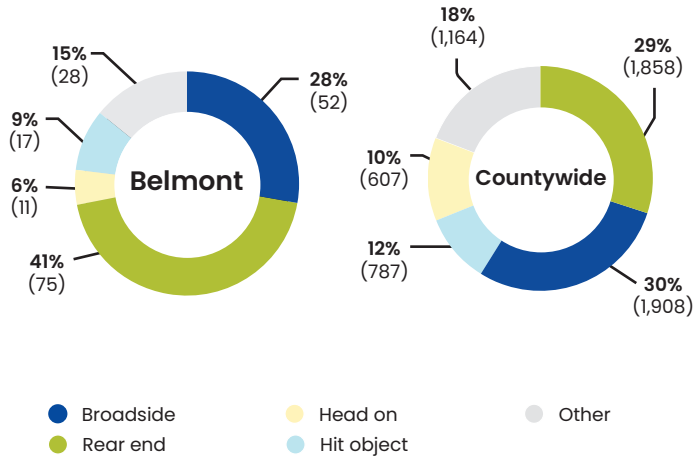
Total Crashes

In Belmont, 244 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



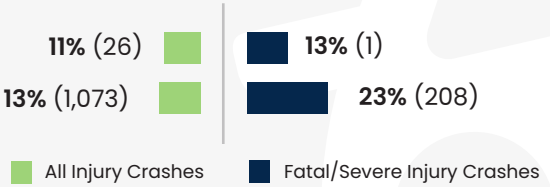
Most Frequent Collision Types

Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Belmont compares:

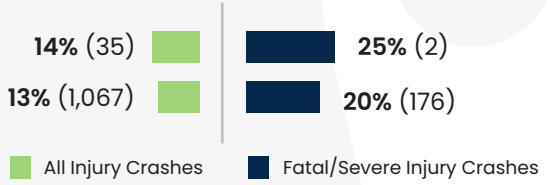


Mode Involvement

Pedestrian Crashes (26)



Bicycle Crashes (35)



Motor Vehicle[1] Crashes (183)

5% (12)
of reported collisions in Belmont involved drugs or alcohol

7% (17)
of reported collisions in Belmont involved young drivers[1]

Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

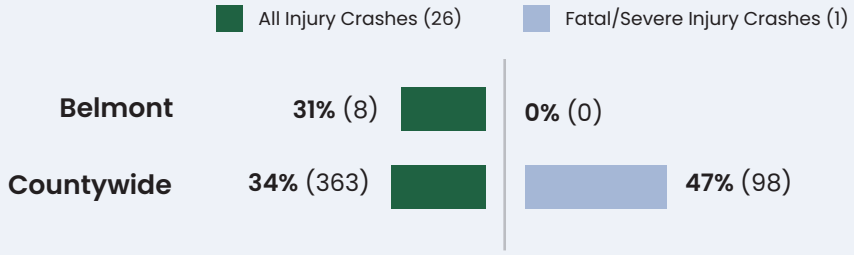
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

Belmont—Crash History

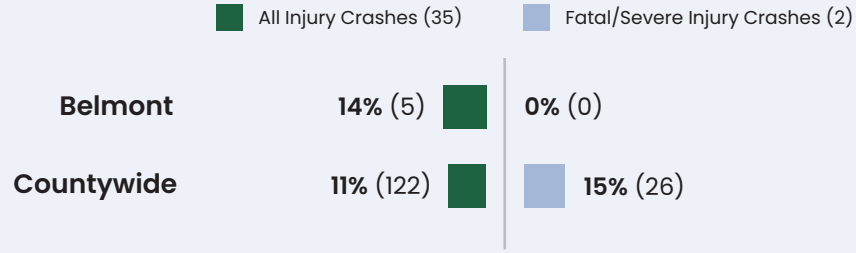
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Belmont compares to Countywide crashes:

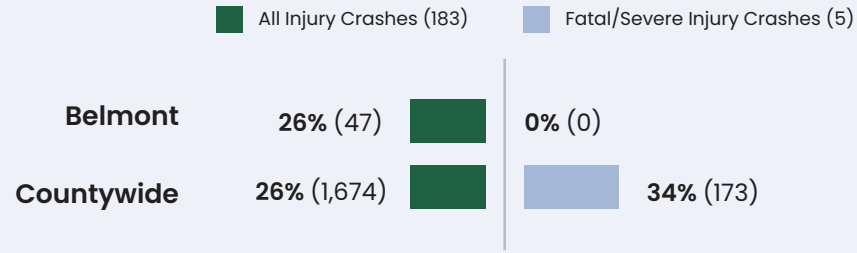
Share of Pedestrian Crashes in Dark Conditions (8)



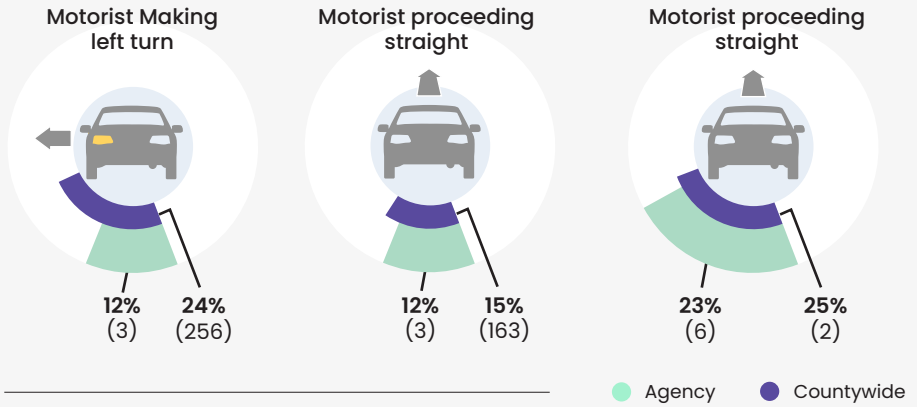
Share of Bicyclist Crashes in Dark Conditions (5)



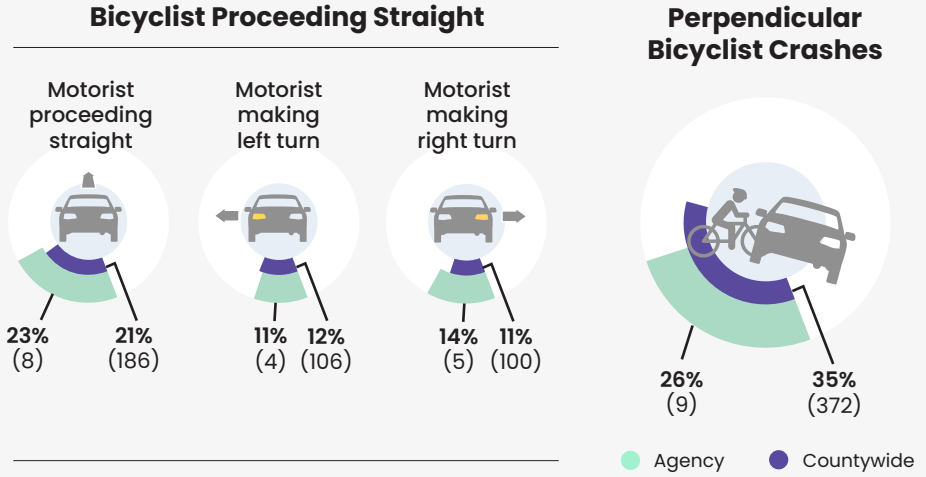
Share of Motor Vehicle Crashes in Dark Conditions (47)



Reported Pedestrian Crashes (26)



Reported Bicycle Crashes (35)



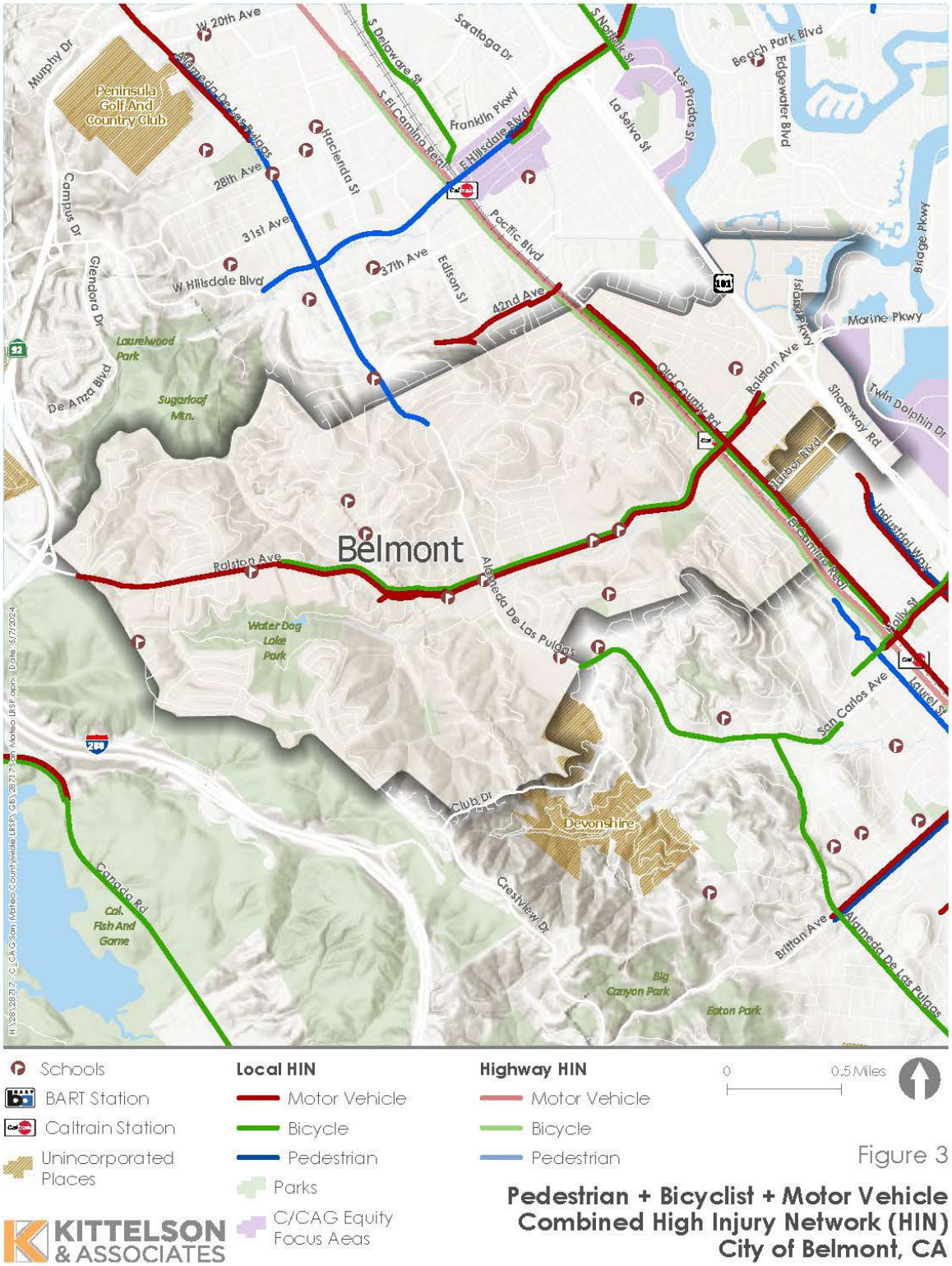
Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 4 show the HIN segments identified within the City.

Table 2. Countywide HIN Segments in Belmont

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Lyall Way	Belmont	0.3	X		
Ralston Ave	Belmont, Unincorporated	3.5	X	X	
El Camino Real	San Carlos, Atherton, Menlo Park, Redwood City, Millbrae, San Bruno, Belmont, San Mateo, Burlingame, South San Francisco, Colma, Unincorporated	23.5	X	X	X
Alameda de las Pulgas	San Carlos, Atherton, Redwood City, Belmont, San Mateo, Unincorporated	6.7	X	X	X
Old County Rd	San Carlos, Belmont, Harbor/Industrial	3.4	X	X	

Figure 3. Countywide HIN within the City of Belmont



PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the City to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 4, Figure 5, and Figure 6).

Figure 4. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

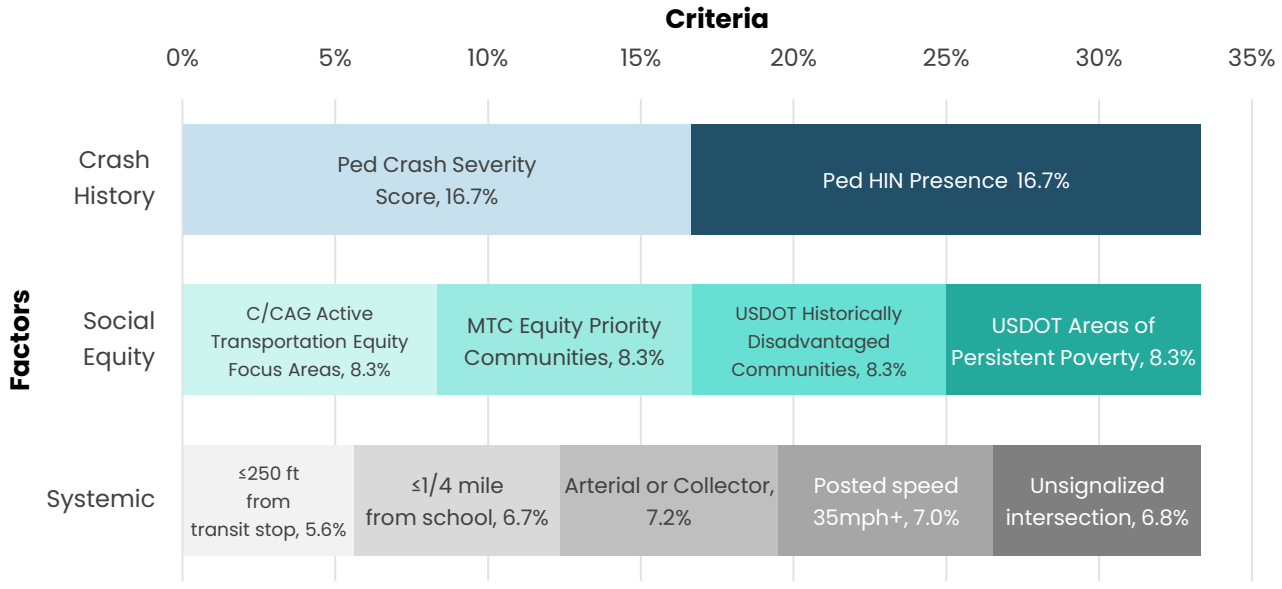


Figure 5. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

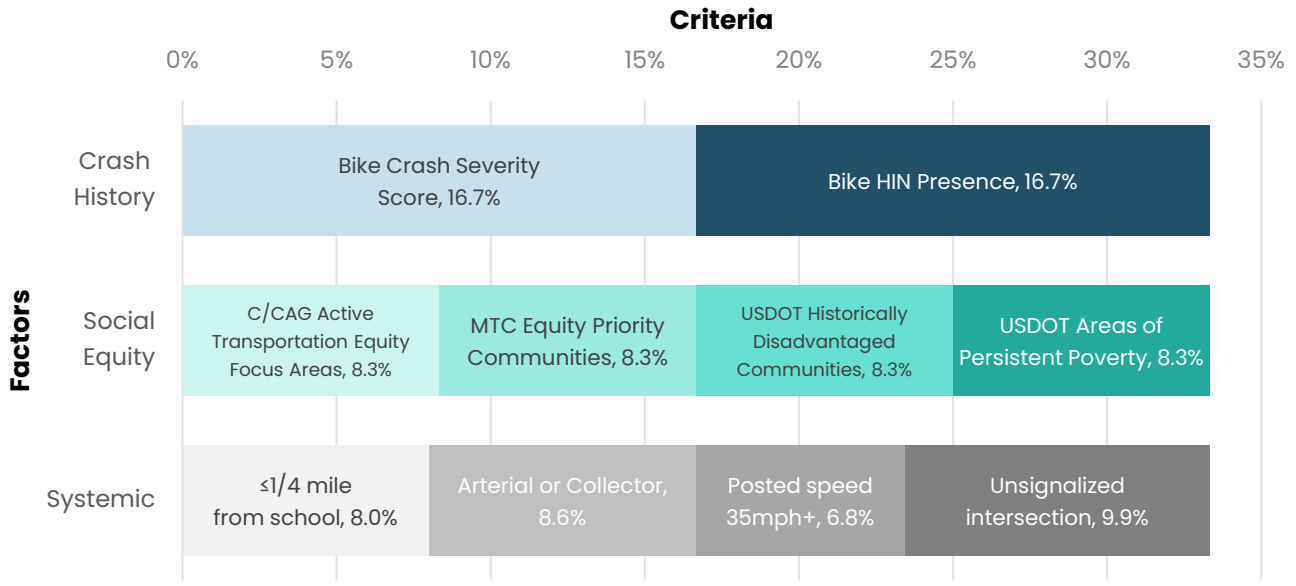
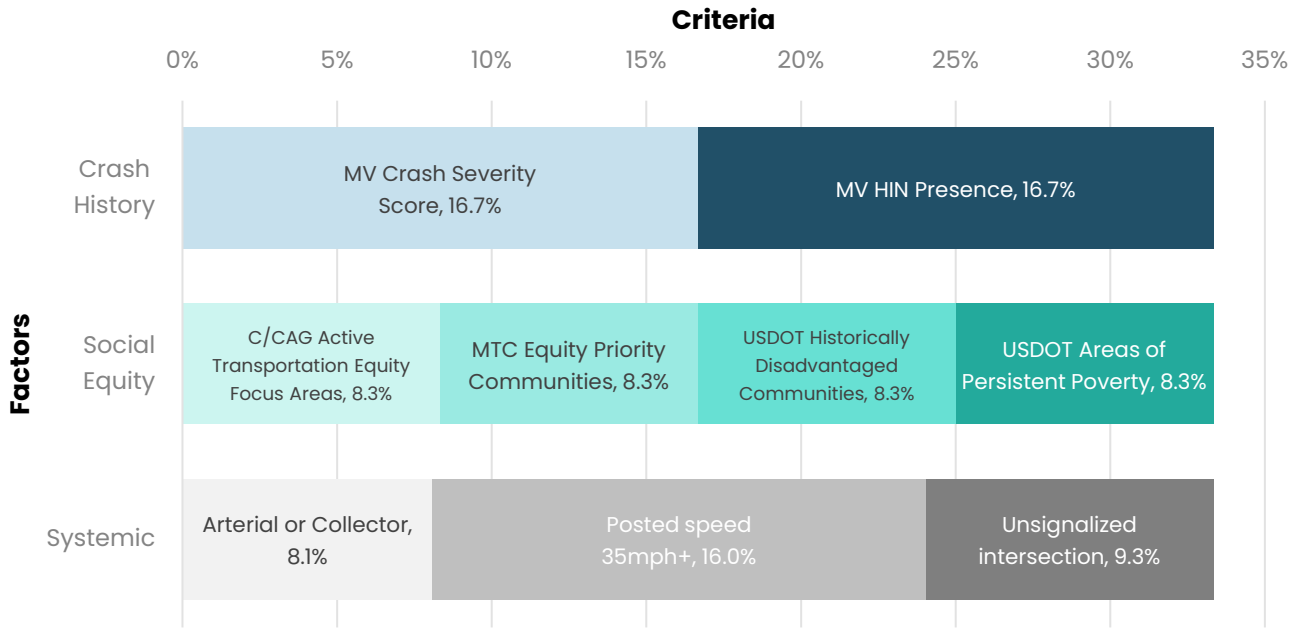


Figure 6. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. Ultimately the prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the City to understand which locations meet which measures.

Results

The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix D. Figure 7 also shows the locations.

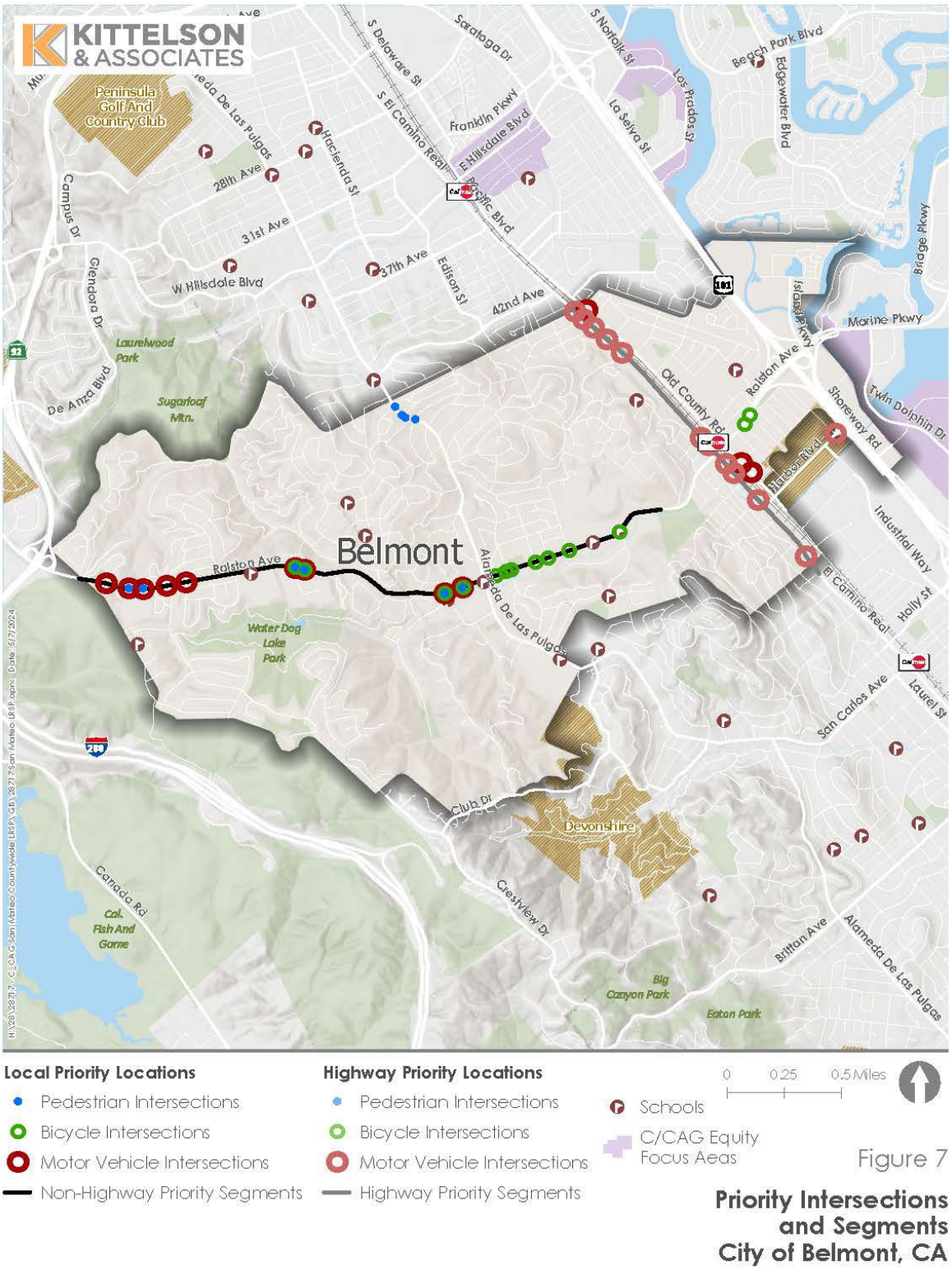
Table 3. Priority Locations

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Anita Ave and El Camino Real	Intersection	Yes	**X**		
2	Ruth Ave and El Camino Real	Intersection	Yes	**X**		
3	El Camino Real and Belmont Ave	Intersection	Yes	**X**		
4	El Camino Real and North Rd	Intersection	Yes	**X**		
5	El Camino Real and Davey Glen Rd	Intersection	Yes	**X**		
6	Belmont Canyon Rd (W) and Ralston Ave	Intersection	No	**X**		**X**
7	Pullman Ave and Lyall Way	Intersection	No	**X**	**X**	**X**
8	El Camino Real and 5th Ave	Intersection	Yes	**X**		

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
9	Flashner Ln and El Camino Real	Intersection	Yes	**X**		
10	El Camino Real and Broadway	Intersection	Yes	**X**		
11	El Camino Real and Emmett Ave	Intersection	Yes	**X**		
12	Davis Dr and Ralston Ave	Intersection	No	**X**	**X**	**X**
13	Oneill Ave and Old County Rd	Intersection	No	**X**		
14	Ralston Ave and Belmont Canyon Rd	Intersection	No	**X**	**X**	**X**
15	Merry Moppet Ln and Ralston Ave	Intersection	No	**X**	**X**	**X**
16	Belmont Canyon Rd (E) and Ralston Ave	Intersection	No	**X**		**X**
17	Hill St and El Camino Real	Intersection	Yes	**X**		
18	Sterling View Ave and Old County Rd	Intersection	No	**X**		
19	Belmont Canyon Rd and Ralston Ave	Intersection	No	**X**		
20	Lassen Dr and Ralston Ave	Intersection	No	**X**		
21	Old County Rd and Waltermire St	Intersection	No	**X**		
22	El Camino Real and Waltermire St	Intersection	Yes	**X**		
23	Belmont Canyon Rd and Ralston Ave	Intersection	No	**X**		
24	Harbor Blvd and Us Highway 101 Hwy	Intersection	Yes	**X**		
25	Alameda De Las Pulgas and Monroe Ave	Intersection	No			**X**
26	Alameda De Las Pulgas and Cipriani Blvd	Intersection	No			**X**
27	Alameda De Las Pulgas and Lyon Ave	Intersection	No			**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
28	Alameda De Las Pulgas and Forest Ave	Intersection	No			**X**
29	Ralston Ave and Academy Ave	Intersection	No		**X**	
30	Ralston Ave and Maywood Dr	Intersection	No		**X**	
31	Ralston Ave and Furlong St	Intersection	No		**X**	
32	Ralston Ave and Villa Ave	Intersection	No		**X**	
33	Ralston Ave and Chula Vista Dr	Intersection	No		**X**	
34	Granada St and Ralston Ave	Intersection	No		**X**	
35	Notre Dame Ave and Ralston Ave	Intersection	No		**X**	
36	Ralston Ave and Misty Ln	Intersection	No		**X**	
37	Ralston Ave and Chevy St	Intersection	No		**X**	
38	El Camino Real, North Road to F Street	Corridor	Yes	**X**		
39	Ralston Avenue, Villa Street to west of South Road	Corridor	No		**X**	
40	Ralston Avenue, Christrian Drive to Villa Street	Corridor	No	**X**	**X**	**X**

Figure 7: Belmont Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the City of Belmont. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the City to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the City could consider at these locations. The City can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of City-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- Ralston Ave—Villa Avenue to eastern city limits. Recommended improvements include:
    - Larger or additional regulatory signs
    - Pedestrian crossing signs and markings
    - Dynamic/variable speed warning signs
    - Separated or buffered Class II bike lanes where feasible
    - Pedestrian crossings with enhanced safety features (flashing beacons, curb extensions, advance "yield" lines)
    - Raised pedestrian crossings
- Ralston Ave—Villa Ave to Christian Dr (western city limits). Recommended improvements include:
    - Creation of bike lanes and contiguous sidewalks
    - Reduction in travel lane widths and center median widths to accommodate bike/ped infrastructure
    - Dynamic/variable speed warning signs
    - Delineators
    - Pedestrian crossings with enhanced safety features (flashing beacons, curb extensions, advance "yield" lines)
    - Separated and/or buffered bike lanes

Another location not scoped but noted for consideration is El Camino Real within city limits. The roadway is maintained by Caltrans, so the city may consider partnering with Caltrans and with adjacent jurisdictions to seek grant funding for safety treatments along El Camino Real. A project could include, for example, separated bike lanes.

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix E.

Engineering Countermeasure Toolbox

Table 5. City of Belmont Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Lighting*	All	Nighttime	0.4		Medium
Improve signal hardware: lenses, back plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very High
Install left-turn lane and add turn phase*	SI	Signalized local/arterial intersections	0.55	$-$$$	Low
Convert signal to mast arm (from pedestal mounted)*	SI	Signalized local/arterial intersections	0.3	$-$$$	Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Create directional median openings to allow (and restrict left turns and U-turns (signalized intersection)*	SI	Signalized local/arterial intersections	0.5	$-$$	Medium
Install raised pavement markers and striping*	SI	Wet, night, all	0.1	$	High
Install flashing beacons as advance warning (SI)*	SI	Rear end, broadside	0.3	$-$$	Medium
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium
Convert intersection to roundabout (from signal)	SI	Signalized local/arterial intersections	Varies	$-$$$	Low
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
Install painted safety zone	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	High
Install Protected Intersection Elements	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$-$$$	Low
Convert to all-way STOP control (from two-way or Yield control)*	UI	All crashes	0.5	$	Low
Install signals*	UI	All crashes	0.3	$$$	Low
Convert intersection to roundabout (from all-way stop)*	UI	All crashes	Varies	$$$	Low
Convert intersection to roundabout (from stop or yield control on minor road)*	UI	All crashes	Varies	$$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Covert intersection to mini-roundabout*	UI	All crashes	0.3	$$	Low
Create directional median openings to allow (and restrict) left turns and U-turns (unsignalized intersections)*	UI	All crashes	0.5	$-$$	Medium
Install raised medians (refuge islands)*	UI	Pedestrians and bicycle	0.45	$	Medium
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High
Install flashing beacons at stop-controlled intersection*	UI	Broadside, rear end	0.15	$$$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Road diet (Reduce travel lanes from four to three, and	R	All crashes	0.35	$	Medium

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
add a two-way, left-turn lane and bike lanes)*					
Corridor access management	R	N/A	0.35	$	Medium
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Install raised pedestrian crossing*	R	Pedestrian and bicycle	0.35	$	Medium
Remove or relocate fixed objects outside of clear recovery zone*	R	Hit object	035	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Extend green time for bikes	SI	Bicycle	N/A	$	High
Extend yellow and all-red time	SI	All crashes	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Curb extensions	UI	All crashes	N/A	$-$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Approach curvature	UI, SI	All crashes	N/A	$$$	Low
Roadside design features	All	All crashes	N/A	$-$$$	Low

***Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above
2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the City aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the City's Safe System Approach.

Table 4. City of Belmont Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee participation	LCS3: Communication Protocol LCS4: Implement Car-Free Zones
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer LEC4: Bicycle and Pedestrian Citation Diversion Program
Local Funding (LF)	LF1: Dedicated Funding	LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleet
Local Planning/ Evaluation (LPE)		LPE1: Annual Review LPE2: Plan Update LPE3: Safety and Equity Impacts Evaluation LPE4: Safe Routes to School LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)

- Requests for trainings / best practices that could be provided through the TSAC
- Belmont should complete a comprehensive, citywide transportation master plan to: address future growth; enhance multimodal transportation safety; increase safety for people biking and walking; increasing mode split for people biking, walking, and taking transit; replace and update the 2016 Comprehensive Pedestrian and Bike Plan; determine a new list of CIPs; and decrease single-occupant driving

Lead agency: City of Belmont Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: City of Belmont Public Works

LONG-TERM OR ONGOING ACTIONS

LCS3: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident.
Lead agency: C/CAG
Coordinating partners: City of Belmont Public Works

LCS4: Implement Car-Free Zones

More effectively target resources to pedestrian crash problems in a limited geographic area. Realizing these zones requires upfront analysis and planning, countermeasure development, and implementation. Implementation can focus on addressing particular problems or on increasing general safety in specific areas during windows of peak pedestrian activity. (For example: Friday nights in commercial districts, Sundays on recreational routes/areas, etc.)
Lead agency: City of Belmont Public Works

LEC2: Speed Monitoring Awareness Radar Trailer

Coordinate with Belmont PD to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: City of Belmont Police Department
Coordinating partners: City of Belmont Public Works

LEC4: Bicycle and Pedestrian Citation Diversion Program

Implements an alternative citation structure for bicyclists and pedestrians. Upon incurring a traffic violation, these users can reduce or remove the fee associated with the violation by instead attending a class. Requires local law enforcement to sanction preexisting curricula or to sanction original material of their own.
Lead agency: City of Belmont Police Department

LF2: Equitable Investment

Prioritize citywide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically

Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: City of Belmont Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: City of Belmont Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO2: Engagement Accessibility

Plan community engagement efforts to be tailored for vulnerable road users and all travel modes. Make outreach materials available in accessible formats and multiple languages.
Lead agency: City of Belmont Public Works

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.
Lead agency: City of Belmont Public Works

LEO4: Transportation Safety Campaign

Run education campaigns and outreach to foster community awareness of a shared responsibility for road safety. Use the emphasis areas highlighted in this plan as focus areas and target groups for a campaign.
Lead agency: City of Belmont
Coordinating partners: C/CAG, County Public Health

LEO5: Safe City Fleets

Provide educational materials for City staff who drive City vehicles and integrate safety awareness training into contracting process with vendors who provide City services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on City vehicles and reporting on correction plans against unsafe driving.
Lead agency: City of Belmont Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to City Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: City of Belmont Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: City of Belmont Public Works

LPE3: Safety and Equity Impacts Evaluation

Fund a study to address traffic injury and enforcement inequities to inform policies, projects, programs, and needed data quality improvements.
Solicit feedback on the report's equity analysis from groups representing equity priority communities. Topics for the study may include injury related to homelessness, race/ethnicity, language, income, and immigration status, citations by demographics, citation type, and location.
Alternately, coordinate with the TSAC to participate in a countywide version of the same that can include the City as part of its scope.
Lead agency: C/CAG

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.
Develop a plan and timeline to include all schools in the City.
Lead agency: SMCOE
Coordinating partners: City of Belmont Public Works

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds.
To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.
Lead agency: City of Belmont Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Belmont's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The City of Belmont will develop a process to regularly collect data and information around the performance measures that can be used to assess changes city-wide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Belmont can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for Belmont and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

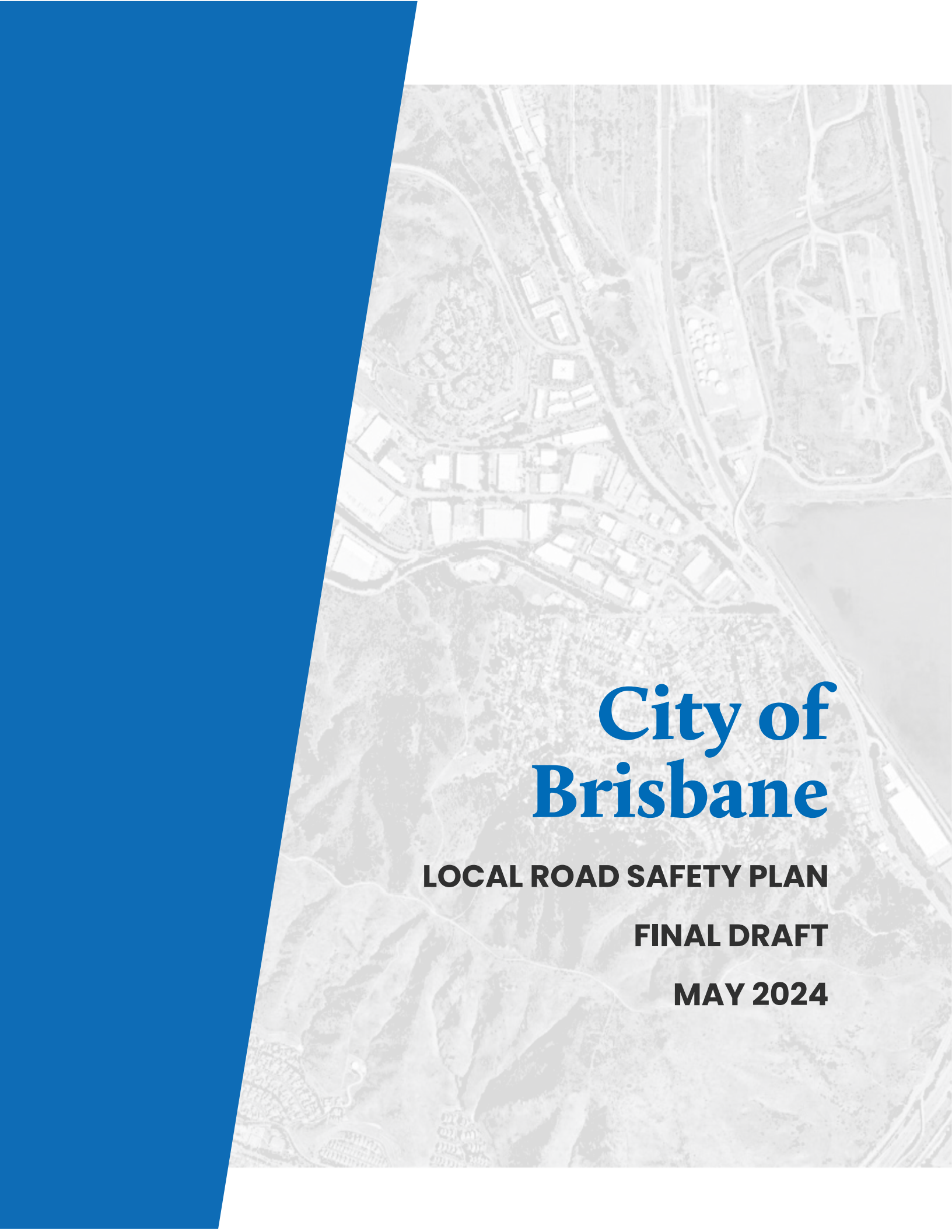
Table 5. City of Belmont Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities. Review proposed improvement plans to ensure that roadway projects, retrofits, and maintenance projects incorporate complete streets that support multiple modes of travel.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
2. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities. 3. Promote plan recommendations with identified safety partners to incorporate roadway safety through safety projects and educational campaigns in Belmont. 4. Provide opportunities for community engagement in roadway capital improvement projects to identify safety solutions. 5. Identify opportunities to incorporate social equity into safety improvements.	• Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions citywide for safety plans or projects. • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable • Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) versus outside these areas • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the City
6. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings city staff have participated in regarding Safe System elements, available tools, or practices

GOAL	MEASURE OF SUCCESS
	• Improved data availability or maintenance to enhance safety analysis and practice
7. Monitor implementation of the Belmont LRSP to track progress towards goals.	• See above in this table

City of Belmont

San Mateo C/CAG Countywide LRSP



City of Brisbane

LOCAL ROAD SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the City's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the City can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the City of Brisbane. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The City will revisit and update this LRSP at least every five years.

The City of Brisbane has a 2023 population of 4,648 per California Department of Finance. The city has 26 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 69 reported crashes on surface streets in the City and 12 fatal/severe injury crashes. In that time period, pedestrians were involved in 12 percent of all reported crashes and 50 percent of fatal/severe injury crashes. Bicyclists were involved in 7 percent of all reported crashes and 17 percent of fatal/severe injury crashes. The LRSP provides Safe System-aligned strategies tailored to Brisbane's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the City for public viewing.

VISION & GOALS

The City of Brisbane's vision for roadway safety is:

- Reduce fatal and severe injury crashes to zero by 2040.
- Promote a culture of roadway safety in Brisbane's departments, businesses, and residents.

To support this vision, the City has established the following goals:

1. Work with Brisbane Police Department to review crash history and community needs on a semi-annual basis to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Utilize existing plans, such as the Brisbane Bicycle and Pedestrian Master Plan, to implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities
3. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.
4. Embrace the Safe System approach to promote engineering and non-engineering strategies in the community.
5. Identify opportunities to incorporate social equity into safety improvements.
6. Monitor implementation of the Brisbane LRSP to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on Brisbane's solid foundation of plans, policies, and programs that support safe, equitable mobility in the city. For a list of the City of Brisbane's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. City of Brisbane Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
2017 Bicycle Pedestrian Master Plan	The key goals of the plan are to support efforts to increase the rate of walking and bicycling, as well as to support adopted policies that are aimed at providing complete streets.	Safe Roads, Safe Speeds, Safe Road Users

Program Name	Program Description	Safe System Elements
Complete Streets Safety Committee	This citizen council advises the City Council on issues of roadway safety and Complete Streets development.	Safe Roads, Safe Speeds, Safe Road Users, Safe Vehicles
Complete Streets Policy	The City's commitment to creating and maintaining Complete Streets that provide safe, comfortable, and convenient travel for all users.	Safe Roads, Safe Road Users, Safe Speeds, Post-Crash Care, Safe Vehicles
SafeTREC Complete Streets Safety Assessment	The Complete Streets Safety Assessment, offered through the National Highway Traffic Safety Administration, saw a team of safety experts conduct a study for roadway safety in the City. The assessment included a phone consultation and field study, and concluded with a summary of findings and suggestions for roadway focus areas.	Safe Roads, Safe Road Users, Safe Speeds, Post-Crash Care, Safe Vehicles

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of the City of Brisbane's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition
- Caltrans
- Brisbane Police Department

Figure 1. A pop-up event held at the Brisbane Farmers' Market

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the City's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

Table 2. C/CAG Public Engagement Events

Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023		East Palo Alto

Date	Event	Location
August 19, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 2). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Countywide, there were a total of 528 comments recorded by 352 respondents. There were 14 comments made within the City of Brisbane. The comments included the following:

Biking Concerns/Requests

- Add new bike infrastructure such as protected bike lanes and separated bike lanes.
- Provide a more connected bike network: continuous bike lanes (especially through intersections) and the Bay Trail.
- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, vehicle speeds, right of way issues, parking, and turning conflicts at intersections.
- Requests to install leading bicycle intervals at signalized intersections.

Pedestrian Concerns/Requests

- Add new pedestrian infrastructure or upgrade existing infrastructure such as building new sidewalks, widening existing sidewalks, and high visibility crosswalks.
- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, speeding, and running STOP signs.

Traffic Enforcement Concerns

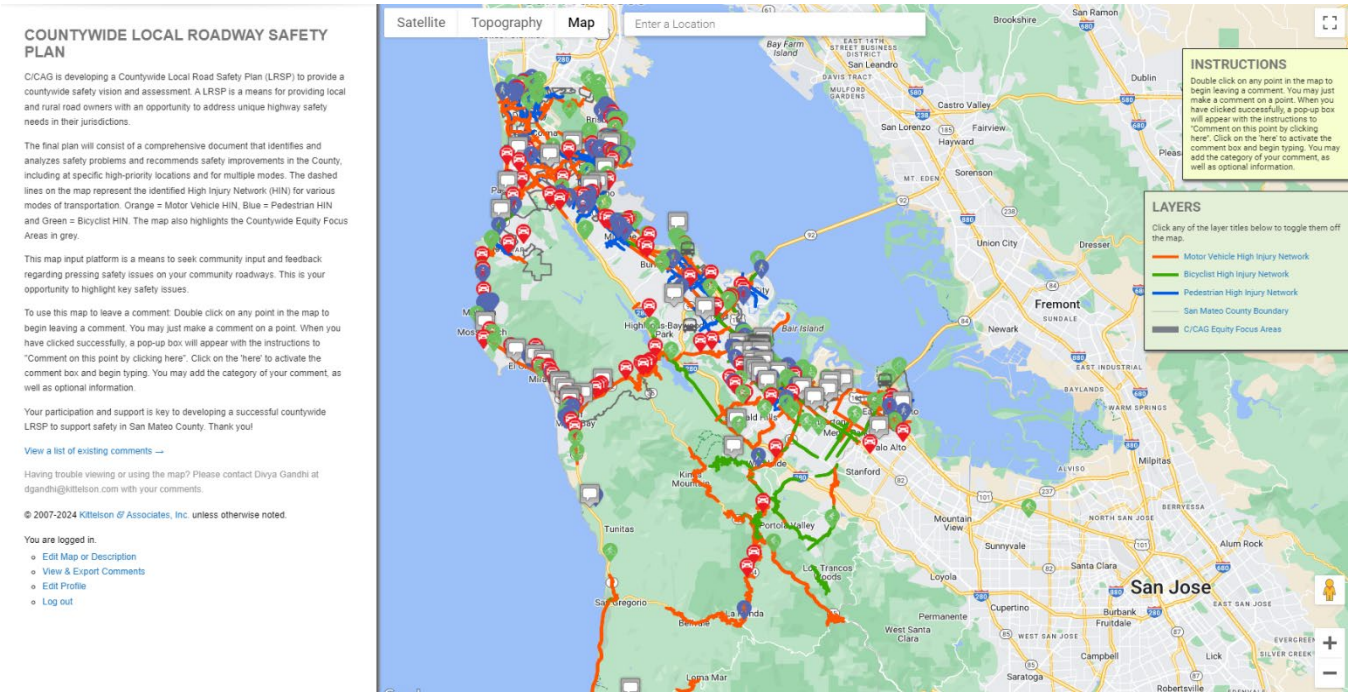
- Multiple concerns regarding running STOP signs and red lights.
- Concerns regarding speeding observed especially on Bayshore Boulevard.

Roadway Infrastructure/ Traffic Operations Concerns

- Clear sight triangles to improve visibility on intersection approaches.
- Requests to design roadway infrastructure for large vehicles (safe turning places at intersections).

The location and modal emphasis of comments in Brisbane is presented in Figure 3. The comments received are provided in Appendix A. The project team also identified common themes in the responses made countywide which may be relevant to the City. Those are presented in the Community Engagement section of the Countywide LRSP.

Figure 2. Online Map Survey Tool



PHASE 2 COMMUNITY ENGAGEMENT FEEDBACK

The project team held an event at the Brisbane's Farmers' Market in January as part of Phase 2, which provided the project team with input on specific location concerns, general traffic safety/behavioral concerns, and opinions on specific engineering treatments or strategies. The comments received are provided in Appendix B. The following themes were identified:

Pedestrian Comments

- Desire for sidewalks, especially in school zones
- Desire for larger or additional signage to mark pedestrian crossings, especially in school zones

- Concerns that areas are not pedestrian friendly due to drivers speeding and running stop signs, specifically on San Benito Road, San Bruno Avenue, Sierra Point Road, Kings Road, Bayshore Boulevard, and the intersections of San Bruno Avenue / Mendocino Street, Humboldt Road / Placer Way, and Visitacion Avenue / Monterey Street

Bicycle Comments

- Desire for separated bicycle facilities throughout the City, especially on Bayshore Boulevard, Valley Drive, and Tunnel Road

Motor Vehicle Comments

- Desire to lower speed limits on narrow roads, especially in the hills
- Desire for traffic calming treatments, such as speed bumps and stop signs, to encourage slower speeds, especially along Glen Park Way and Alvarado Street
- Desire for additional lighting to increase visibility along roadways and at intersections, specially at Valley Drive, Bayshore Boulevard, the Sierra Point Road / San Benito Road intersection, and the Old Country Road / San Francisco Avenue / Visitacion Avenue / San Bruno Avenue intersection
- Concerns about sign visibility and site distance issues due to tree cover, parked cars, and curved roadways, specifically along US-101, San Bruno Avenue, Tunnel Road, and the Old Country Road / San Francisco Avenue / Visitacion Avenue / San Bruno Avenue intersection
- Concerns that curb bulbouts make turning difficult, specifically along Visitacion Avenue and Mariposa Street

Countermeasure Comments

- Desire for signs that encourage slower speeds on roadways
- Desire for additional stop signs
- Desire for additional lighting / flashing lights at intersections, especially for pedestrian crossings
- No desire for curb extensions or pedestrian refuge islands, especially on narrow roads

Figure 3. Webmap Comments in Brisbane

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix C.

Emphasis Areas

The project team analyzed crash data in Brisbane and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the City can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the City of Brisbane:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In Brisbane, pedestrians and bicyclists were involved in 50 percent and 17 percent of the 12 reported F/SI—higher than their overall share of all injury crashes (12 percent and 7 percent, total).
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Brisbane, four of the six fatal/severe injury pedestrian crashes (67 percent) and two of the four fatal/severe injury motor vehicle crashes (50 percent) occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In Brisbane, 3 or 4 percent of all reported injury crashes involve at fault drivers who are under 30 years old.
5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

cited primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In Brisbane, "Too fast for conditions" was the top-cited violation among motor vehicle crashes (in 20 percent of injury crashes).

6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.
7. **Alcohol involvement.** Countywide, one in ten (10 percent) of motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol. In Brisbane, 14 percent of all reported injury crashes involve impaired driving.

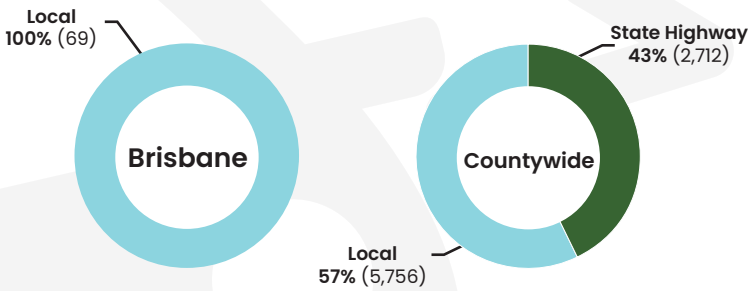
The next pages present summary findings from a crash data review that compares the City of Brisbane to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under the age of 30.

Brisbane—Crash History

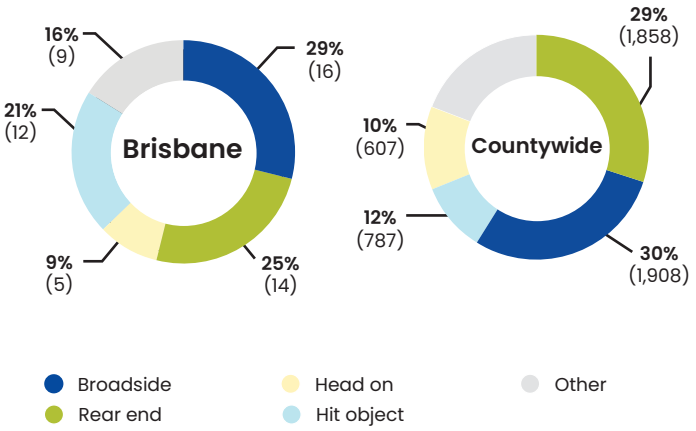
Total Crashes

In Brisbane, 69 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Brisbane compares:



Mode Involvement

Pedestrian Crashes (8)

	Fatal/all injury crashes	Fatal/severe injury crashes
Brisbane	12% (8)	50% (6)
Countywide	13% (1,073)	23% (208)

Bicycle Crashes (5)

	Fatal/all injury crashes	Fatal/severe injury crashes
Brisbane	7% (5)	17% (2)
Countywide	13% (1,067)	20% (176)

Motor Vehicle[1] Crashes (56)

	Fatal/all injury crashes	Fatal/severe injury crashes
Brisbane	81% (56)	33% (4)
Countywide	75% (6,324)	57% (515)

14% (10)

of reported collisions in Brisbane involved drugs or alcohol

8% (625)

Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

4% (3)

of reported collisions in Brisbane involved young drivers[1]

5% (472)

Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

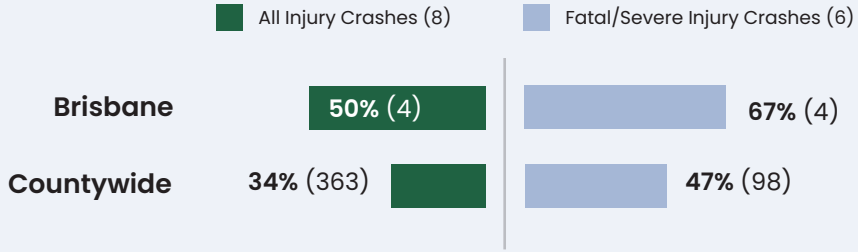
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

Brisbane—Crash History

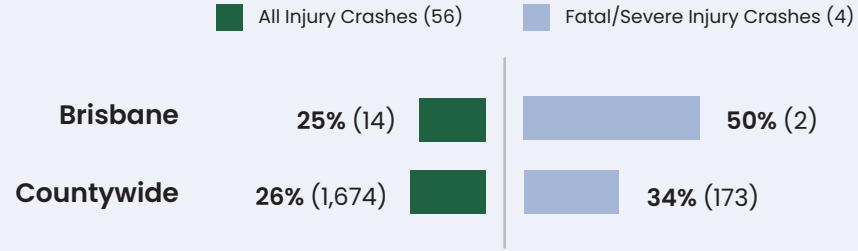
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Brisbane compares to Countywide crashes:

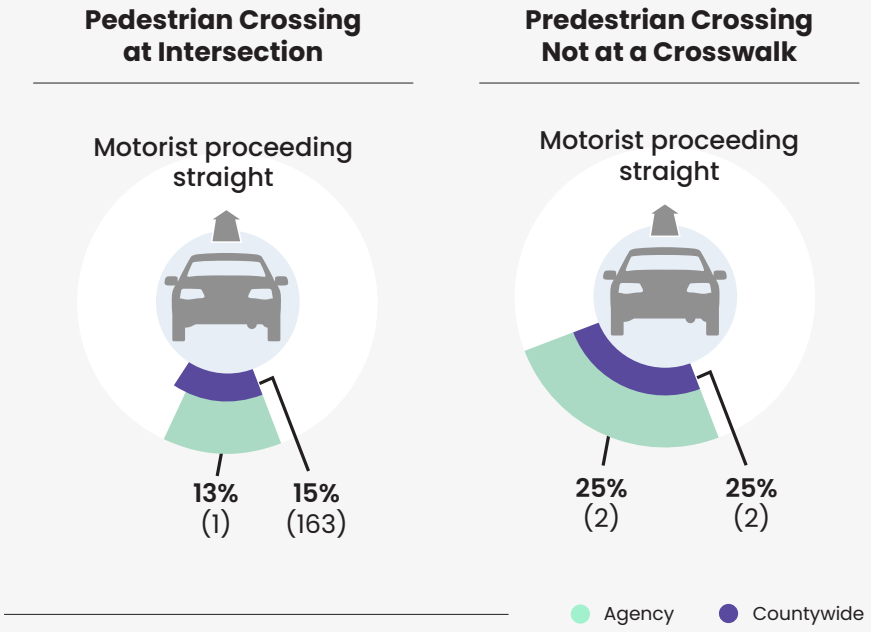
Share of Pedestrian Crashes in Dark Conditions (4)



Share of Motor Vehicle Crashes in Dark Conditions (14)



Reported Pedestrian Crashes (8)



Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 4 show the HIN segments identified within the City.

Table 3. Countywide HIN Segments in Brisbane

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Sierra Point Pkwy	Brisbane	1.4	X		
Guadalupe Canyon Pkwy	Daly City, Brisbane, Unincorporated	2.5	X		
Bayshore Blvd	South San Francisco, Daly City, Brisbane	2.9	X		X

Figure 4. Countywide HIN within the City of Brisbane

PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the City to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 5, Figure 6, and Figure 7).

Figure 5. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

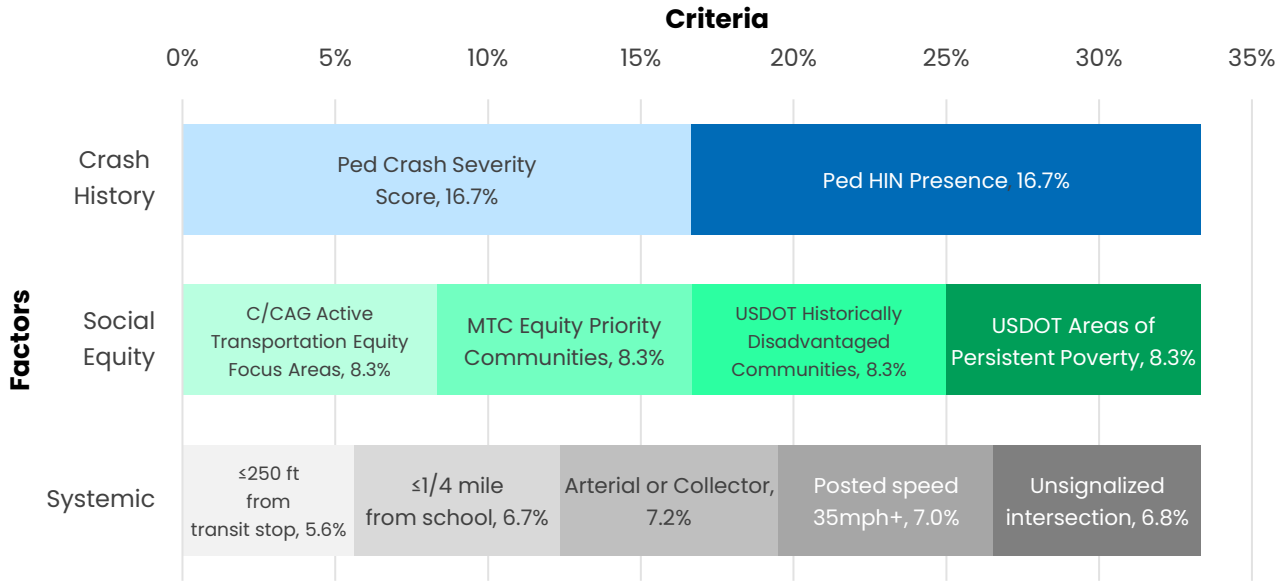


Figure 6. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

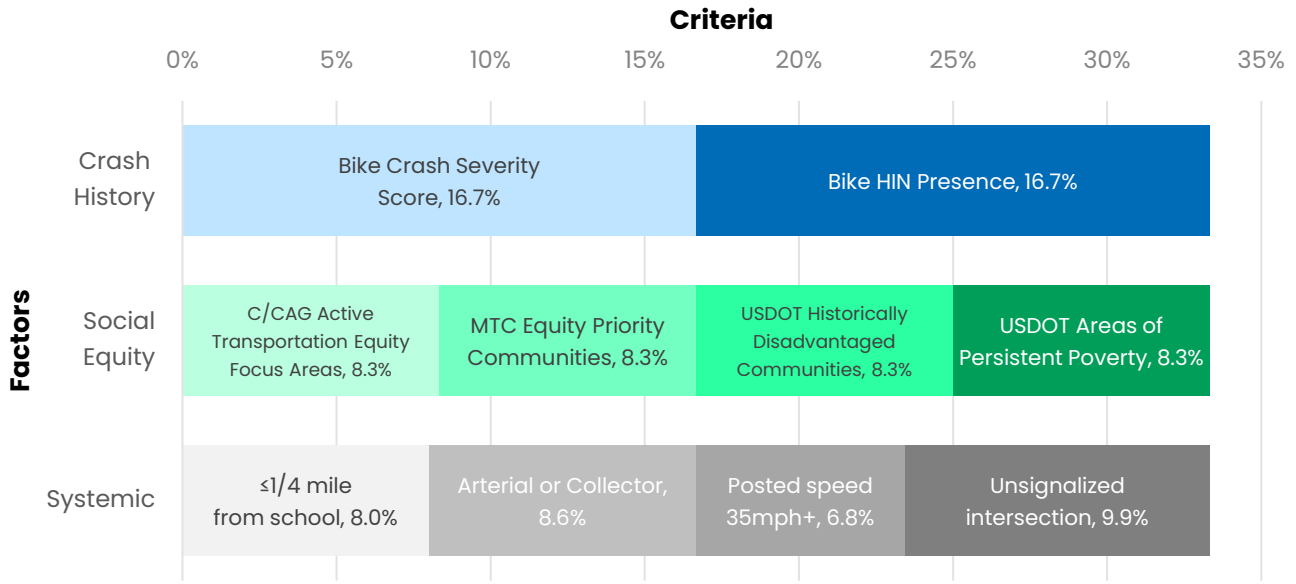
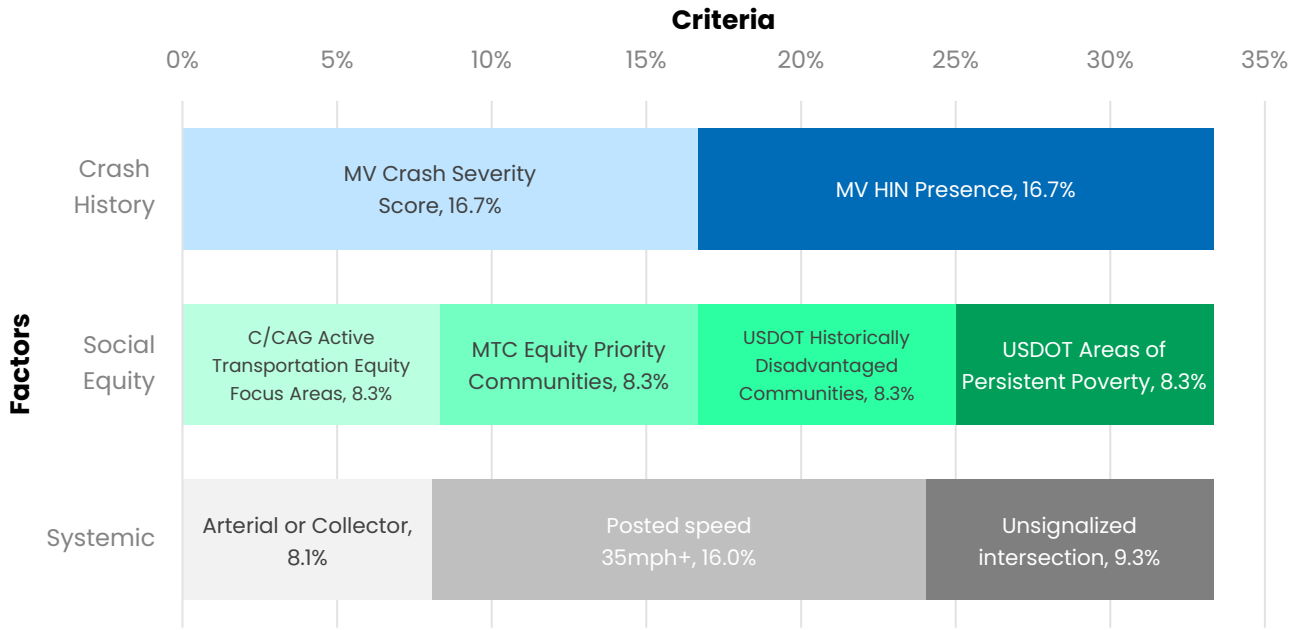


Figure 7. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the City to understand which locations meet which measures.

Results

The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix D. Figure 8 also shows the locations.

Table 4. Priority Locations

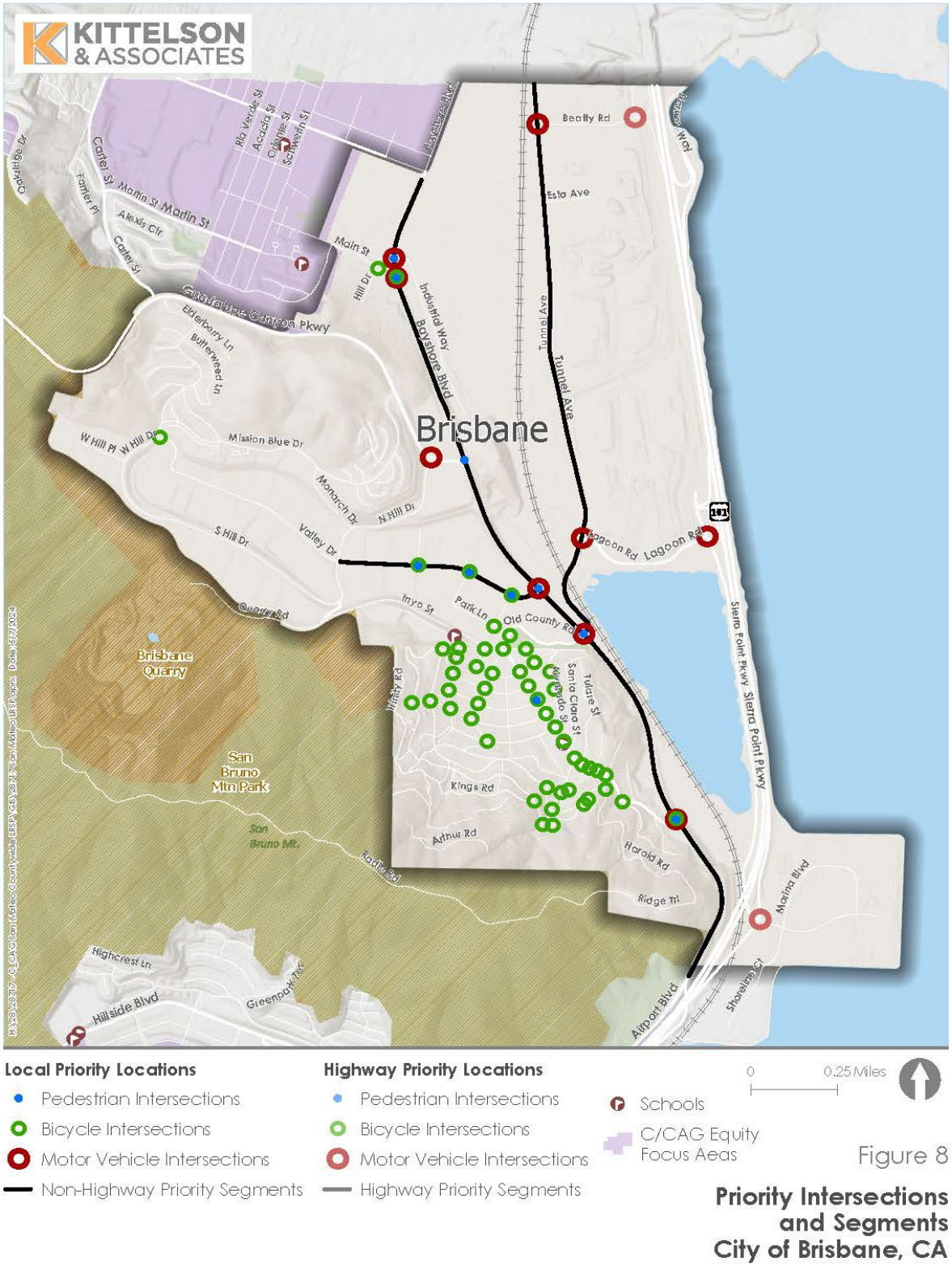
ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Bayshore Blvd and Main St	Intersection	No	**X**	**X**	**X**
2	Bayshore Blvd and San Bruno Ave	Intersection	No	**X**	**XX**	**X**
3	Bayshore Blvd and Tunnel Ave	Intersection	No	**X**		**X**
4	Sierra Point Pkwy and Lagoon Rd	Intersection	No	**X**		
5	Beatty Rd and Tunnel Ave	Intersection	No	**X**		
6	Alana Way and Beatty Rd	Intersection	Yes	**X**		
7	Sierra Point Pkwy 101 NB Hwy and NB 101 Sierra Point Pkwy Hwy	Intersection	Yes	**X**		
8	Tunnel Ave and Lagoon Rd	Intersection	No	**X**		
9	Bayshore Blvd and Valley Dr	Intersection	No	**X**		**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
10	Guadalupe Canyon Pkwy and Hill Dr	Intersection	No	**X**		
11	Bayshore Blvd and Industrial Way	Intersection	No	**X**		**X**
12	Guadalupe Canyon Pkwy and Bayshore Blvd	Intersection	No			**X**
13	Valley Dr and Park Ln	Intersection	No		**X**	**X**
14	Park Pl and Valley Dr	Intersection	No		**X**	**X**
15	San Bruno Ave and Mendocino St	Intersection	No		**X**	**X**
16	Cypress Ln and Valley Dr	Intersection	No		**X**	**X**
17	Hill Dr and Silverspot Dr	Intersection	No		**X**	
18	San Francisco Ave and Old County Rd	Intersection	No		**X**	
19	San Bruno Ave and Mariposa St	Intersection	No		**X**	
20	Old County Rd and Park Ln	Intersection	No		**X**	
21	Klamath St and Visitacion Ave	Intersection	No		**X**	
22	Santa Clara St and San Bruno Ave	Intersection	No		**X**	
23	San Bruno Ave and Alvarado St	Intersection	No		**X**	
24	Glen Pkwy and San Bruno Ave	Intersection	No		**X**	
25	Lake St and San Bruno Ave	Intersection	No		**X**	
26	San Bruno Ave and Tulare St	Intersection	No		**X**	
27	Monterey St and San Bruno Ave	Intersection	No		**X**	
28	Ross Way and Glen Pkwy	Intersection	No		**X**	
29	San Francisco Ave and Plumas St	Intersection	No		**X**	

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
30	Park Pl and Park Ln	Intersection	No		**X**	
31	San Francisco Ave and Inyo St	Intersection	No		**X**	
32	Mariposa St and Visitacion Ave	Intersection	No		**X**	
33	Visitacion Ave and Monterey St	Intersection	No		**X**	
34	Mariposa St and Inyo St	Intersection	No		**X**	
35	Sierra Point Rd and Humboldt Rd	Intersection	No		**X**	
36	Solano St and Mendocino St	Intersection	No		**X**	
37	Solano St and San Francisco Ave	Intersection	No		**X**	
38	Mariposa St and Solano St	Intersection	No		**X**	
39	Sierra Point Rd and Lassen St	Intersection	No		**X**	
40	Mono St and Klamath St	Intersection	No		**X**	
41	Visitacion Ave and Mendocino St	Intersection	No		**X**	
42	Humboldt Rd and Lassen St	Intersection	No		**X**	
43	Humboldt Rd and Lake St	Intersection	No		**X**	
44	Solano St and Humboldt Rd	Intersection	No		**X**	
45	Main St and Hill Dr	Intersection	No		**X**	
46	Gladys Ave and San Bruno Ave	Intersection	No		**X**	
47	Klamath St and San Bruno Ave	Intersection	No		**X**	
48	San Bruno Ave and Thomas Ave	Intersection	No		**X**	
49	Sierra Point Rd and Ross Way	Intersection	No		**X**	

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
50	Humboldt Rd and Glen Pkwy	Intersection	No		**X**	
51	Sierra Point Rd and Glen Pkwy	Intersection	No		**X**	
52	Humboldt Rd and Kings Rd	Intersection	No		**X**	
53	Humboldt Rd and Sierra Point Rd	Intersection	No		**X**	
54	Humboldt Rd and San Diego Ct	Intersection	No		**X**	
55	Mariposa St and Plumas St	Intersection	No		**X**	
56	Alvarado St and Visitacion Ave	Intersection	No		**X**	
57	Alvarado St and Monterey St	Intersection	No		**X**	
58	Alvarado St and Mendocino St	Intersection	No		**X**	
59	William Ave and San Bruno Ave	Intersection	No		**X**	
60	Humboldt Rd and Annis Rd	Intersection	No		**X**	
61	Lake St and Glen Park Way	Intersection	No		**X**	
62	Bayshore Blvd, Geneva Ave to S city limits	Corridor	No	**X**	**X**	**X**
63	Valley Dr, Bayshore Blvd to Hills Dr	Corridor	No	**X**	**X**	**X**
64	Tunnel, N city limit to Bayshore Blvd	Corridor	No	**X**		**X**

Figure 8: Brisbane Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the City of Brisbane. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the City to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the City could consider at these locations. The City can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of City-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- Bayshore Blvd to Guadalupe Canyon Pkwy. Recommended improvements include:
    - Improvements to signal hardware (lenses, backplates with retroreflective borders, mounting, size, and number)

  - Installation of advance stop bar before crosswalk (bicycle box)
  - Modified signal phasing with a leading pedestrian interval
- Bayshore Blvd and Main St. Recommended improvements include:
  - Installation and/or upgrading of larger stop signs and other intersection warning or regulatory signs
  - Pavement markings
  - Dynamic/variable speed warning signs

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix E.

Engineering Countermeasure Toolbox

Table 5. City of Brisbane Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Lighting*	All	Nighttime	0.4		Medium
Improve signal hardware: lenses, back plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very High
Install left-turn lane and add turn phase*	SI	Signalized local/arterial intersections	0.55	$-$$$	Low
Convert signal to mast arm (from pedestal mounted)*	SI	Signalized local/arterial intersections	0.3	$-$$$	Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Create directional median openings to allow (and restrict left turns and U-turns (signalized intersection)*	SI	Signalized local/arterial intersections	0.5	$-$$	Medium
Install raised pavement markers and striping*	SI	Wet, night, all	0.1	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install flashing beacons as advance warning (SI)*	SI	Rear end, broadside	0.3	$-$$	Medium
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
Install painted safety zone	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	High
Install Protected Intersection Elements	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$-$$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Convert to all-way STOP control (from two-way or Yield control)*	UI	All crashes	0.5	$	Low
Install signals*	UI	All crashes	0.3	$$$	Low
Convert intersection to roundabout (from all-way stop)*	UI	All crashes	Varies	$$$	Low
Convert intersection to roundabout (from stop or yield control on minor road)*	UI	All crashes	Varies	$$$	Low
Covert intersection to mini-roundabout*	UI	All crashes	0.3	$$	Low
Create directional median openings to allow (and restrict) left turns and U-turns (unsignalized intersections)*	UI	All crashes	0.5	$-$$	Medium
Install raised medians (refuge islands)*	UI	Pedestrians and bicycle	0.45	$	Medium
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High
Install flashing beacons at stop-controlled intersection*	UI	Broadside, rear end	0.15	$$$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Install splitter islands on the minor road approaches*	UI	All crashes	0.4	$	Medium
Road diet (Reduce travel lanes from four to three, and add a two-way, left-turn lane and bike lanes)*	R	All crashes	0.35	$	Medium
Install edge line rumble strips/stripes*	R	All crashes	0.15	$-$$$	High
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Install raised pedestrian crossing*	R	Pedestrian and bicycle	0.35	$	Medium
Remove or relocate fixed objects outside of clear recovery zone*	R	Hit object	035	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Extend green time for bikes	SI	Bicycle	N/A	$	High
Extend yellow and all-red time	SI	All crashes	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Bicycle signal/exclusive bike phase	SI	Bicycle	N/A	$-$$	Low
Curb extensions	UI	All crashes	N/A	$-$$	Low
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low
Splitter islands	UI, SI	All crashes	N/A	$$	Medium
Roadside design features	All	All crashes	N/A	$-$$$	Low

*Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above
2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

POLICY CATEGORIES

In addition to the engineering countermeasures and projects recommended above, the City aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the City's Safe System Approach.

Table 5. City of Brisbane Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee participation	LCS2: High-Visibility Media Campaign LCS3: Communication Protocol LCS4: Implement Car-Free Zones
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)		LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleets
Local Planning/ Evaluation (LPE)		LPE1: Annual Update LPE2: Plan Update LPE3: Safety and Equity Impacts Evaluation LPE4: Safe Routes to School

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)

- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: City of Brisbane Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the Brisbane Police Department to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan. Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness. Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, City of Brisbane Police Department, City of Brisbane Public WorksLCS3: Communication

LCS3: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident.
Lead agency: C/CAG
Coordinating partners: City of Brisbane Public Works

LCS4: Implement Car-Free Zones

More effectively target resources to pedestrian crash problems in a limited geographic area. Realizing these zones requires upfront analysis and planning, countermeasure development, and implementation. Implementation can focus on addressing particular problems or on increasing general safety in specific areas during windows of peak pedestrian activity. (For example: Friday nights in commercial districts, Sundays on recreational routes/areas, etc.)
Lead agency: City of Brisbane Public Works

LEC2: Speed Monitoring Awareness Radar Trailer

Coordinate with Brisbane PD to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: City of Brisbane Police Department
Coordinating partners: City of Brisbane Public Works

LF2: Equitable Investment

Prioritize citywide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: City of Brisbane Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.

Lead agency: City of Brisbane Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE

Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO2: Engagement Accessibility

Plan community engagement efforts to be tailored for vulnerable road users and all travel modes. Make outreach materials available in accessible formats and multiple languages.

Lead agency: City of Brisbane Public Works

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.

Lead agency: City of Brisbane Public Works

LEO4: Transportation Safety Campaign

Run education campaigns and outreach to foster community awareness of a shared responsibility for road safety. Use the emphasis areas highlighted in this plan as focus areas and target groups for a campaign.

Lead agency: City of Brisbane

Coordinating partners: C/CAG, County Public Health

LEO5: Safe City Fleets

Provide educational materials for City staff who drive City vehicles and integrate safety awareness training into contracting process with vendors who provide City services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on City vehicles and reporting on correction plans against unsafe driving.

Lead agency: City of Brisbane Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to City Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.

Lead agency: City of Brisbane Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.

Lead agency: City of Brisbane Public Works

LPE3: Safety and Equity Impacts Evaluation

Fund a study to address traffic injury and enforcement inequities to inform policies, projects, programs, and needed data quality improvements. Solicit feedback on the report's equity analysis from groups representing equity priority communities. Topics for the study may include injury related to homelessness, race/ethnicity, language, income, and immigration status, citations by demographics, citation type, and location.
Alternately, coordinate with the TSAC to participate in a countywide version of the same that can include the City as part of its scope.
Lead agency: C/CAG

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.
Develop a plan and timeline to include all schools in the City.
Lead agency: SMCOE
Coordinating partners: City of Brisbane Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Brisbane's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The City of Brisbane will develop a process to regularly collect data and information around the performance measures that can be used to assess changes city-wide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Brisbane can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for Brisbane and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 6. City of Brisbane Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Work with Brisbane Police Department to review crash history and community needs on a semi-annual basis to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities. 2. Utilize existing plans, such as the Brisbane Bicycle and Pedestrian Master Plan, to implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
3. Identify opportunities to incorporate social equity into safety improvements. 4. Provide opportunities for community engagement in roadway capital improvement projects to identify safety solutions.	• Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions citywide for safety plans or projects. • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable • Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) versus outside these areas • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the City • Implementation of a high-visibility media campaign

GOAL	MEASURE OF SUCCESS
5. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings city staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice
6. Monitor implementation of the Brisbane LRSP to track progress towards goals.	• See above in this table

City of Brisbane

San Mateo C/CAG Countywide LRSP

Town of Colma

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the Town's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the Town can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the Town of Colma. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The Town will revisit and update this LRSP at least every five years.

The Town of Colma has a 2023 population of 1,359 per California Department of Finance. The town has 8 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 11 reported crashes on surface streets in the Town and 2 fatal/severe injury crashes. In that time period, there were no reported pedestrian crashes and one reported bicyclist crash, which was a fatal/severe injury crash.

This LRSP was informed by technical analysis, as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the Town for public viewing.

VISION & GOALS

The Town of Colma's vision for roadway safety is:

- Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2040.

To support this vision, the Town has established the following goals:

1. Regularly monitor crashes to respond to safety problems and changing conditions. Prioritize locations with high crash frequency or rates for safety improvements.
2. Review proposed improvement plans to ensure that roadway projects, retrofits, and maintenance projects incorporate complete streets which support multiple modes of travel.
3. Advance the active transportation efforts of the Town and regional agencies to achieve greenhouse gas (GHG) reduction.
4. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.
5. Provide opportunities for community engagement in roadway capital improvement projects to identify safety solutions.
6. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.
7. Plan for disadvantaged communities to fully share in the benefits of the safety programs.
8. Monitor implementation of the Colma LRSP to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on Colma's solid foundation of plans, policies, and programs that support safe, equitable mobility in the town. For a list of the Town of Colma's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. Town of Colma Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
Town of Colma 2040 General Plan—Mobility Element	The Mobility Element Goal (M-1) is to provide and maintain a safe, efficient, and attractive circulation system that promotes a healthy, safe, and active community throughout Colma. The Town has established a "Vision Zero" to eliminate	Safe Roads, Safe Speeds, Safe Road Users, Post-Crash Care, Safe Vehicles

Program Name	Program Description	Safe System Elements
	traffic fatalities and reduce the number of non-fatal collisions by 50 percent by 2040.	
Town of Colma Systemic Safety Analysis Report (SSAR-2018)	The SSAR identified systemic treatment along roadway segments and intersections to improve safety for all users of the Town's roadway network.	Safe Roads, Safe Speeds, Post-Crash Care
Town of Colma Bicycle and Pedestrian Master Plan (2023)	The Plan focuses on developing a safe network of bikeways and walkways, identifying roadway improvements, and documenting programs and policies that will support the Town's goal of becoming a more bicycle- and pedestrian-friendly community.	Safe Speeds, Safe Road Users, Safe Roads
Town of Colma ADA Transition Plan (2010)	The Town of Colma's ADA Transition Plan outlines its efforts to comply with the Americans with Disabilities Act (ADA) and ensures its programs, services, facilities, and public rights-of-way are accessible to all members of the public.	Safe Roads, Safe Road Users
Town of Colma Complete Streets Policies (2012)	The Town of Colma has adopted a Complete Streets Policy consistent with the California Complete Streets Act of 2008 (AB 1358). The goal of the plan is to create and maintain Complete Streets that provide safe, comfortable, and convenient travel along and across Town's streets through a comprehensive, integrated transportation network that serves all categories of road users, including pedestrians, bicyclists, motorists, and persons with disabilities.	Safe Roads, Safe Speeds, Safe Road Users, Post-Crash Care, Safe Vehicles
Town of Colma Climate Action Plan 2030 Update	The Town of Colma is updating the Climate Action Plan to further expand programs and policies to reduce greenhouse gas emissions (GHG) by 49 percent from the Town's 2005 base-year level by 2030 to meet the new GHG reduction targets established in Senate Bill 32. The Plan outlines a sustainable and integrated transportation system that promotes public health by providing safe paths of travel for those walking, bicycling, and accommodating the needs for individuals with disabilities.	Safe Road Users, Safe Speeds, Safe Roads

Safety Partners

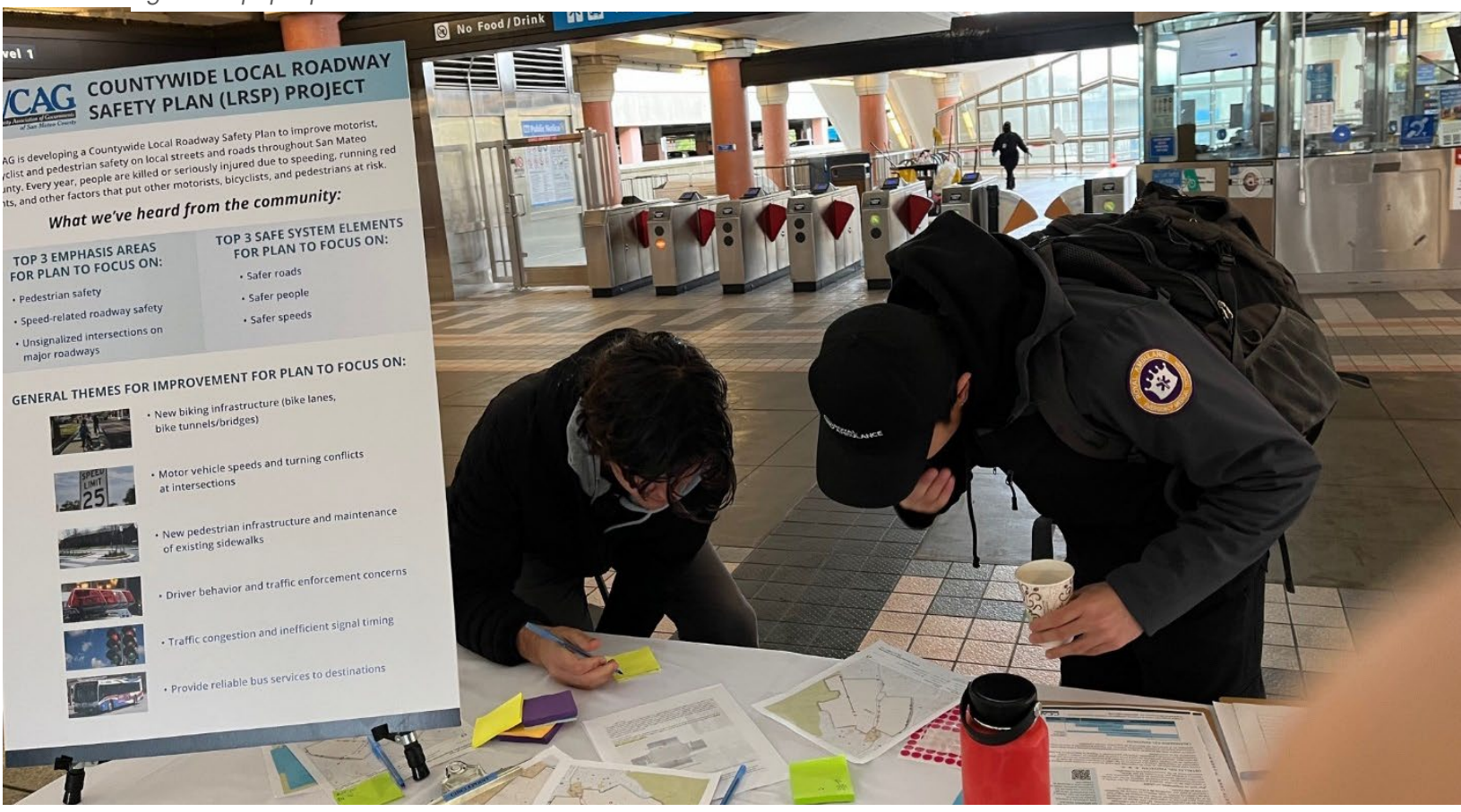
A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of Colma's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- Town of Colma Police Department
- Colma BART Station

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

Figure 1. A pop-up event at a BART station in the Town of Colma.



ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the Town's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, organized by themed engagement phases, and is followed by the community input themes we heard.

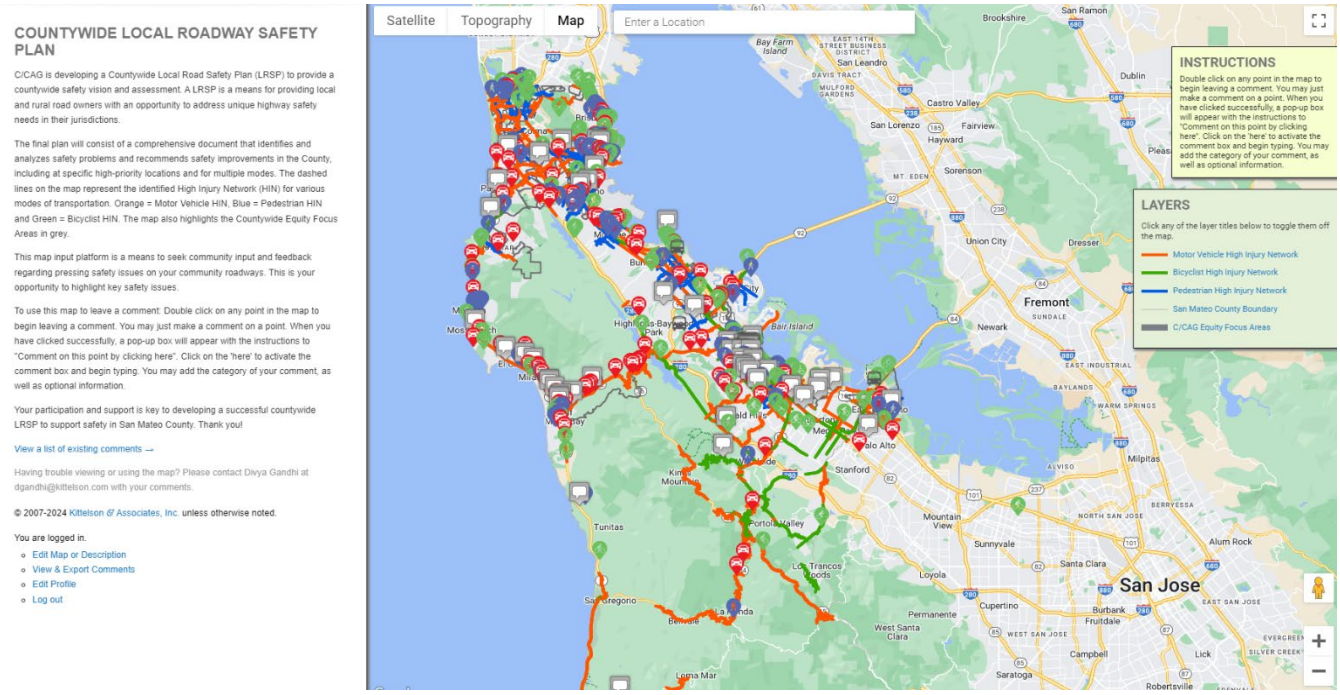
Table 2. C/CAG Public Engagement Events

Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 2. Online Map Survey Tool). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Figure 2. Online Map Survey Tool



Countywide, there were a total of 528 comments recorded by 352 respondents. There were no comments made within the Town of Colma or by respondents who self-identified as Colma residents. Nonetheless, the project team identified common themes in the responses made countywide which may be relevant to the Town. Those are presented in the Community Engagement section of the Countywide LRSP.

General Comments

- Overall feeling that roadways are generally safe for people traveling

Pedestrian Comments

- Concerns that sidewalks abruptly end in some areas

Motor Vehicle Comments

- Concern that some streets are too narrow to travel on
- Concerns of speeding, specifically on El Camino Real, Lawndale Boulevard, and Hillsdale Road
- Desire for roundabouts, speed bumps, and/or signage to encourage drivers to slow down on roadways

PHASE 2 COMMUNITY ENGAGEMENT FEEDBACK

The project team held an event at the Colma BART station as part of Phase 2, which provided the project team with input on specific location concerns, general traffic safety/behavioral concerns, and opinions on specific engineering treatments or strategies. The comments received are provided in Appendix A. The following themes were identified:

General Comments

- Overall feeling that roadways are generally safe for people traveling

Pedestrian Comments

- Concerns that sidewalks abruptly end in some areas

Motor Vehicle Comments

- Concern that some streets are too narrow to travel on
- Concerns of speeding, specifically on El Camino Real, Lawndale Boulevard, and Hillsdale Road
- Desire for roundabouts, speed bumps, and/or signage to encourage drivers to slow down on roadways

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations.

Emphasis Areas

The project team analyzed crash data in Colma and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the Town can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the Town of Colma:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In Colma, there were no recorded pedestrian injury crashes from 2018-2022 and one recorded bicyclist injury crashes (out of 11 total in the period). Providing safe travel for people outside a motor vehicle is an emphasis area countywide and, in the Town, even in the absence of any reported pedestrian crashes in the 5-year period.
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions—are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Colma, one of the eleven reported injury crashes occurred in dark conditions.

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In Colma, "Too fast for conditions" was the top-cited violation among injury crashes (36 percent).
5. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.

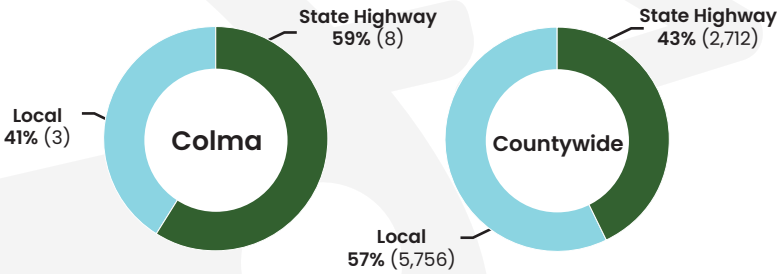
The next section presents summary findings from a crash data review that compares the Town of Colma to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of Town crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and within the Town, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).

Colma—Crash History

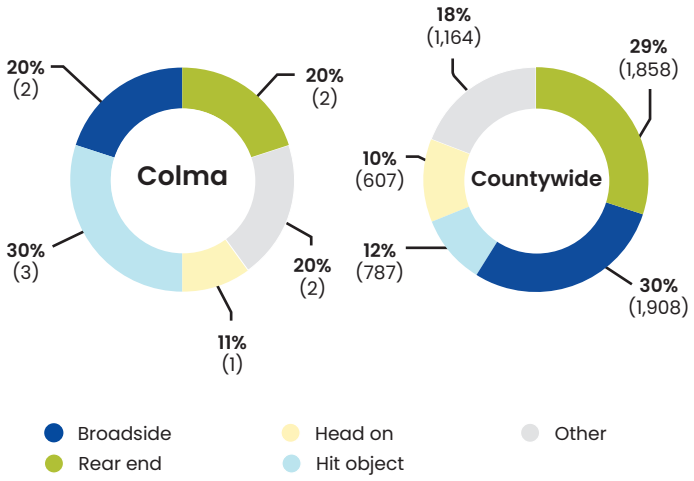
Total Crashes

In Colma, 11 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

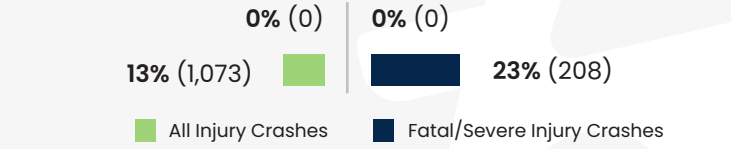
Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Colma compares:



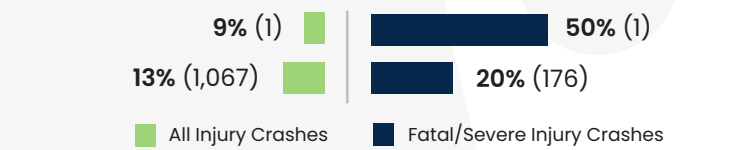
1. *Motor crashes include motor vehicles and motorcyclists.*

Mode Involvement

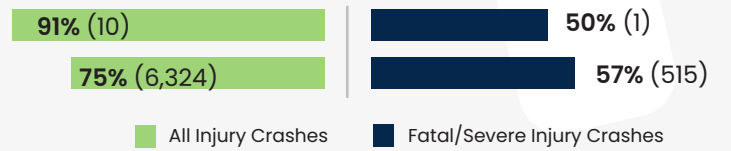
Pedestrian Crashes (0)



Bicycle Crashes (1)



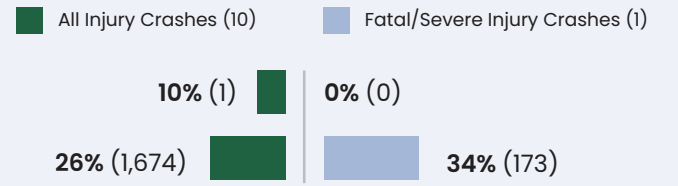
Motor Vehicle[1] Crashes (10)



Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Colma compares to Countywide crashes:

Share of Motor Vehicle Crashes in Dark Conditions (1)



Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 39 and Figure 31 show the HIN segments identified within the Town.

Table 3. Countywide HIN Segments in Colma

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
El Camino Real	Belmont, Colma, Burlingame, Menlo Park, Millbrae, Redwood City, San Bruno, San Carlos, San Mateo, South San Francisco, Unincorporated	23.5	X	X	X
Hillside Boulevard	Colma, Daly City, South San Francisco, Unincorporated	3.1	X		X
Serramonte Boulevard	Colma, Daly City	1	X		
Southgate Avenue	Colma, Daly City	3.1	X		X

Figure 3. Countywide HIN within the Town of Colma

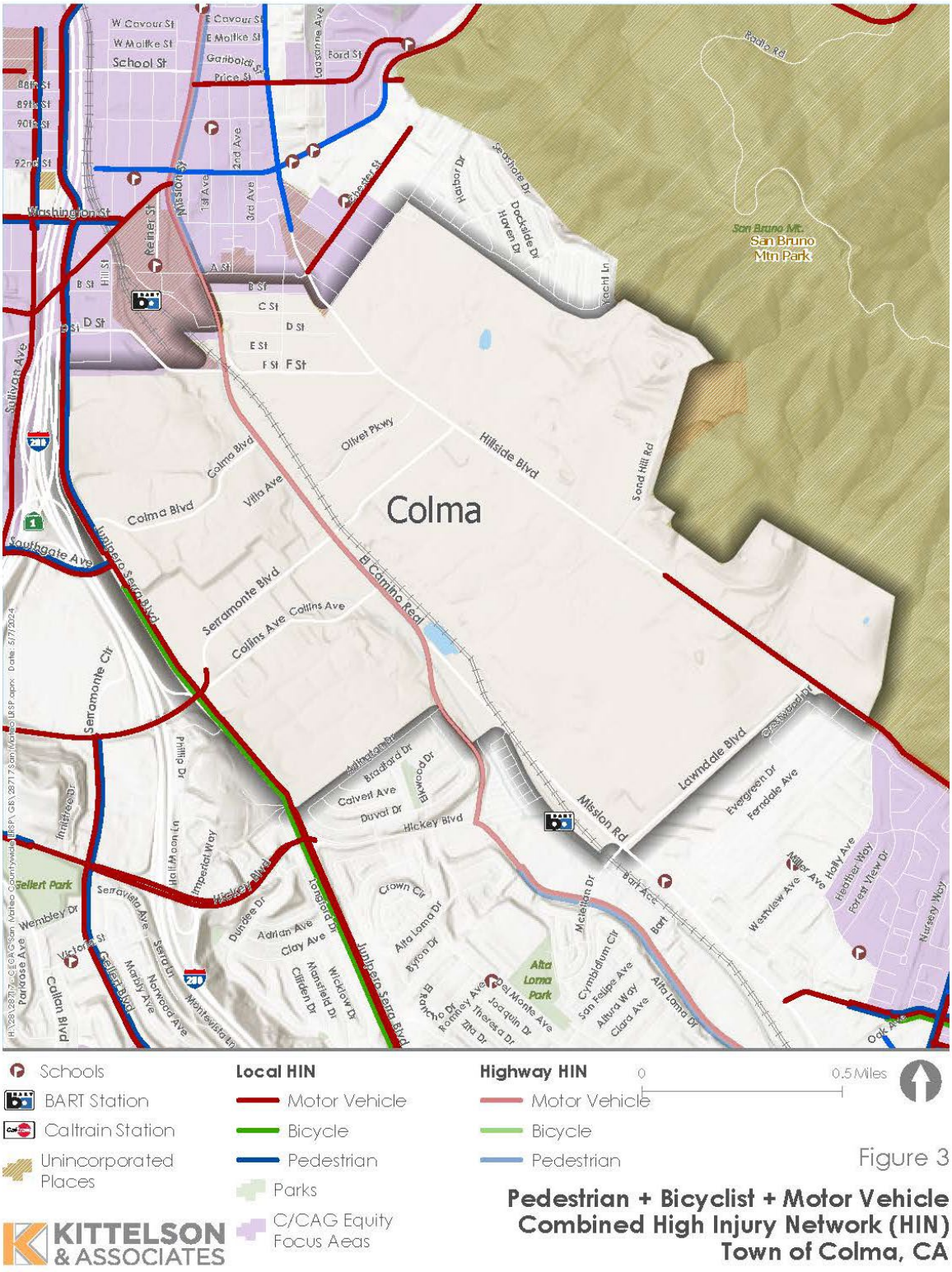


Figure 3

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Town of Colma, CA

PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the Town to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 4, Figure 5, and Figure 6).

Figure 4. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

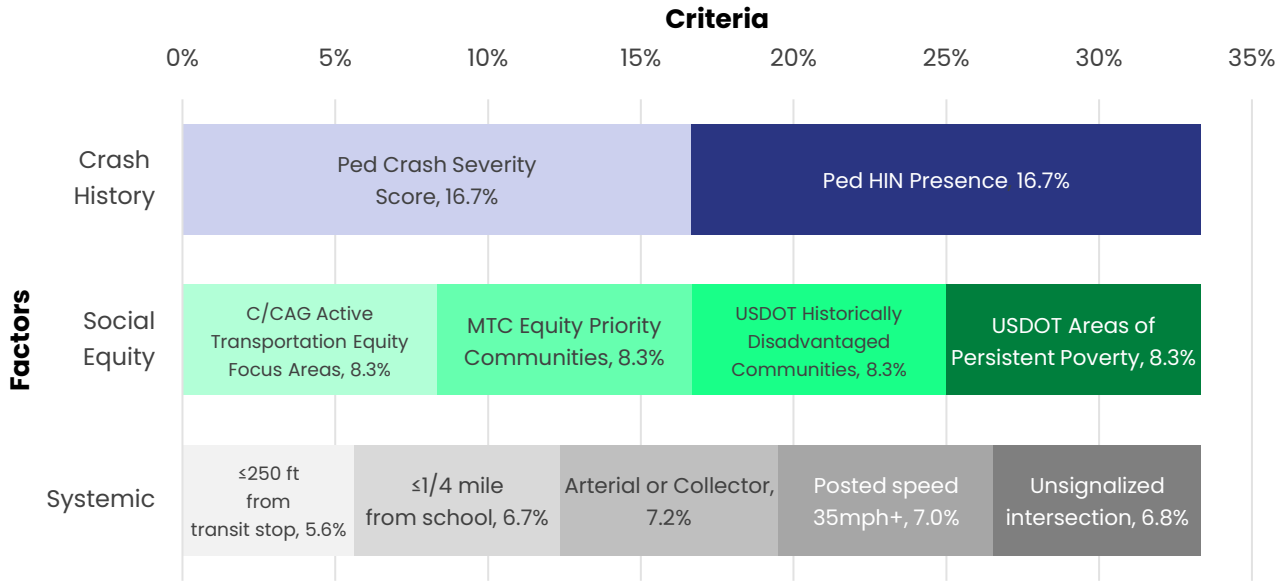


Figure 5. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

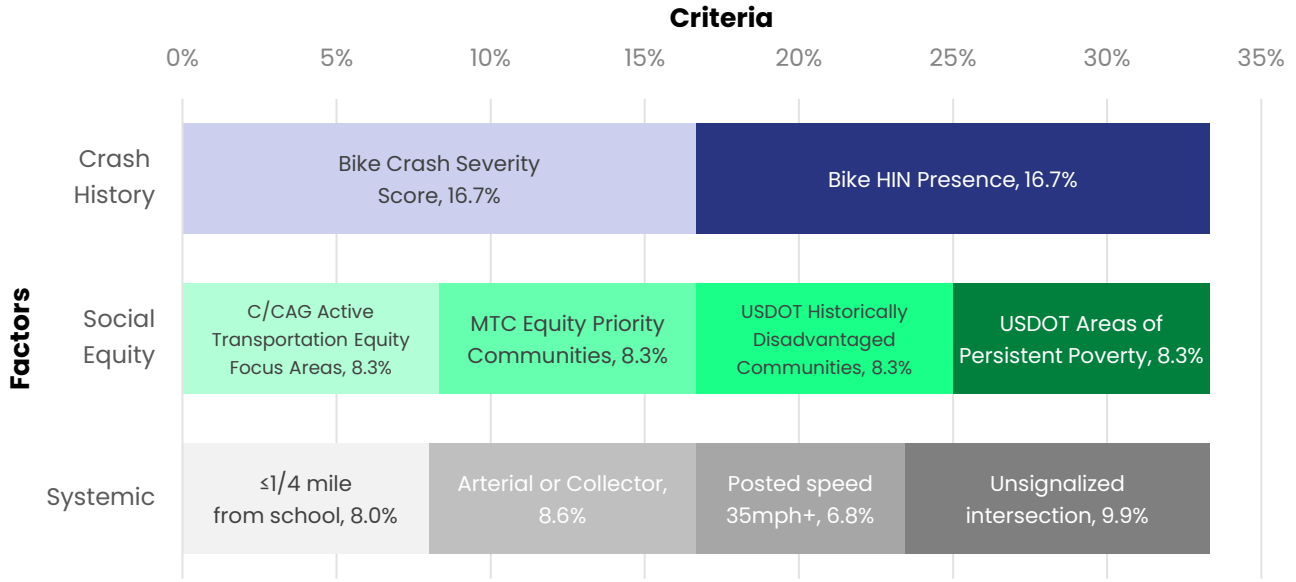
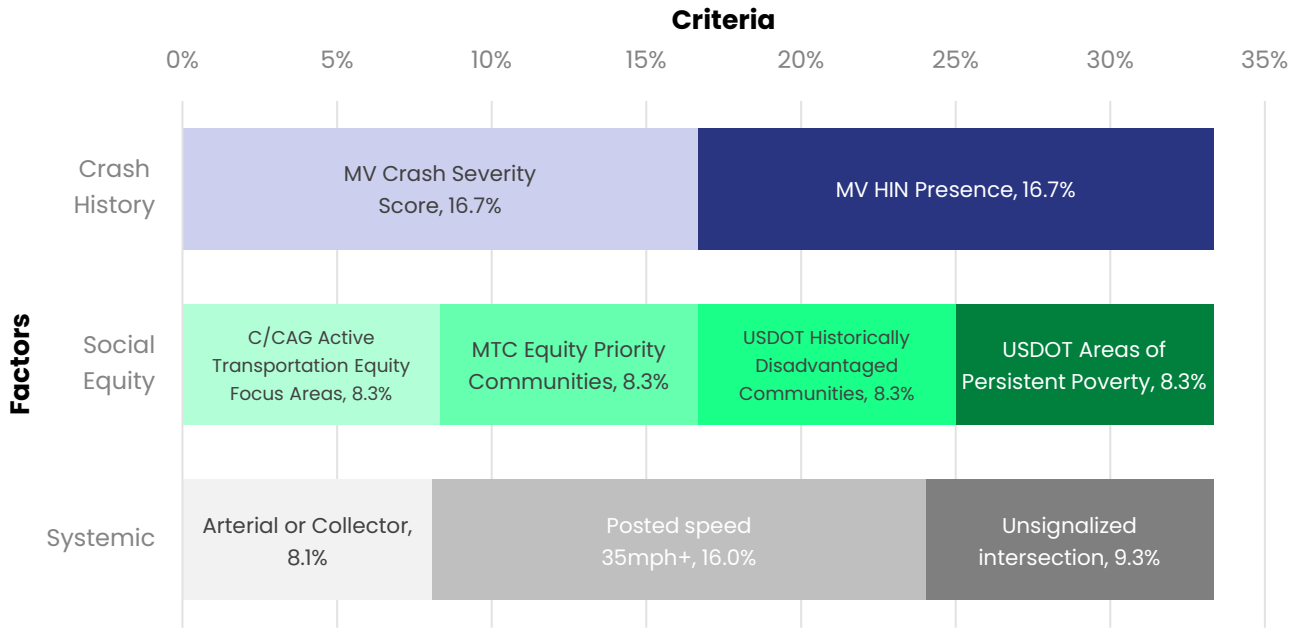


Figure 6. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the Town to understand which locations meet which measures.

Results

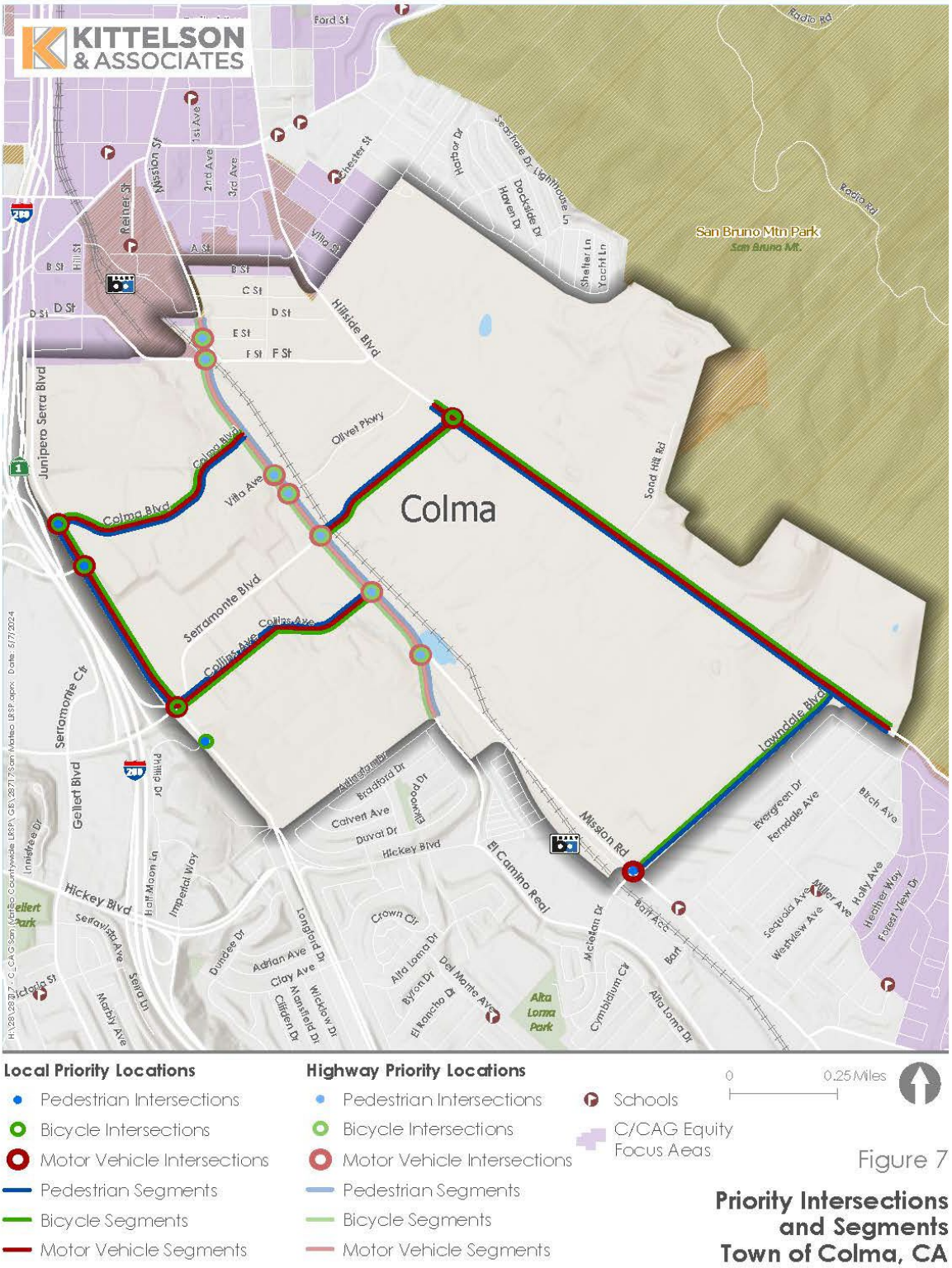
The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix B. Figure 7 also shows the locations.

Table 4. Priority Locations

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Hillside Blvd, from Serramonte Blvd to Town limit	Corridor	No	**X**	**X**	**X**
2	Serramonte Blvd & NB Hwy on-ramp	Intersection	No	**X**	**X**	
3	Colma Blvd	Corridor	No	**X**	**X**	**X**
4	Serramonte Blvd, from El Camino Real to Hillside Blvd	Corridor	No	**X**	**X**	**X**
5	Collins Ave, from Serramonte Blvd to El Camino Real	Corridor	No	**X**	**X**	**X**
6	Villa Ave & El Camino Real	Intersection	Yes	**X**	**X**	**X**
6	El Camino Real	Corridor	Yes	**X**	**X**	**X**
6	El Camino Real & Collins Ave	Intersection	Yes	**X**	**X**	**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
6	El Camino Real & F St (East)	Intersection	Yes		**X**	**X**
6	El Camino Real & F St (West)	Intersection	Yes			
6	El Camino Real & Mission Rd	Intersection	Yes	**X**	**X**	**X**
6	El Camino Real & Olivet Pkwy	Intersection	Yes	**X**	**X**	**X**
6	El Camino & Serramonte Blvd	Intersection	Yes	**X**	**X**	**X**
7	Junipero Serra Blvd & Southgate Ave	Intersection	No		**X**	**X**
8	Junipero Serra Blvd & Colma Blvd	Intersection	No	**X**	**X**	**X**
9	Phillip Dr & Junipero Serra Blvd	Intersection	No		**X**	**X**
10	Hillside Blvd & Serramonte Blvd	Intersection	No	**X**	**X**	
11	Lawndale Blvd	Corridor	No		**X**	**X**
12	Junipero Serra Blvd, from Colma Blvd to Collins Ave	Corridor	No	**X**	**X**	**X**

Figure 7. Colma Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

Project Scopes

With the development of this plan the project team worked with the Town to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the Town could consider at these locations. The Town can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of Town-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- Serramonte Blvd and I-280 NB on-ramp intersection. Recommended improvements include:
  - Lighting
  - Installation of an advance stop bar for a bicycle box
  - Reconfiguration of the intersection to eliminate the fifth leg
- Hillside Blvd—Serramonte Blvd to southern town limit
  - Edgeline rumble strips/stripes
  - Separated bike lanes
  - Pedestrian crossings with enhanced safety features (Rectangular Rapid Flashing Beacons, curb extensions, advance "yield" lines)
  - Dynamic/variable speed warning signs
  - Flush median with a pedestrian cut-through at the Lucky Chances Casino Driveway on Hillside Blvd
  - Road diet
  - Installation of street lighting at multiple locations on Hillside Blvd

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix C.

Engineering Countermeasure Toolbox

This section presents Safe System-aligned engineering recommendations that can create levels of redundancy for traffic safety in the Town of Colma. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align Town departments and partners in pursuit of the plan's vision and goals.

Table 5. Town of Colma Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Lighting*	All	Nighttime	0.4		Medium
Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very high
Install left-turn lane and add turn phase*	SI	Signalized local/arterial intersections	0.55	$-$$$	Low
Convert signal to mast arm (from pedestal-mounted)*	SI	Signalized local/arterial intersections	0.3	$-$$$	Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Create directional median openings to allow (and restrict left turns and U-turns (signalized intersection)*	SI	Signalized local/arterial intersections	0.5	$-$$	Medium
Install flashing beacons as advance warning*	SI	Rear-end, broadside	0.3	$-$$	Medium
No right turn on red	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	Medium
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
Install Protected Intersection Elements	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$-$$$	Low
Convert to all-way STOP control (from two-way or Yield control)*	UI	All crashes	0.5	$	Low
Install signals*	UI	All crashes	0.3	$$$	Low
Create directional median openings to allow (and restrict) left turns and U-turns (unsignalized intersections)*	UI	All crashes	0.5	$-$$	Medium
Install raised medians (refuge islands)*	UI	Pedestrians and bicycle	0.45	$	Medium
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Road diet (Reduce travel lanes from four to three, and add a two-way, left-turn lane and bike lanes)*	R	All crashes	0.35	$	Medium
Corridor access management	R	N/A	0.35	$	Medium
Install edgeline rumble strips/stripes*	R	All crashes	0.15	$-$$$	High
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Curb extensions	UI	All crashes	N/A	$-$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Roadside design features	All	All crashes	N/A	$-$$$	Low

*****Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above
2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

POLICY CATEGORIES

In addition to the engineering countermeasures and projects recommended above, the City aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the City's Safe System Approach.

Table 5. Town of Colma Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)		LCS2: High-Visibility Media Campaign LCS3: Communication Protocol LCS4: Implement Car-Free Zones
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)		LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleets
Local Planning/ Evaluation (LPE)		LPE1: Annual Update LPE2: Plan Update LPE3: Safety and Equity Impacts Evaluation LPE4: Safe Routes to School

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: Town of Colma Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: Town of Colma Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the Town of Colma Police Department to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan.
Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness.
Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, Town of Colma Police Department, Town of Colma Public Works

LCS3: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident.
Lead agency: C/CAG
Coordinating partners: Town of Colma Public Works

LEC1: Law Enforcement Training

Coordinate with the Town's Police Department to identify opportunities for integrating safety into training for new offices (e.g., NHTSA's pedestrian training for law enforcement). Identify through the TSAC if opportunities for efficiency are available in coordination with the County Sheriff's Office or California Highway Patrol.
Lead agency: County Sheriff's Office
Coordinating partners: California Highway Patrol, Town of Colma Public Works

LEC2: Speed Monitoring Awareness Radar Trailer

Coordinate with Colma PD to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: Town of Colma Police Department
Coordinating partners: Town of Colma Public Works

LEC5: Progressive Ticketing

Coordinate with Colma PD to consider implementation of a 3-step model of Educating – Warning – Ticketing to establish awareness, allow time for behavioral change, and use ticketing as the final reserve.
Lead agency: Town of Colma Police Department
Coordinating partners: Town of Colma Public Works

LF2: Equitable Investment

Prioritize townwide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: Town of Colma Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: Town of Colma Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO2: Engagement Accessibility

Plan community engagement efforts to be tailored for vulnerable road users and all travel modes. Make outreach materials available in accessible formats and multiple languages.
Lead agency: Town of Colma Public Works

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.
Lead agency: Town of Colma Public Works
Coordinating partners: C/CAG, TSAC members

LEO4: Transportation Safety Campaign

Run education campaigns and outreach to foster community awareness of a shared responsibility for road safety. Use the emphasis areas highlighted in this plan as focus areas and target groups for a campaign.
Lead agency: Town of Colma Public Works
Coordinating partners: C/CAG, County Public Health

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to Town Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: Town of Colma Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: Town of Colma Public Works

LPE3: Safety and Equity Impacts Evaluation

Fund a study to address traffic injury and enforcement inequities to inform policies, projects, programs, and needed data quality improvements. Solicit feedback on the report's equity analysis from groups representing equity priority communities. Topics for the study may include injury related to homelessness, race/ethnicity,

language, income, and immigration status, citations by demographics, citation type, and location. Alternately, coordinate with the TSAC to participate in a countywide version of the same that can include the Town as part of its scope.

Lead agency: C/CAG

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools. Develop a plan and timeline to include all schools in the Town.

Lead agency: SMCOE

Coordinating partners: Town of Colma Public Works

LPE5: Data Quality Improvements

Conduct one or more studies to address the following challenges:

- Integrating hospital and police data
- Providing a means to collect and incorporate near-miss data into safety analysis

Alternately, coordinate with C/CAG through the TSAC to participate in and benefit from a regional version of the same, which could include developing a consistent countywide crash database. Such a database would prevent the time lag present in SWITRS, provide accurate and timely monitoring of crashes, and allow monitoring of injury trends over time.

Lead agency: C/CAG

Coordinating partners: County Sheriff's Office, Local Jurisdictions, Local Police Departments, Town of Colma

LPE6: Crash Data Enhancements

Study integrating crash data with Police Department's tracking system for timely, efficient reporting and sharing of injury crashes, including geolocated data. Review current crash data form and study existing best practices. Consider adding select visible disability statuses to the crash data form. If feasible and prudent, add this field to the crash data form.

Lead agency: County Sheriff's Office

Coordinating partners: California Highway Patrol, C/CAG, MTC

LPE7: Big Data

Coordinate with C/CAG through the TSAC to identify a pathway for obtaining and incorporating integrated curb-level activity data including volumes, paths, speeds, and behaviors of pedestrians, bicycles, vehicles, etc. These data are available from a number of big data sources on the market. The goal would be to enable improved data availability for safety planning.

Lead agency: C/CAG

Coordinating partners: MTC, SMCTA, Town of Colma

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds. To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.

Lead agency: Town of Colma Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Colma's vision is consistently evaluating roadway safety performance and tracking plan progress. The Town of Colma will develop a process to regularly collect data and information around the performance measures that can be used to assess changes townwide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Colma can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for Colma and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach as well as a framework to measure plan progress over time.

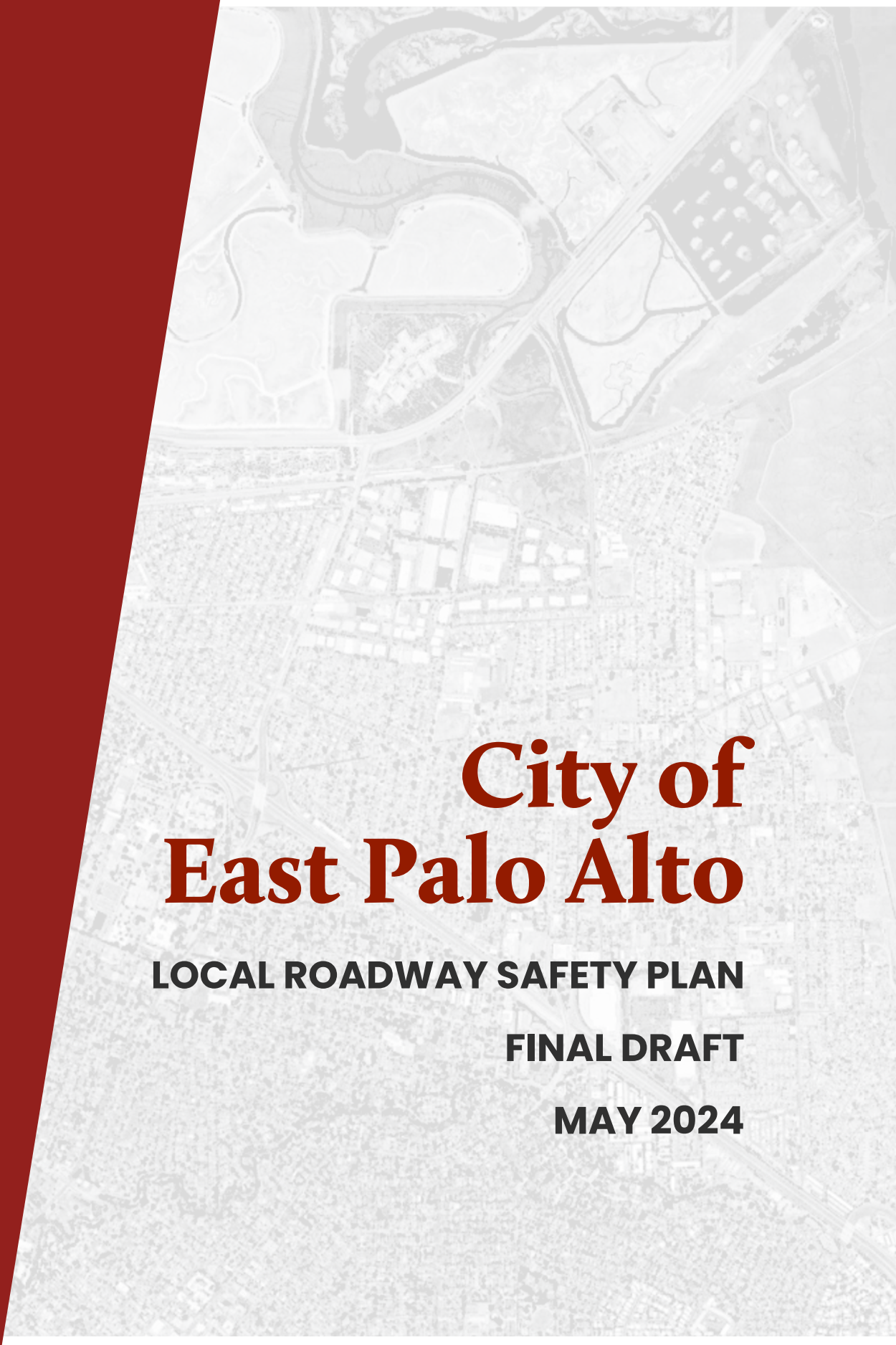
Table 6. Town of Colma Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly monitor crashes to respond to safety problems and changing conditions. Prioritize locations with high crash rates for safety improvements. 2. Review proposed improvement plans to ensure that roadway projects, retrofits, and maintenance projects incorporate complete streets that support multiple modes of travel.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
3. Advance the active transportation efforts of the Town and regional agencies to achieve the greenhouse gas (GHG) reduction.	• Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) versus outside these areas • Report-backs to the Town Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable. • Implementation of a high-visibility media campaign • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the Town
4. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities. 5. Provide opportunities for community engagement in roadway capital improvement projects to identify safety solutions. 6. Ensure that disadvantaged communities fully share in the benefits of the safety programs.	• Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions townwide for safety plans or projects. • Report-backs to the Town Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable

GOAL	MEASURE OF SUCCESS
7. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings Town staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice
8. Monitor implementation of the Colma LRSP to track progress towards goals.	• See above in this table

Town of Colma

San Mateo C/CAG Countywide LRSP



City of East Palo Alto

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the City's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the City can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the City of East Palo Alto. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The City will revisit and update this LRSP at least every five years.

The City of East Palo Alto has a 2023 population of 28,586 per California Department of Finance. The city has 39 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 458 reported crashes on surface streets in the City and 48 fatal/severe injury crashes. Pedestrians were involved in 27 percent of reported fatal/severe injury crashes and 12 percent of all crashes. Bicyclists were involved in 21 percent of reported fatal/severe injury crashes and 16 percent of all crashes. The LRSP provides Safe System-aligned strategies tailored to East Palo Alto's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the City for public viewing.

VISION AND GOALS

The City of East Palo Alto vision for roadway safety is:

- Eliminate traffic fatalities and reduce the number of non-fatal injury crashes by 50 percent by 2030.

To support this vision, the City has established the following goal:

1. Implement traffic-calming and traffic-slowing measures on roads and at intersections with a high level of existing or planned pedestrian and non-motorized vehicle activity and/or crashes.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on East Palo Alto's solid foundation of plans, policies, and programs that support safe, equitable mobility in the city. For a list of the City's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. City of East Palo Alto Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
Speed maintenance toolkit	The traffic control devices to be considered for use in addressing the speed of traffic will include, but are not limited to, the following: 25 mph speed limit signs White "25" pavement legends (oversized legends may also be used) Curve warning signs with speed advisory plates "Watch Downhill Speed" signs "Strict Enforcement Area" graphic and letter signs Ceramic raised-pavement marker rumble strips Perpendicular painted white bars Centerline striping Supplementary reflective raised pavement markers Speed humps Other traffic control devices as approved in the Manual for Uniform Traffic Control Devices and/or the California Traffic Control Device Committee	Safe Roads, Safe Speeds, Safe Road Users

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of the City of East Palo Alto's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- East Palo Alto Police Department
- East Palo Alto Fire Department
- Ravenswood City School District

Figure 1. Phase 1 pop-up event at a farmers' market in East Palo Alto.

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the City's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

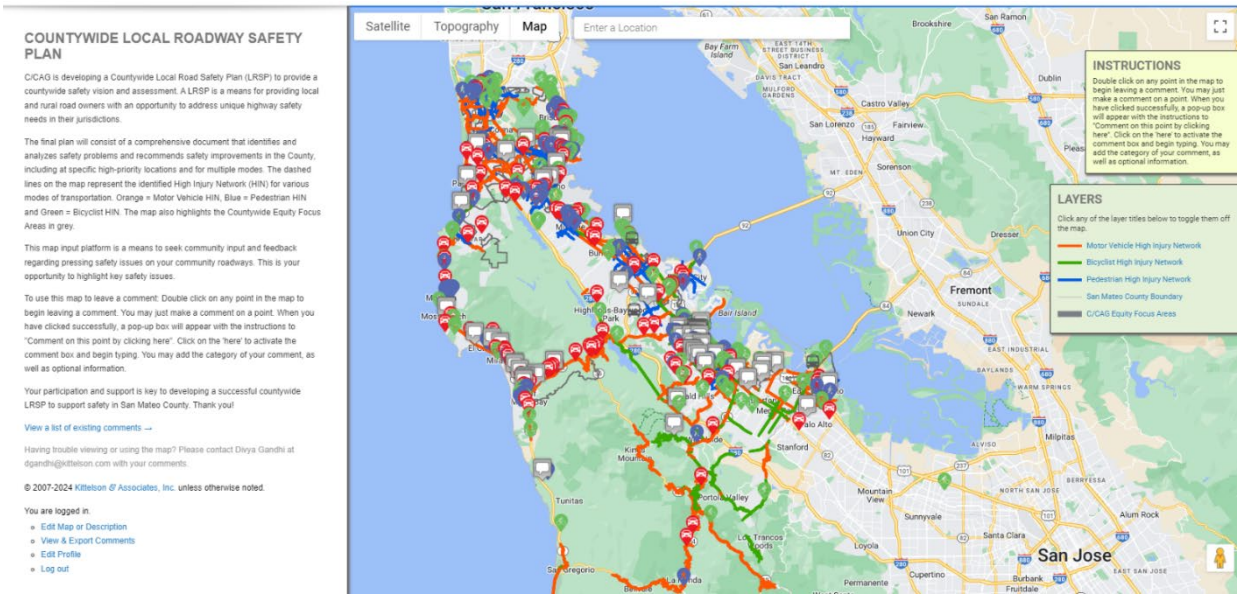
Table 2. Community Engagement Phases and Events

Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 2). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Figure 2. Online Map Survey Tool



Countywide, there were a total of 528 comments recorded by 352 respondents. There were five comments made within the City of East Palo Alto in addition to the conversations and feedback recorded at the Phase 1 event in August. The comments included the following:

Biking Concerns/Requests

- Add new bike infrastructure such as protected bike lanes and separated bike lanes.
- Provide a more connected bike network throughout East Palo Alto and connecting to other cities in the Bay Area.

Pedestrian Concerns/Requests

- Add new pedestrian infrastructure or upgrade existing infrastructure such as building new sidewalks, and high visibility crosswalks.

Traffic Enforcement Concerns

- Concerns regarding speeding observed – requests for traffic calming.
- Concerns regarding enforcement of traffic safety rules near school zones, especially on Pulgas Avenue.

Roadway Infrastructure/ Traffic Operations Concerns

- Concerns regarding traffic congestion during peak hours.

The location and modal emphasis of comments in East Palo Alto is presented in Figure 3. The comments received are provided in Appendix A. The project team also identified common themes in the responses made countywide which may be relevant to the City. Those are presented in the Community Engagement section of the Countywide LRSP.

Figure 3. Webmap Comments in East Palo Alto

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix B.

Emphasis Areas

The project team analyzed crash data in East Palo Alto and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the City can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the City of East Palo Alto:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In East Palo Alto, pedestrians and bicyclists were involved in 27 percent and 21 percent of the 48 reported F/SI crashes—higher than their overall share of all injury crashes (12 percent and 16 percent, total).
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In East Palo Alto, one in every two fatal/severe injury crashes (50 percent) occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In East Palo Alto, 33 crashes or 7 percent of all reported injury crashes involve at fault drivers who are under 30 years old.
5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In East Palo Alto, "Too fast for conditions" was the top-cited violation among motor vehicle crashes that resulted in fatal/severe injuries (32 percent).

6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.
7. **Alcohol involvement.** Countywide, one in ten (10 percent) of motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol. In East Palo Alto, 7 percent of all reported injury crashes involve impaired driving.

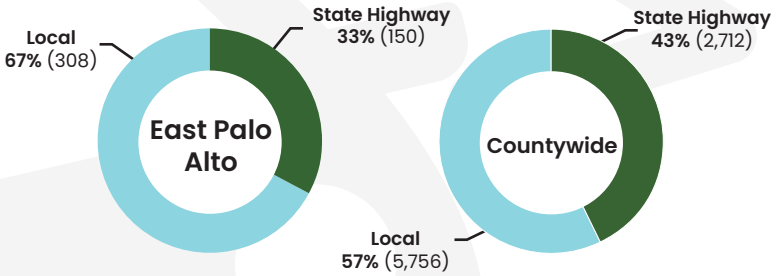
The next pages present summary findings from a crash data review that compares the City of East Palo Alto to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

East Palo Alto—Crash History

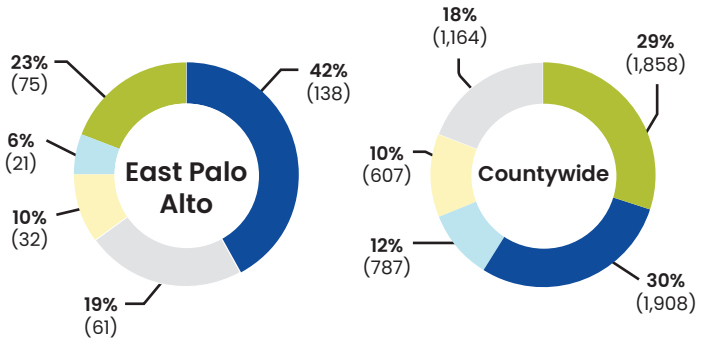
Total Crashes

In East Palo Alto, 458 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how East Palo Alto compares:



Mode Involvement

Pedestrian Crashes (56)

	All Injury Crashes	Fatal/Severe Injury Crashes
East Palo Alto	12% (56)	27% (13)
Countywide	13% (1,073)	23% (208)

Bicycle Crashes (75)

	All Injury Crashes	Fatal/Severe Injury Crashes
East Palo Alto	16% (75)	21% (10)
Countywide	13% (1,067)	20% (176)

Motor Vehicle[1] Crashes (327)

	All Injury Crashes	Fatal/Severe Injury Crashes
East Palo Alto	71% (327)	52% (25)
Countywide	75% (6,324)	57% (515)

7% (28)
of reported collisions in East Palo Alto involved drugs or alcohol

8% (625) Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

7% (33)
of reported collisions in East Palo Alto involved young drivers[1]

5% (472) Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

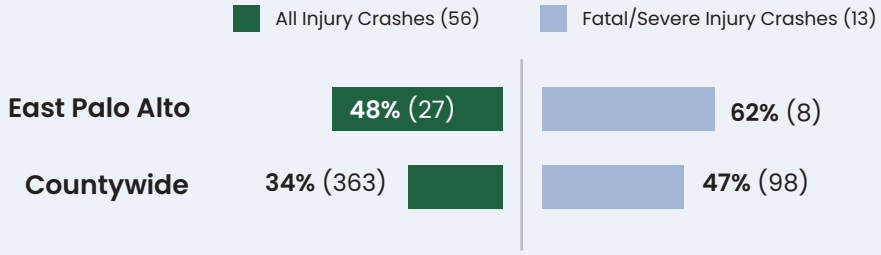
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

East Palo Alto—Crash History

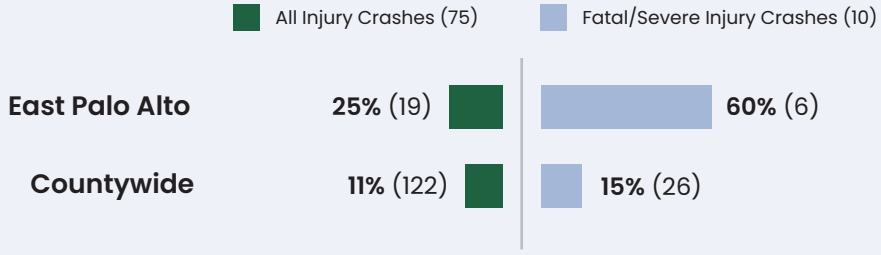
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how East Palo Alto compares to Countywide crashes:

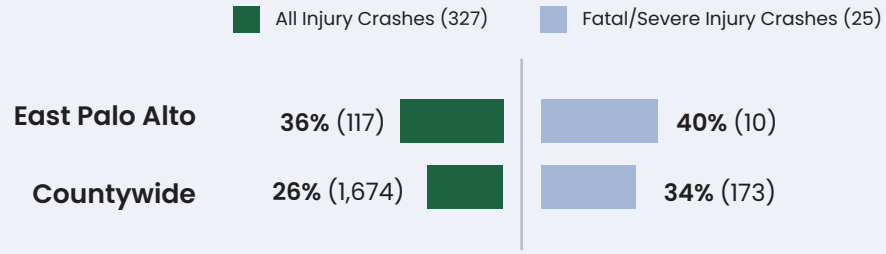
Share of Pedestrian Crashes in Dark Conditions (27)



Share of Bicyclist Crashes in Dark Conditions (19)

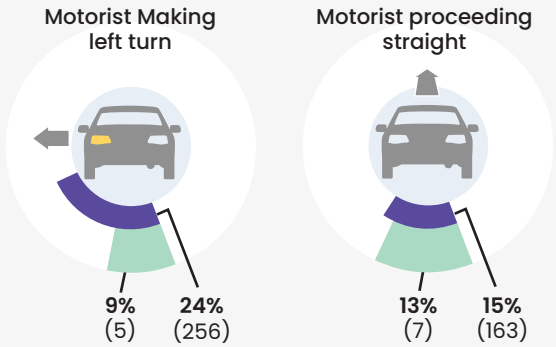


Share of Motor Vehicle Crashes in Dark Conditions (117)

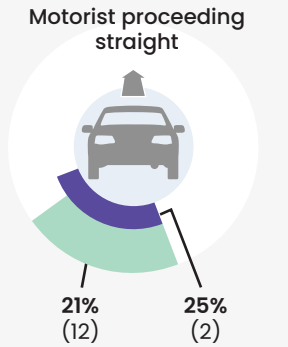


Reported Pedestrian Crashes (56)

Pedestrian Crossing at Intersection



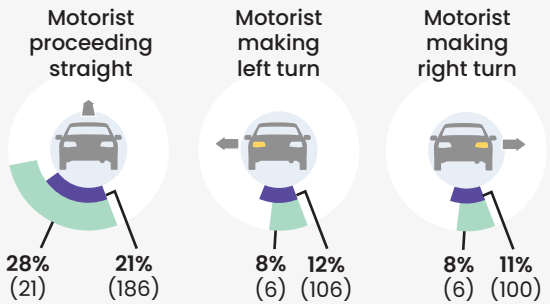
Pedestrian Crossing Not at a Crosswalk



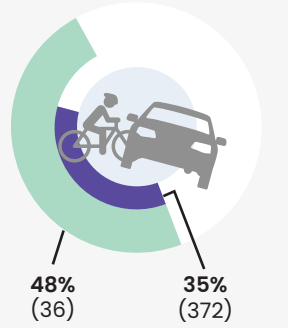
Agency Countywide

Reported Bicycle Crashes (75)

Bicyclist Proceeding Straight



Perpendicular Bicyclist Crashes



Agency Countywide

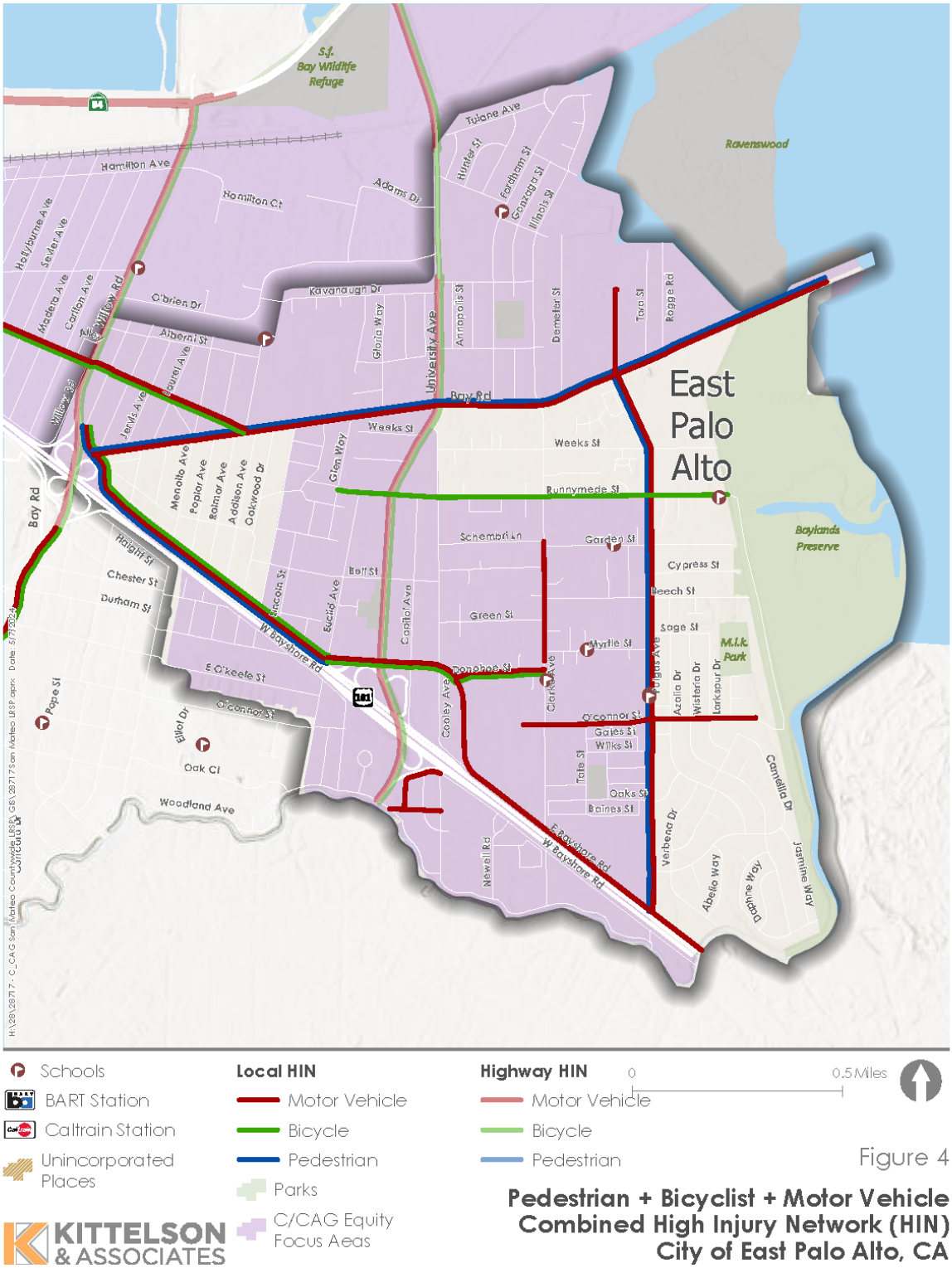
Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 4 show the HIN segments identified within the City.

Table 3. Countywide HIN Segments in East Palo Alto

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Bayshore Rd	East Palo Alto	1.7	X	X	X
Capitol Ave	East Palo Alto	0.2	X		
Clarke Ave	East Palo Alto	0.3	X		
Donohoe St	East Palo Alto	0.5	X	X	
O'Conner St	East Palo Alto	0.6	X		
Pulgas Ave	East Palo Alto	1.5	X	X	X
Runnymede St	East Palo Alto	0.9		X	
Scofield St	East Palo Alto	0.1	X		
Newbridge St	East Palo Alto, Menlo Park	1	X	X	
University Ave	East Palo Alto, Menlo Park	2.1	X	X	
Willow Rd	East Palo Alto, Menlo Park	2.3	X	X	
U.S. 101	East Palo Alto, Redwood City, South San Francisco	1.2	X		
Bay Rd	East Palo Alto, Redwood City, Unincorporated	3.3	X		X

Figure 4. Countywide HIN within the City of East Palo Alto



PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the City to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 5, Figure 6, and Figure 7).

Figure 5. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

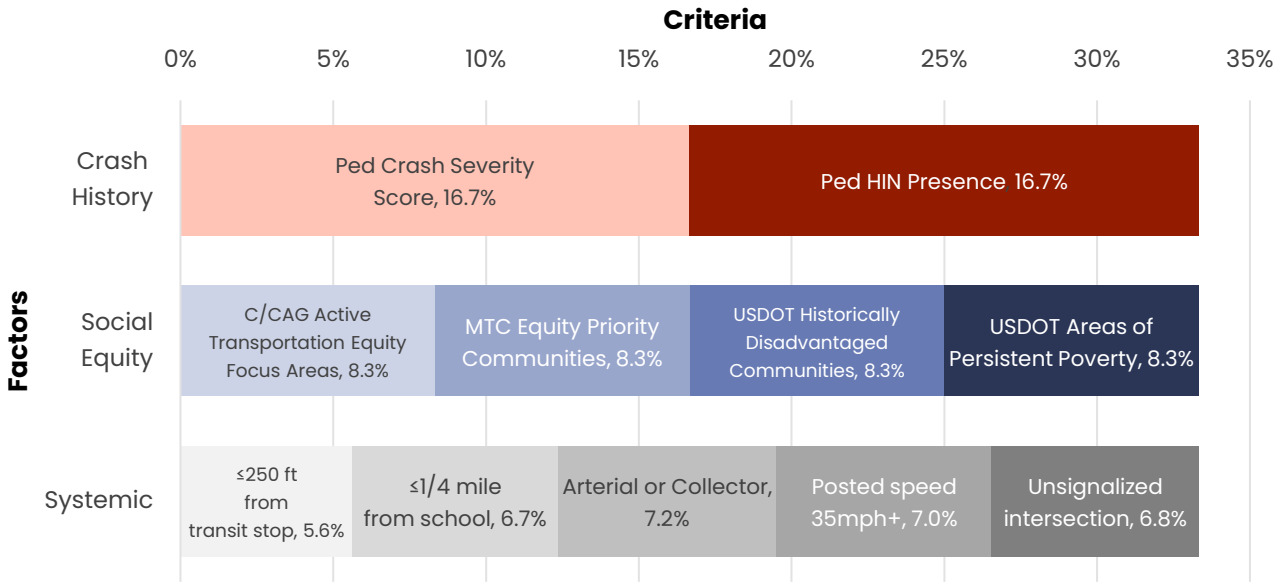


Figure 6. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

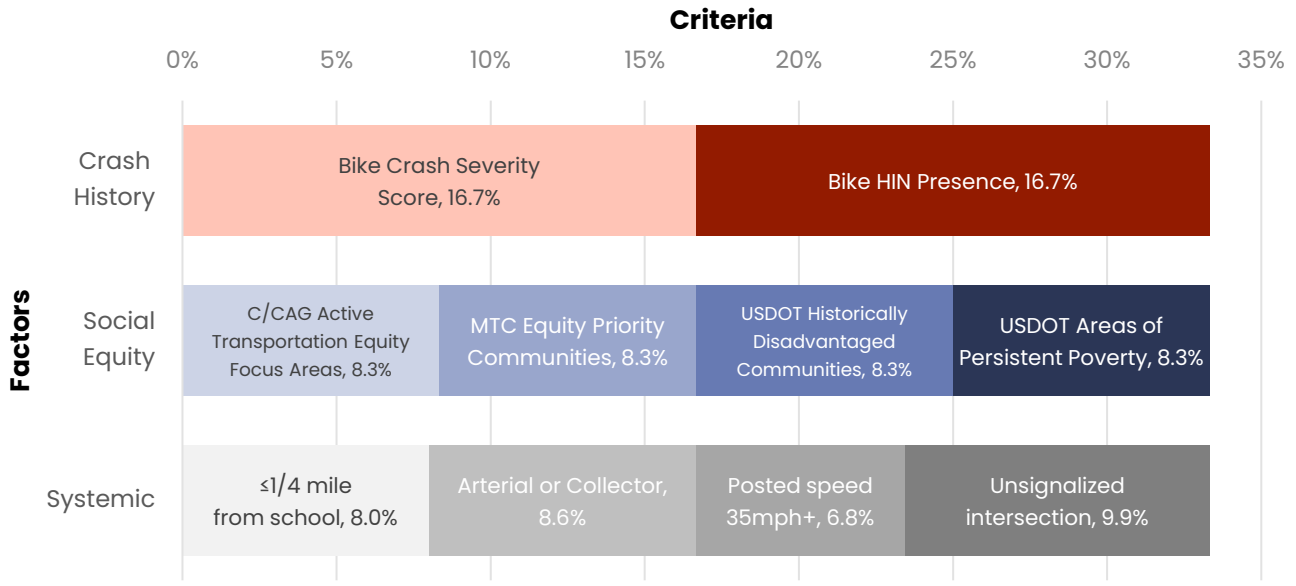
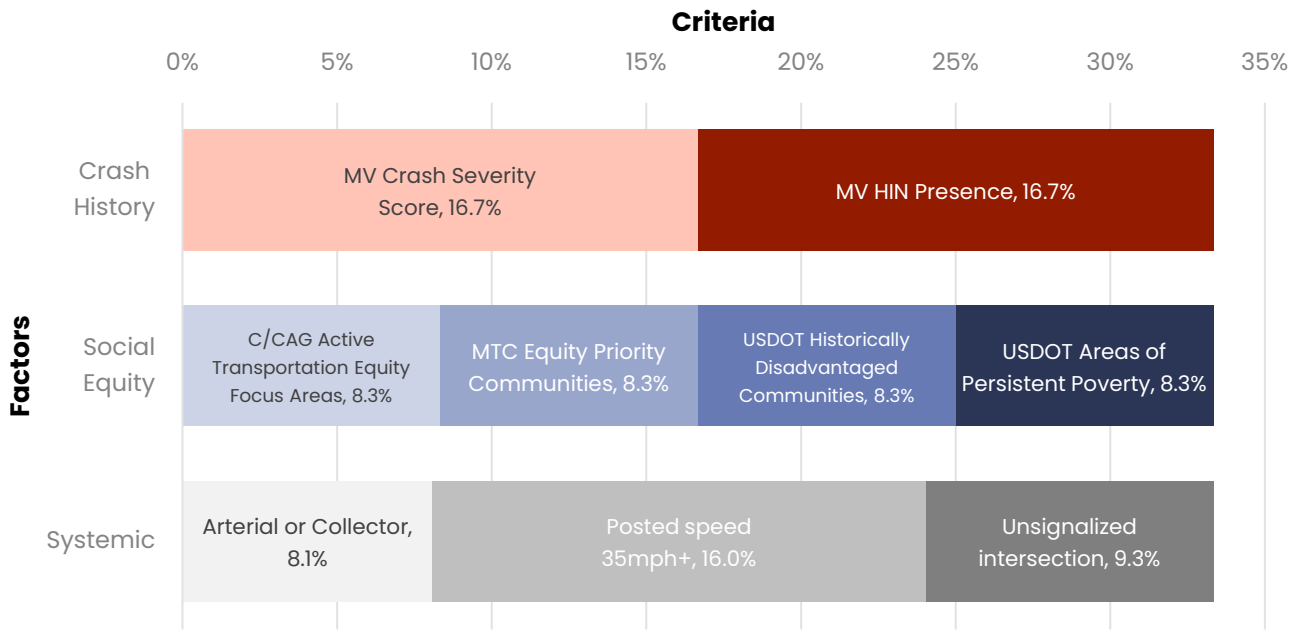


Figure 7. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the City to understand which locations meet which measures.

Results

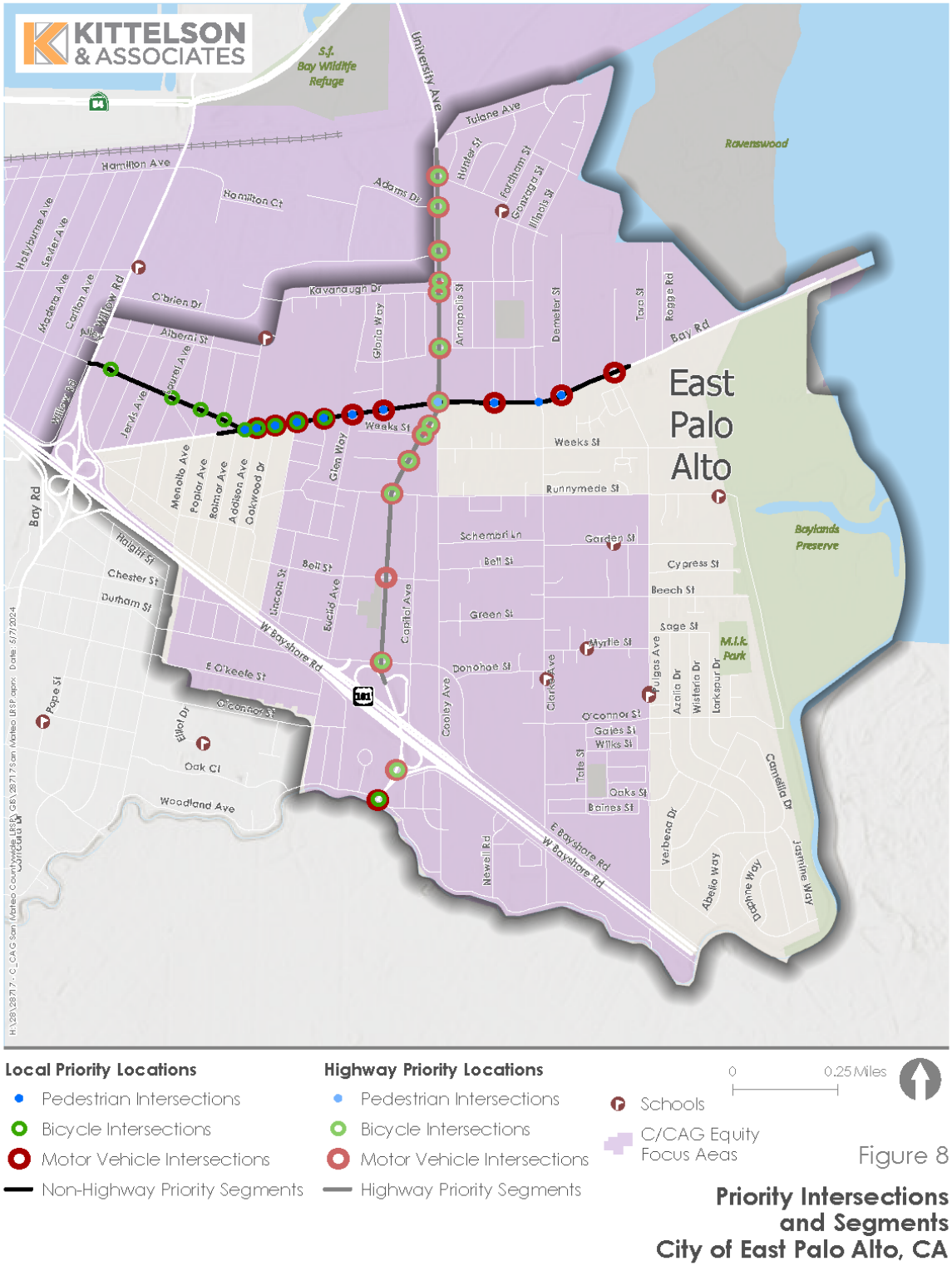
The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix C. Figure 8 also shows the locations.

Table 4. Priority Locations

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Purdue Ave and University Ave	Intersection	Yes	**X**	**X**	
2	University Ave and Weeks St	Intersection	Yes	**X**	**X**	
3	University Ave and Adams Dr	Intersection	Yes	**X**	**X**	
4	University Ave and Michigan Ave	Intersection	Yes	**X**	**X**	
5	Bay Rd and University Ave	Intersection	Yes	**X**	**X**	**X**
6	Notre Dame Ave and University Ave	Intersection	Yes	**X**	**X**	
7	University Ave and Kavanaugh Dr	Intersection	Yes	**X**	**X**	
8	University Ave and Sacramento St	Intersection	Yes	**X**	**X**	
9	Donohoe St and University Ave	Intersection	Yes	**X**	**X**	
10	O'Brien Dr and University Ave	Intersection	Yes	**X**	**X**	
11	Cooley Ave and University Ave	Intersection	Yes	**X**	**X**	

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
12	University Ave and Runnymede St	Intersection	Yes	**X**	**X**	
13	University Ave and Bell St	Intersection	Yes	**X**		
14	Woodland Ave and University Ave	Intersection	No	**X**	**X**	
15	Gloria Way and Bay Rd	Intersection	No	**X**		**X**
16	Glen Way and Bay Rd	Intersection	No	**X**		**X**
17	Bay Rd and Palo Alto Verde Ave	Intersection	No	**X**	**X**	**X**
18	University Ave and 101 Ramps	Intersection	Yes	**X**	**X**	
19	Dumbarton Ave and Bay Rd	Intersection	No	**X**	**X**	**X**
20	Demeter St and Bay Rd	Intersection	No	**X**		**X**
21	Bay Rd and Addison Ave	Intersection	No	**X**	**X**	**X**
22	Oakwood Dr and Bay Rd	Intersection	No	**X**		**X**
23	Pulgas Ave and Bay Rd	Intersection	No	**X**		
24	Bay Rd and Fordham St	Intersection	No	**X**		**X**
25	Bay Rd and Ralmar Ave	Intersection	No		**X**	**X**
26	Clarke Ave and Illinois St	Intersection	No			**X**
27	Newbridge St and Menalto Ave	Intersection	No		**X**	
28	Newbridge St and Poplar Ave	Intersection	No		**X**	
29	Bay Rd and Addison Ave	Intersection	No		**X**	
30	Mello St and Newbridge St	Intersection	No		**X**	
31	Saratoga Ave and Newbridge St	Intersection	No		**X**	
32	Bay Rd, Newbridge St to Pulgas Ave	Corridor	No	**X**	**X**	**X**
33	University Ave (SR 109), N city limits to Donohoe Rd	Corridor	Yes	**X**	**X**	**X**
34	Newbridge St, Bay Rd to W city limits	Corridor	No		**X**	**X**

Figure 8: East Palo Alto Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the City of East Palo Alto. First are engineering recommendations: identified project scopes and a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the City to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the City could consider at these locations. The City can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of City-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- University Ave and Weeks St. Recommended improvements include:
    - Intersection lighting at the eastern side of the intersection
    - Raised median refuge islands at the north leg
    - Pedestrian crossings with enhanced safety features (curb extensions and advance "yield" lines)

  - Upgraded intersection pavement markings at the intersection
  - Signal or pedestrian hybrid beacons at the north leg
- University Ave and Bell St. Recommended improvements include:
  - Improved signal hardware (lenses, backplates with retroreflective borders, mounting, size, and number)
  - Restriped intersection pavement markings
  - Centerline hardening or continuous raised median at the north and south legs
  - Advance stop bar before crosswalk at the north and south legs
  - Modified signal phasing to include a leading pedestrian interval at the intersection

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix D.

Engineering Countermeasure Toolbox

This section presents Safe System-aligned engineering recommendations that can create levels of redundancy for traffic safety in the City of East Palo Alto. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Table 5. City of East Palo Alto Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Lighting*	All	Nighttime	0.4		Medium
Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very high
Install left-turn lane and add turn phase*	SI	Signalized local/arterial intersections	0.55	$-$$$	Low
Convert signal to mast arm (from pedestal-mounted)*	SI	Signalized local/arterial intersections	0.3	$-$$$	Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Create directional median openings to allow (and restrict left turns and U-	SI	Signalized local/arterial intersections	0.5	$-$$	Medium

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
turns (signalized intersection)*					
Install raised pavement markers and striping*	SI	Wet, night, all crashes	0.1	$	High
Install flashing beacons as advance warning*	SI	Rear-end, broadside	0.3	$-$$	Medium
No right turn on red	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	Medium
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium
Convert intersection to roundabout (from signal)*	SI	Signalized local/arterial intersections	Varies	$-$$$	Low
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install pedestrian scramble*	SI	Pedestrian crashes, signalized local/arterial intersections	0.4	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
Install painted safety zone	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	High
Install Protected Intersection Elements	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$-$$$	Low
Convert to all-way STOP control (from two-way or Yield control)*	UI	All crashes	0.5	$	Low
Install signals*	UI	All crashes	0.3	$$$	Low
Convert intersection to roundabout (from all-way stop)*	UI	All crashes	Varies	$$$	Low
Convert intersection to roundabout (from STOP or yield control on minor road)	UI	All crashes	Varies	$$$	Low
Convert intersection to mini roundabout*	UI	All crashes	0.3	$$	Low
Create directional median openings to allow (and restrict) left turns and U-turns (unsignalized intersections)*	UI	All crashes	0.5	$-$$	Medium
Install raised medians (refuge islands)*	UI	Pedestrians and bicycle	0.45	$	Medium
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High
Install flashing beacons at stop-controlled intersection*	UI	Broadside, rear-end	0.15	$$$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Install transverse rumble strips on approaches	UI	All crashes	0.2	$	High
Install splitter islands on the minor road approaches	UI	All crashes	0.4	$	Medium
Road diet (Reduce travel lanes from four to three, and add a two-way, left-turn lane and bike lanes)*	R	All crashes	0.35	$	Medium
Corridor access management	R	N/A	0.35	$	Medium
Install edgeline rumble strips/stripes*	R	All crashes	0.15	$-$$$	High
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Install raised pedestrian crossing	R	Pedestrian and bicycle	0.35	$	Medium
Remove or relocate fixed objects outside of Clear Recovery Zone	R	Hit object	0.35	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Extend green time for bicycles	SI	Bicycle	N/A	$	High
Extend yellow and all-red time	SI	All crashes	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Bicycle signal/exclusive bicycle phase	SI	Bicycle	N/A	$-$$	Low
Curb extensions	UI	All crashes	N/A	$-$$	Low
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Splitter islands	SI, UI	All crashes	N/A	$$	Medium
Approach curvature	SI, UI	All crashes	N/A	$$$	Low
Roadside design features	All	All crashes	N/A	$-$$$	Low

*****Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above

2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the City aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners,

these recommendations will deepen the dedication to safety shared throughout the community and round out the City's Safe System Approach.

Table 6. City of East Palo Alto Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee participation	LCS2: High-Visibility Media Campaign LCS3: Communication Protocol LCS4: Implement Car-Free Zones
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer LEC3: Graduated Traffic Fine Structure LEC4: Bicycle and Pedestrian Citation Diversion Program
Local Funding (LF)	LF1: Dedicated Funding	LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO3: Educational Materials for New Facilities LEO5: Smart City Fleets
Local Planning/ Evaluation (LPE)		LPE1: Annual Review LPE2: Plan Update LPE3: Safety and Equity Impacts Evaluation LPE4: Safe Routes to School LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: City of East Palo Alto Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: City of East Palo Alto Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the City of East Palo Alto Police Department to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan. Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness. Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, City of East Palo Alto Police Department, City of East Palo Alto Public Works

LCS3: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident.
Lead agency: C/CAG
Coordinating partners: City of East Palo Alto Public Works

LCS4: Implement Car-Free Zones

More effectively target resources to pedestrian crash problems in a limited geographic area. Realizing these zones requires upfront analysis and planning, countermeasure development, and implementation. Implementation can focus on addressing particular problems or on increasing general safety in specific areas during windows of peak pedestrian activity. (For example: Friday nights in commercial districts, Sundays on recreational routes/areas, etc.)
Lead agency: City of East Palo Alto Public Works

LEC2: Speed Monitoring Awareness Radar Trailer

Coordinate with East Palo Alto PD to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: City of East Palo Alto Police Department
Coordinating partners: City of East Palo Alto Public Works

LEC3: Graduated Traffic Fine Structure

Through the legislative agenda, advocate for an income-based graduated traffic fine structure at the state level, so they do not disproportionately impact people with lower incomes.
Lead agency: C/CAG
Coordinating partners: City of East Palo Alto Public Works

LEC4: Bicycle and Pedestrian Citation Diversion Program

Implements an alternative citation structure for bicyclists and pedestrians. Upon incurring a traffic violation, these users can reduce or remove the fee associated with the violation by instead attending a class. Requires local law enforcement to sanction preexisting curricula or to sanction original material of their own.
Lead agency: City of East Palo Alto Police Department

LF2: Equitable Investment

Prioritize citywide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: City of East Palo Alto Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: City of East Palo Alto Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.
Lead agency: City of East Palo Alto Public Works

LEO5: Safe City Fleets

Provide educational materials for City staff who drive City vehicles and integrate safety awareness training into contracting process with vendors who provide City services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on City vehicles and reporting on correction plans against unsafe driving.

Lead agency: City of East Palo Alto Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to City Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: City of East Palo Alto Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: City of East Palo Alto Public Works

LPE3: Safety and Equity Impacts Evaluation

Fund a study to address traffic injury and enforcement inequities to inform policies, projects, programs, and needed data quality improvements. Solicit feedback on the report's equity analysis from groups representing equity priority communities. Topics for the study may include injury related to homelessness, race/ethnicity, language, income, and immigration status, citations by demographics, citation type, and location.
Alternately, coordinate with the TSAC to participate in a countywide version of the same that can include the City as part of its scope.
Lead agency: C/CAG

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.
Develop a plan and timeline to include all schools in the City.
Lead agency: SMCOE
Coordinating partners: City of East Palo Alto Public Works

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds.
To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.
Lead agency: City of East Palo Alto Public Works

IMPLEMENTATION & MONITORING

A key part of achieving East Palo Alto's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The City of East Palo Alto will develop a process to regularly collect data and information around the performance measures that can be used to assess changes city-wide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which East Palo Alto can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

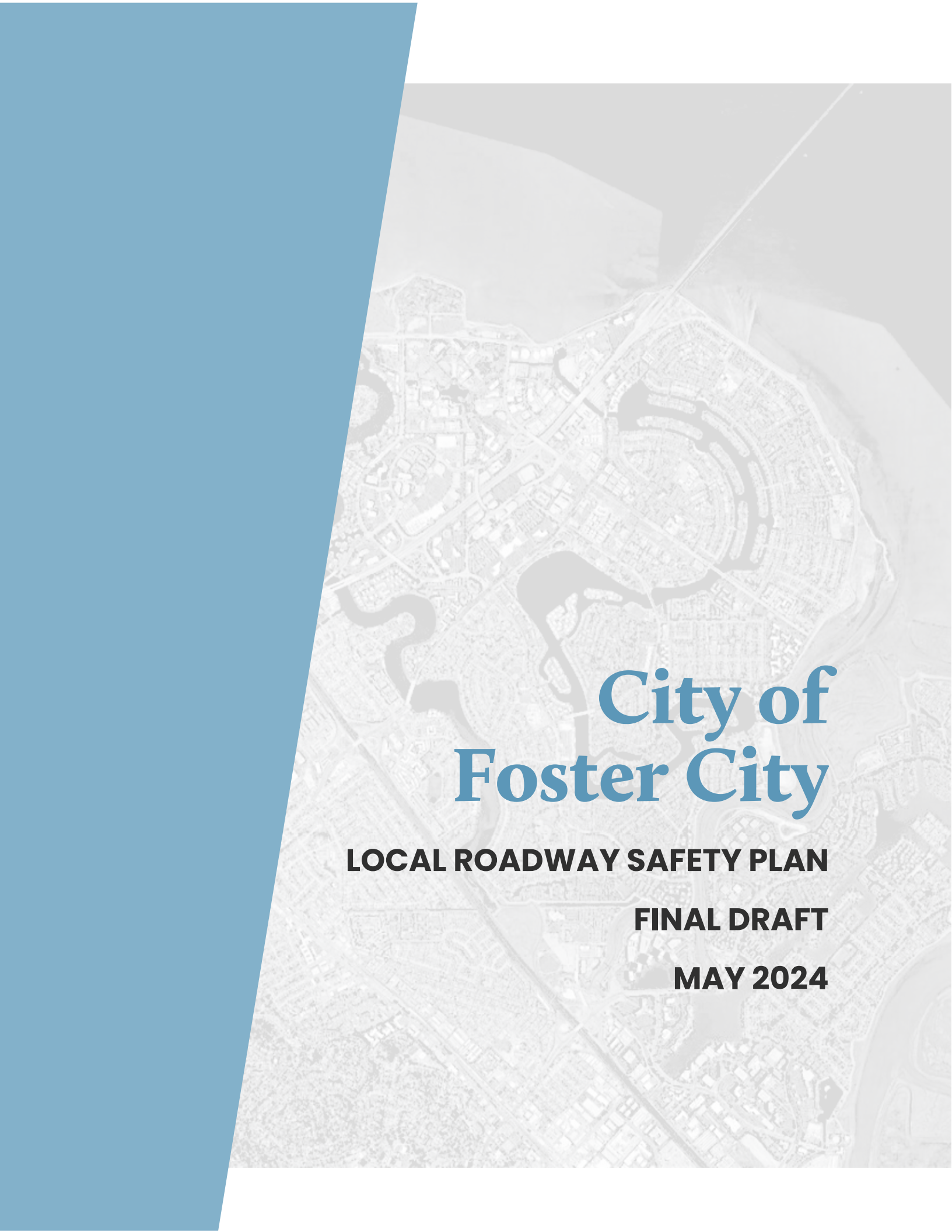
This section identifies recommendations for East Palo Alto and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 7. City of East Palo Alto Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Eliminate traffic fatalities and reduce the number of non-fatal injury crashes by 50 percent by 2030.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified • Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) • versus outside these areas • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable. • Implementation of a high-visibility media campaign • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the City • Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions citywide for safety plans or projects. • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable • Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings city staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice

City of East Palo Alto

San Mateo C/CAG Countywide LRSP



City of Foster City

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the City's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the City can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the City of Foster City. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The City will revisit and update this LRSP at least every five years.

The City of Foster City has a 2023 population of 32,703 per California Department of Finance. The city has 50 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 150 reported crashes on surface streets in the City and 13 fatal/severe injury crashes. In that time period, pedestrians were involved in 13 percent of all reported crashes and 46 percent of fatal/severe injury crashes. Bicyclists were involved in 11 percent of all reported crashes and 23 percent of fatal/severe injury crashes. The LRSP provides Safe System-aligned strategies tailored to Foster City's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the City for public viewing.

VISION & GOALS

The City of Foster City's vision for roadway safety is:

- Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2050 as part of a broader effort to promote roadway safety in Foster City's departments, businesses, and residents.

To support this vision, the City has established the following goals:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on Foster City's solid foundation of plans, policies, and programs that support safe, equitable mobility in the city. For a list of the City of Foster City's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. City of Foster City Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
General citywide improvement initiatives	The City plans to improve safety through multiple tools and programs. The Police Department will enforce policies and help to lead public education programs. Meanwhile, the Traffic Review Committee will map and monitor collisions, conduct speed surveys, and review safety improvements to make recommendations.	Safe Roads, Safe Speeds, Safe Road Users, Safe Vehicles

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of Foster City's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- Foster City Police Department

Figure 1. Phase 1 pop-up event held as part of the City of Foster City's "Summer Days."

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the City's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

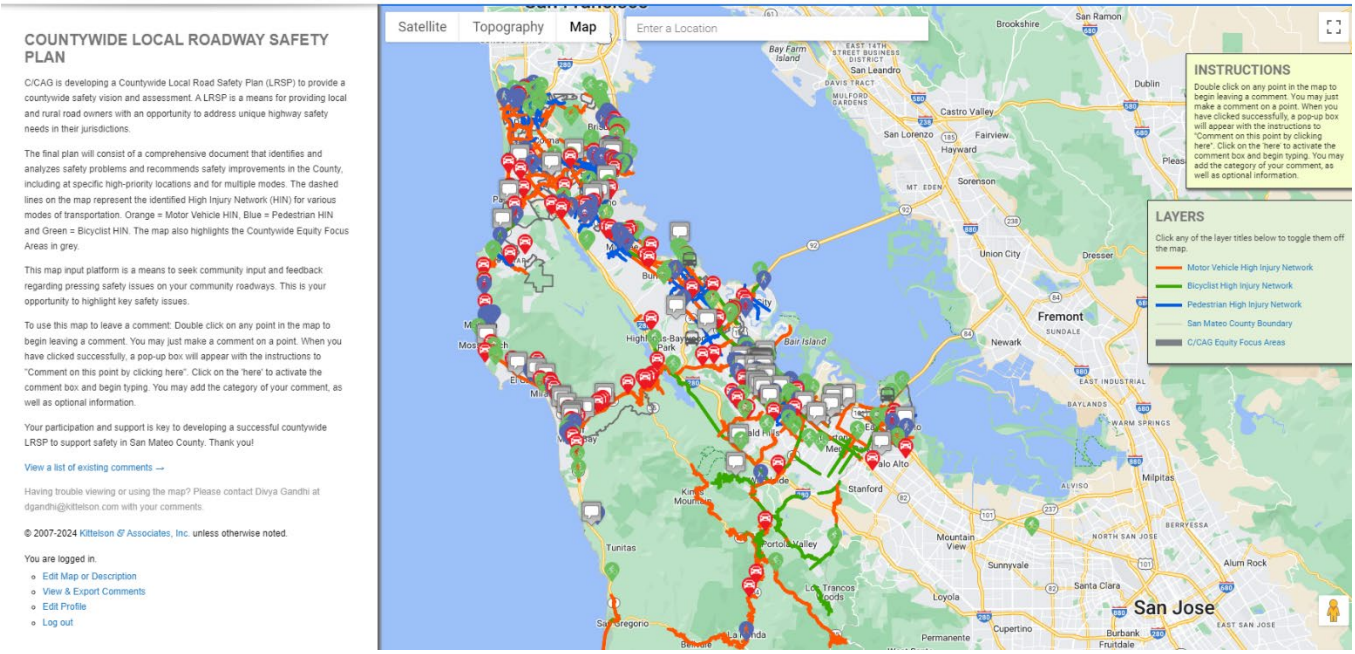
Table 2. Community Engagement Phases and Events

Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 2). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Figure 2. Online Map Survey Tool



Countywide, there were a total of 528 comments recorded by 352 respondents. There were five comments made within the City of Foster City in addition to the conversations and feedback recorded at the Phase 1 event in August. The comments included the following:

Biking Concerns/Requests

- Request to add new bike infrastructure such as bike lanes. Noted location includes San Mateo Bridge.

Pedestrian Concerns/Requests

- Signage requests including push buttons for WALK signs and pedestrian hybrid beacons.

Traffic Enforcement Concerns

- Concerns regarding speeding observed and requests for traffic calming, especially near school zones.

Roadway Infrastructure/ Traffic Operations Concerns

- Concerns regarding high traffic volumes and traffic congestion on Highway 101.
- Requests to improve signal timing design to reduce intersection delay.

The location and modal emphasis of comments in Foster City is presented in Figure 44. The comments received are provided in Appendix A. The project team also identified common themes in the responses made countywide which may be relevant to the City. Those are presented in the Community Engagement section of the Countywide LRSP.

Figure 3. Webmap Comments in Foster City

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix B.

Emphasis Areas

The project team analyzed crash data in Foster City and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the City can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the City of Foster City:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In Foster City, pedestrians and bicyclists were involved in 46 percent and 23 percent of the 13 reported F/SI crashes—higher than their overall share of all injury crashes (13 percent and 11 percent, total).
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Foster City, four of the six fatal/severe injury pedestrian crashes (67 percent) and three of the four fatal/severe injury motor vehicle crashes (75 percent) occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In Foster City, 8 crashes or 5 percent of all reported injury crashes involve at fault drivers who are under 30 years old.

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In Foster City, "Too fast for conditions" was the top-cited violation among motor vehicle crashes (in 39 percent of injury crashes).
6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.

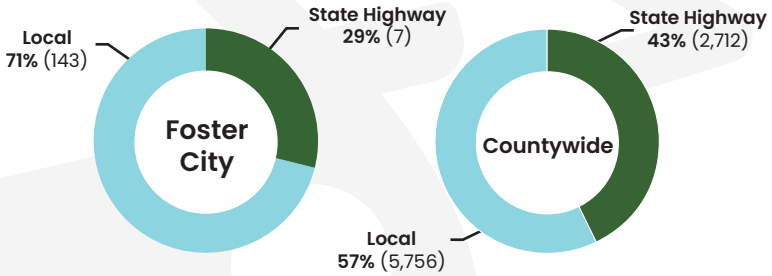
The next pages present summary findings from a crash data review that compares the City of Foster City to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

Foster City—Crash History

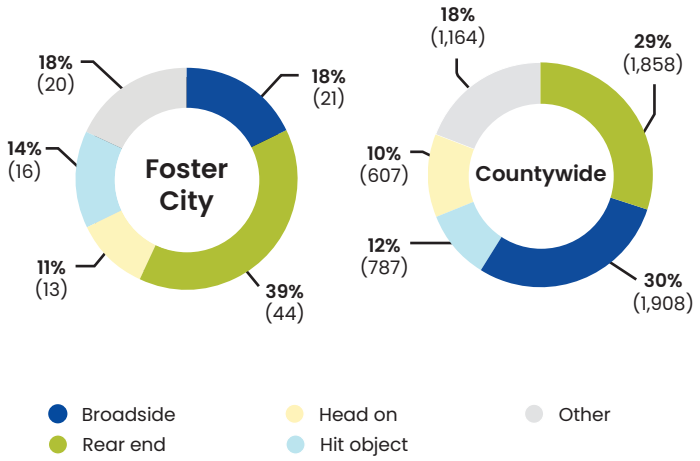
Total Crashes

In Foster City, 150 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

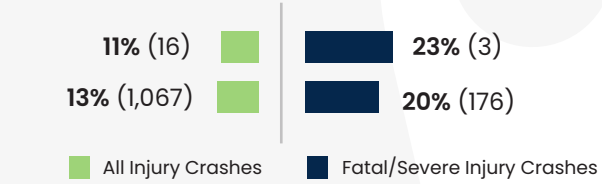
Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Foster City compares:



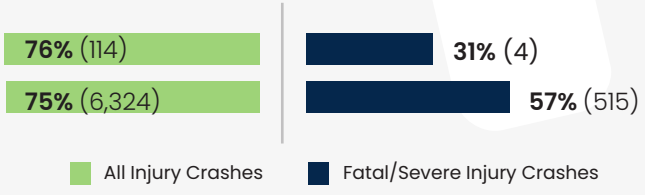
Mode Involvement

Pedestrian Crashes (20)

Bicycle Crashes (16)



Motor Vehicle[1] Crashes (114)



3% (5)
of reported collisions in Foster City involved drugs or alcohol

5% (8)
of reported collisions in Foster City involved young drivers[2]

8% (625) Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

5% (472) Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

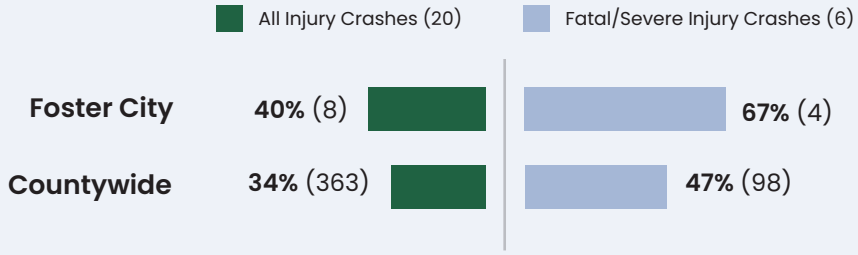
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

Foster City—Crash History

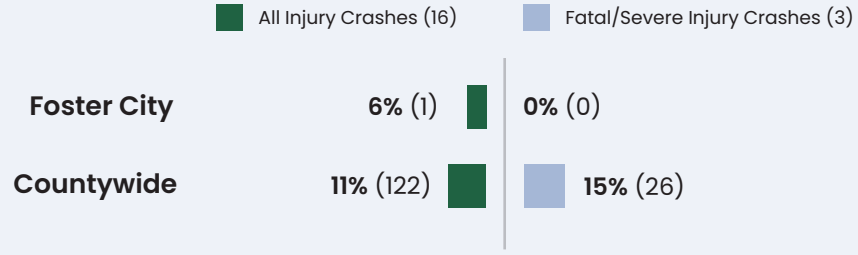
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Foster City compares to Countywide crashes:

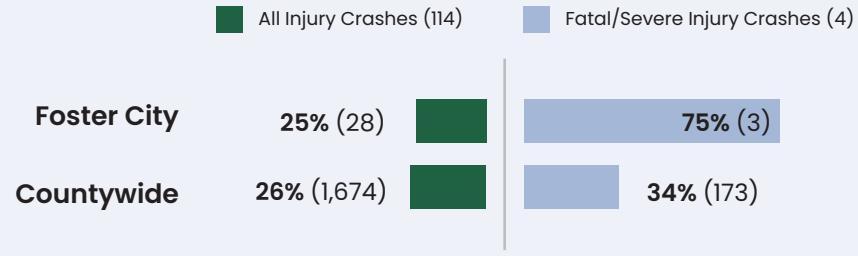
Share of Pedestrian Crashes in Dark Conditions (8)



Share of Bicyclist Crashes in Dark Conditions (1)

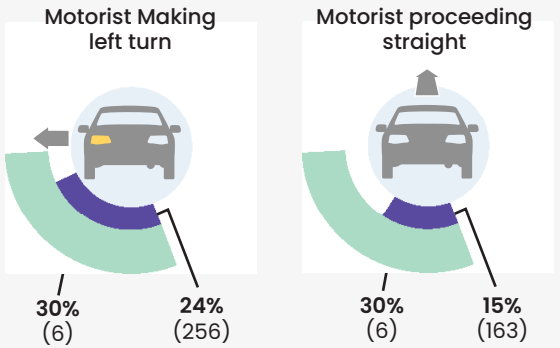


Share of Motor Vehicle Crashes in Dark Conditions (28)

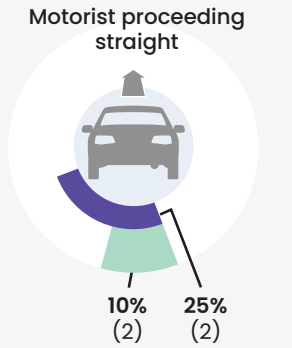


Reported Pedestrian Crashes (20)

Pedestrian Crossing at Intersection

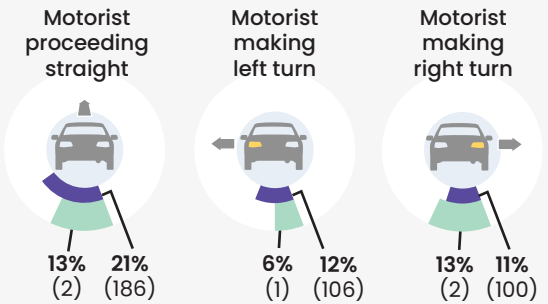


Pedestrian Crossing Not at a Crosswalk

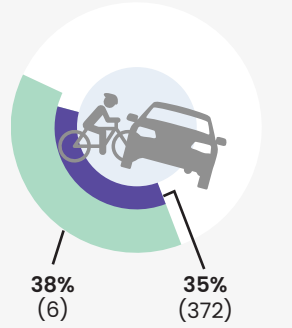


Reported Bicycle Crashes (16)

Bicyclist Proceeding Straight



Perpendicular Bicyclist Crashes



Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 4 show the HIN segments identified within the City.

Table 3. Countywide HIN Segments in Foster City

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Foster City Blvd	Foster City	1.7	X		X
Metro Center Blvd	Foster City	0.7	X		
Shell Blvd	Foster City	1.1			X
Hillsdale Blvd	Foster City, San Mateo	3.9	X	X	X

Figure 4. Countywide HIN within the City of Foster City

PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the City to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 46, Figure 47, and Figure 48).

Figure 5. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

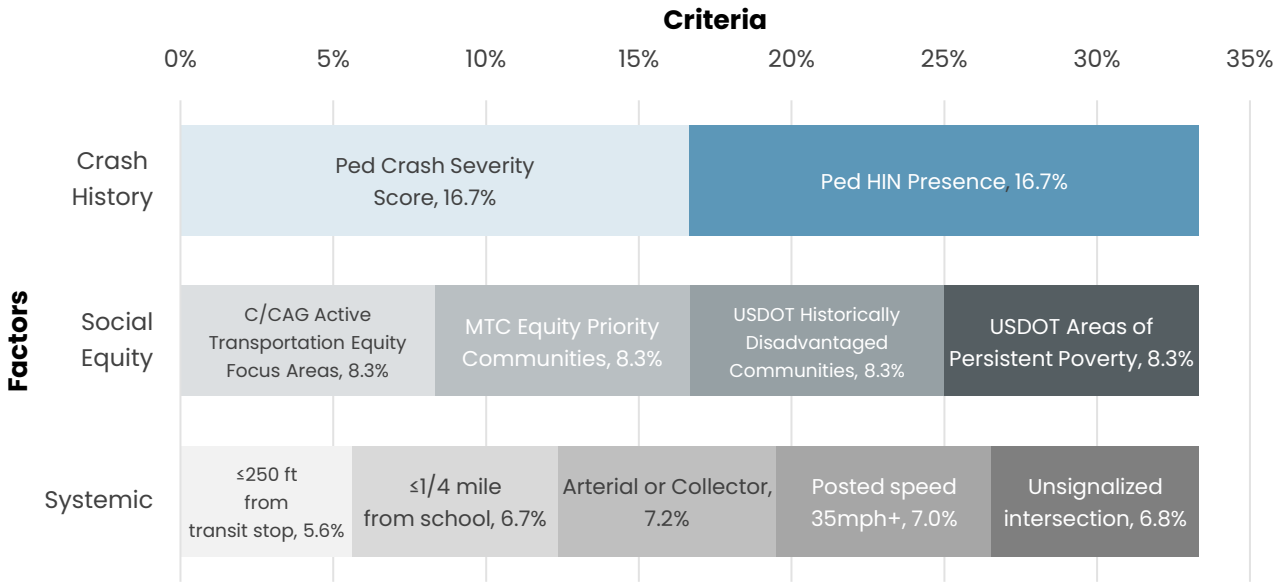


Figure 6. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

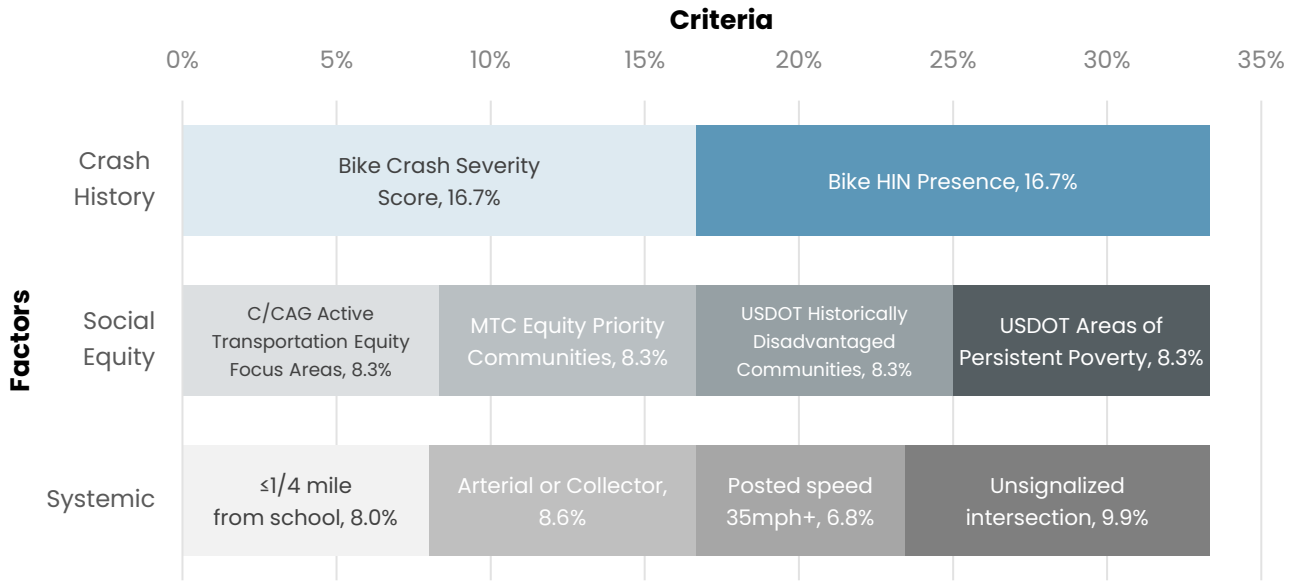
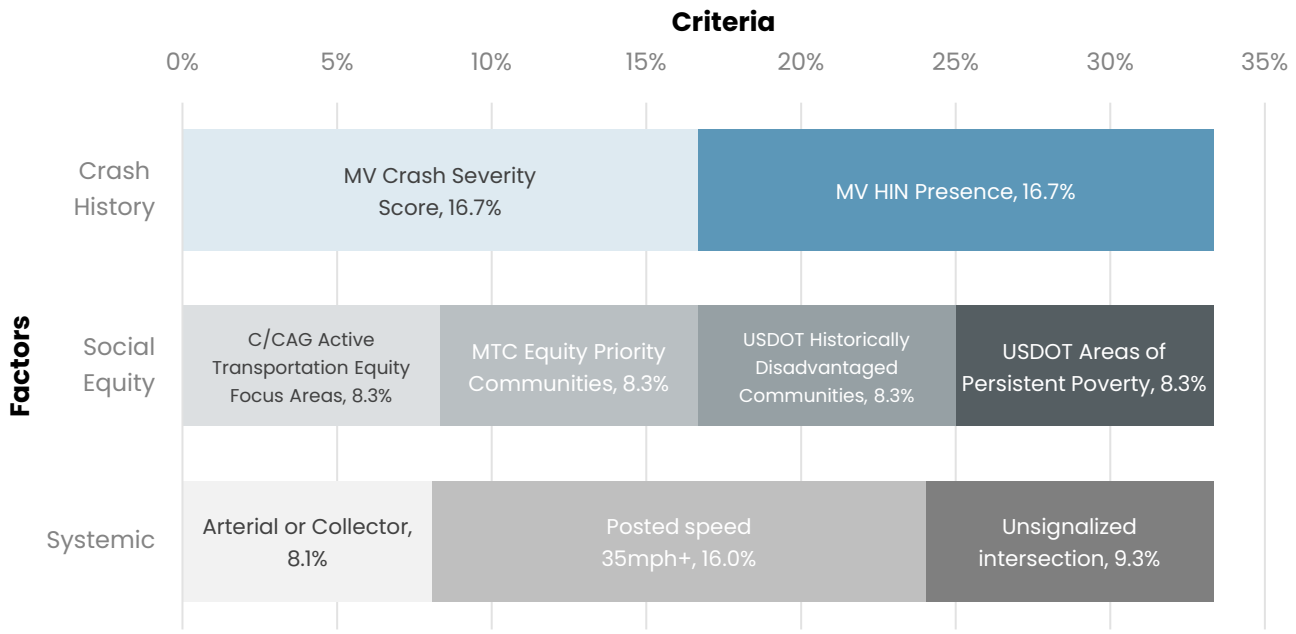


Figure 7. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the City to understand which locations meet which measures.

Results

The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix C. Figure 8 also shows the locations.

Table 4. Priority Locations

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Chess Dr and Foster City Blvd	Intersection	No	**X**		
2	Regulus St and Edgewater Blvd	Intersection	No	**X**		
3	Catamaran St and Shell Blvd	Intersection	No	**X**		**X**
4	Galleon Ln and Foster City Blvd	Intersection	No	**X**	**X**	**X**
5	Hillsdale Blvd and Parkway Ln	Intersection	No	**X**	**X**	**X**
6	Marlin Ave and Foster City Blvd	Intersection	No	**X**		**X**
7	Foster City Blvd and 3rd Ave	Intersection	No	**X**		
8	Beach Park Blvd and Egret St	Intersection	No	**X**	**X**	
9	Altair Ave and Edgewater Blvd	Intersection	No	**X**		
10	Marlin Ave and Beach Park Blvd	Intersection	No	**X**		
11	3rd Ave and Mariners Island Blvd	Intersection	No	**X**		

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
12	Commons Ln and Metro Center Blvd	Intersection	No	**X**		
13	Foster City Blvd and Caravel Ln	Intersection	No		**X**	**X**
14	Shell Blvd and Bounty Dr	Intersection	No			**X**
15	Hillsdale Blvd and Meridian Bay Ln	Intersection	No		**X**	**X**
16	Hillsdale Blvd and Admiralty Ln	Intersection	No		**X**	**X**
17	Foster City Blvd and Civic Center Dr	Intersection	No			**X**
18	Foster City Blvd and Admiralty Ln	Intersection	No			**X**
19	Shell Blvd and Civic Center Dr	Intersection	No			**X**
20	Hillsdale Blvd and Portal Ln	Intersection	No		**X**	
21	Promontory Point Ln and Hillsdale Blvd	Intersection	No		**X**	
22	Foster City Blvd and Hillsdale Blvd Edgewater Blvd and Dorado Ln	Intersection	No		**X**	
23	Beach Park Blvd and Swordfish St	Intersection	No		**X**	
24	Edgewater Blvd and Ram Ln	Intersection	No		**X**	
25	Tarpon St and Beach Park Blvd	Intersection	No		**X**	
26	Foster City Blvd, Chess Dr to Bounty Dr	Corridor	No	**X**	**X**	**X**
27	Hillsdale Blvd, Sea Spray Ln to north of Pilgrim Dr	Corridor	No	**X**	**X**	**X**
28	Shell Blvd, Hillsdale Blvd to Beach Park Blvd	Corridor	No	**X**		**X**
29	Edgewater Blvd, Hillsdale Blvd to Beach Park Blvd	Corridor	No	**X**	**X**	
30	Hillsdale/Beach Park Blvd, Pilgrim Dr to Foster City Blvd	Corridor	No	**X**	**X**	

Figure 8: Foster City Priority Locations

IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the City of Foster City. First are engineering recommendations: identified project scopes and a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the City to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the City could consider at these locations. The City can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of City-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- Shell Blvd and Civic Center Dr. Recommended improvements include:
    - Upgraded, larger stop sign at Civic Center Dr
    - Installation of a pedestrian crossing at the west leg of the intersection

    - Installation of a pedestrian hybrid beacon at the west leg of the intersection
- Marlin Ave and Foster City Blvd. Recommended improvements include:
    - Change of traffic control
    - Pedestrian countdown signal heads
    - Advance stop bar before all crosswalks (bicycle box)

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix D.

Engineering Countermeasure Toolbox

This section presents Safe System-aligned engineering recommendations that can create levels of redundancy for traffic safety in the City of Foster City. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Table 5. City of Foster City Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Lighting*	All	Nighttime	0.4		Medium
Improve signal hardware: lenses, back plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very High
Install left-turn lane and add turn phase*	SI	Signalized local/arterial intersections	0.55	$-$$$	Low
Convert signal to mast arm (from pedestal mounted)*	SI	Signalized local/arterial intersections	0.3	$-$$$	Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Create directional median openings to allow (and restrict left turns and U-turns (signalized intersection)*	SI	Signalized local/arterial intersections	0.5	$-$$	Medium
Install raised pavement markers and striping*	SI	Wet, night, all	0.1	$	High
Install flashing beacons as advance warning (SI)*	SI	Rear end, broadside	0.3	$-$$	Medium
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
Convert to all-way STOP control (from two-way or Yield control)*	UI	All crashes	0.5	$	Low
Install signals*	UI	All crashes	0.3	$$$	Low
Create directional median openings to allow (and restrict) left turns and U-turns (unsignalized intersections)*	UI	All crashes	0.5	$-$$	Medium
Install raised medians (refuge islands)*	UI	Pedestrians and bicycle	0.45	$	Medium
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Upgrade intersection pavement markings*	UI	Turning crashes related to lack	0.25	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
		of driver awareness			
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Road diet (Reduce travel lanes from four to three, and add a two-way, left-turn lane and bike lanes)*	R	All crashes	0.35	$	Medium
Corridor access management	R	N/A	0.35	$	Medium
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Install raised pedestrian crossing*	R	Pedestrian and bicycle	0.35	$	Medium
Remove or relocate fixed objects outside of clear recovery zone*	R	Hit object	035	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Extend green time for bikes	SI	Bicycle	N/A	$	High
Extend yellow and all-red time	SI	All crashes	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Bicycle signal/exclusive bike phase	SI	Bicycle	N/A	$-$$	Low
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Approach curvature	UI, SI	All crashes	N/A	$$$	Low
Roadside design features	All	All crashes	N/A	$-$$$	Low

***Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above
2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the City aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the City's Safe System Approach.

Table 6. City of Foster City Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee participation	LCS2: High-Visibility Media Campaign
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)	LF1: Dedicated Funding	LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO3: Educational Materials for New Facilities
Local Planning/ Evaluation (LPE)		LPE1: Annual Review LPE2: Plan Update LPE4: Safe Routes to School LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: City of Foster City Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.

Lead agency: City of Foster City Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the City of Foster City Police Department to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan.
Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness.
Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, City of Foster City Police Department, City of Foster City Public Works

LEC2: Speed Monitoring Awareness Radar Trailer

Coordinate with Foster City PD to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: City of Foster City Police Department
Coordinating partners: City of Foster City Public Works

LF2: Equitable Investment

Prioritize citywide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: City of Foster City Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: City of Foster City Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.)

Include information about the purpose and goals of this infrastructure.
Lead agency: City of Foster City Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to City Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: City of Foster City Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: City of Foster City Public Works

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools. Develop a plan and timeline to include all schools in the City.
Lead agency: SMCOE
Coordinating partners: City of Foster City Public Works

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds. To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.
Lead agency: City of Foster City Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Foster City's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The City of Foster City will develop a process to regularly collect data and information around the performance measures that can be used to assess changes city-wide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Foster City can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

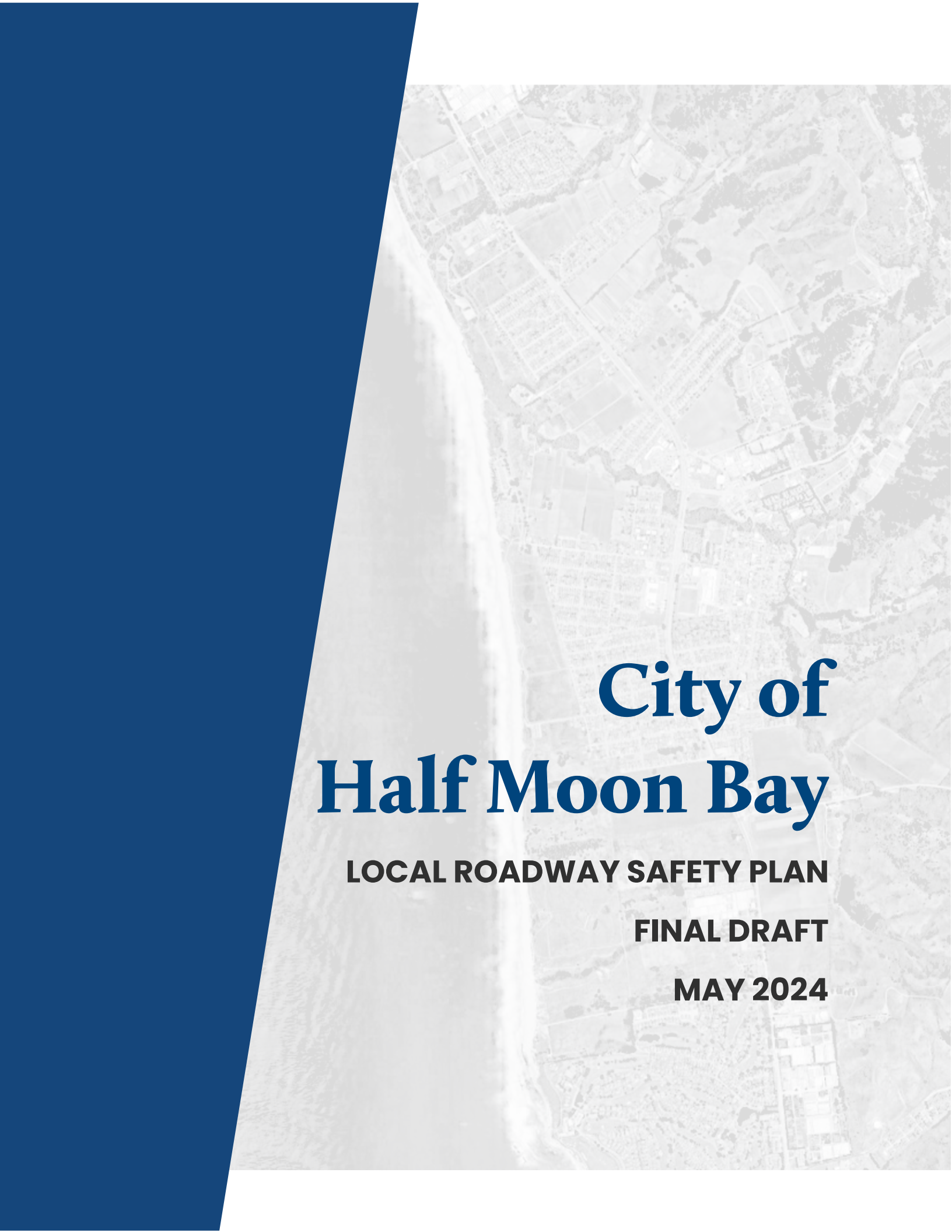
This section identifies recommendations for Foster City and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 7. Foster City Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly monitor crashes to respond to safety problems and changing conditions. Prioritize locations with high crash rates for safety improvements.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified • Implementation of a high-visibility media campaign • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable • Number of trainings city staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice
2. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.	• Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) versus outside these areas • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable. • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the City • Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions citywide for safety plans or projects. • Percent of school district participation in SRTS and roadway safety education opportunities

City of Foster City

San Mateo C/CAG Countywide LRSP



City of Half Moon Bay

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the City's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the City can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the City of Half Moon Bay. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The City will revisit and update this LRSP at least every five years.

The City of Half Moon Bay has a 2023 population of 11,226 per California Department of Finance. The city has 30 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 145 reported crashes on surface streets in the City and 17 fatal/severe injury crashes. In that time period, pedestrians were involved in 9 percent of all reported crashes and 18 percent of fatal/severe injury crashes. Bicyclists were involved in 10 percent of all reported crashes and 12 percent of fatal/severe injury crashes. LRSP provides Safe System-aligned strategies tailored to Half Moon Bay's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the City for public viewing.

VISION AND GOALS

The City of Half Moon Bay vision for roadway safety is:

- Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2050.

To support this vision, the City has established the following goals:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Embrace the Safe System approach to promote engineering and non-engineering strategies in the community.
3. Monitor implementation of the City of Half Moon Bay LRSP to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on the City of Half Moon Bay's solid foundation of plans, policies, and programs that support safe, equitable mobility in the city. For a list of Half Moon Bay's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. City of Foster City Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
City of Half Moon Bay Bicycle and Pedestrian Master Plan	This plan identifies needs and prioritizes improvements to the City of Half Moon Bay's pedestrian and bicycle facilities and programs. Informed by existing infrastructure and current safety issues, this plan recommends improvements to address current and future bike/ped demand based on current conditions and anticipated infill development. This plan also provides a blueprint for the City to implement a complete bicycle and pedestrian network over time. Finally, the plan provides the City with the necessary tools to apply for a grant funding for implementation. The plan should be revised over time as new conditions and opportunities arise.	Safe Roads, Safe Road Users, Safe Speeds
Capital Improvement Project—Neighborhood Traffic Safety Program	This program involves the implementation of a neighborhood traffic-calming and safety program and will provide a source of funding to address neighborhood concerns.	Safe Roads, Safe Road Users, Safe Speeds

Program Name	Program Description	Safe System Elements
Capital Improvement Project—Bicycle and Pedestrian Connectivity and Safety Program	This program is intended to fund bicycle and pedestrian improvements identified in the Bicycle and Pedestrian Master Plan as part of other defined projects. Funds may also be used as a matching source for potential grant opportunities. Examples of elements funded through this program include bike lane striping and regulatory/wayfinding signage.	Safe Roads, Safe Road Users, Safe Speeds

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of Foster City's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- Foster City Police Department

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the City's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

Table 2. Community Engagement Phases and Events

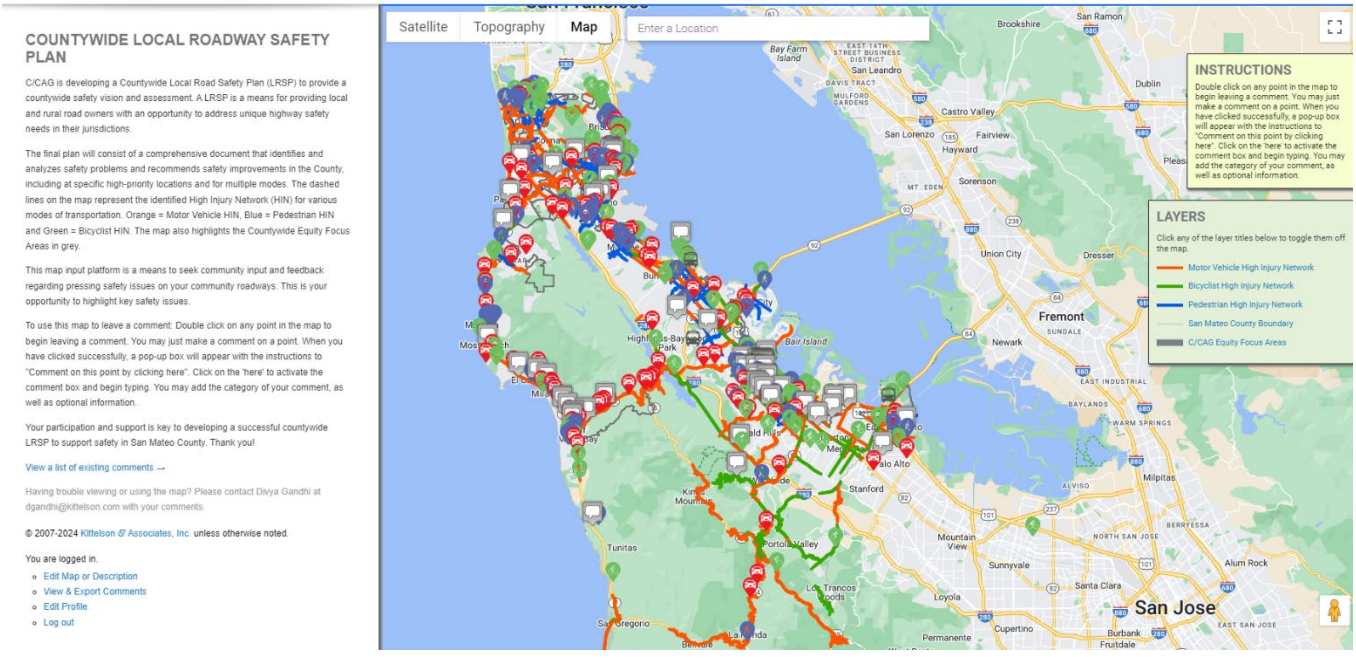
Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

Figure 1. A pop-up event at the Half Moon Bay Farmers Market

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 50). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Figure 2. Online Map Survey Tool



Countywide, there were a total of 528 comments recorded by 352 respondents. There were 44 comments made within the City of Foster City in addition to the conversations and feedback recorded at the Phase 1 event in August. The comments included the following:

Biking Concerns/Requests

- Add new bike infrastructure such as protected bike lanes, separated bike lanes, road diets, bike tunnels, and bike bridges.
- Upgrade or general maintenance concerns of existing bike infrastructure including restriping bike lanes and removing debris along bike paths.
- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, vehicle speeds, right of way issues, and turning conflicts at intersections.

Pedestrian Concerns/Requests

- Add new pedestrian infrastructure or upgrade existing infrastructure such as building new and/or continuous sidewalks, widening existing sidewalks, providing pedestrian refuge islands, midblock crossings, and high visibility crosswalks.
- Requests to provide safe crossing paths across highways.
- Signage requests including installing STOP signs at unsignalized intersections, installing rectangular rapid flashing beacons, push buttons for WALK signs and increasing pedestrian walk times and modifying signals to include a leading pedestrian interval (especially at schools).
- Concerns regarding conflicts with motor vehicles including speeding, running STOP signs and conflicts at intersections.
- Pedestrian visibility concerns: street lighting is absent or insufficient.
- Concerns regarding speeding bikes, creating potential conflicts with pedestrians.

Traffic Enforcement Concerns

- Multiple concerns regarding running STOP signs, red lights, and illegal turning movements.
- Concerns regarding speeding observed at multiple locations – requests for traffic calming especially in school zones.

Roadway Infrastructure/ Traffic Operations Concerns

- Primary concerns include traffic congestion, and narrow lanes.
- Concerns regarding maintenance of roadway infrastructure including high friction of the roadway surfaces, potholes, improving visibility at intersections, repairing roadways from storm damage.
- Requests to separate traffic in opposing directions to prevent head-on crashes.
- Requests to improve emergency vehicle access and to make the roadway infrastructure in the city ADA compliant.
- Install street lighting to increase visibility along roadways.

The location and modal emphasis of comments in Half Moon Bay is presented in Figure 51. The comments received are provided in Appendix A. The project team also identified common themes in the responses made countywide which may be relevant to the City. Those are presented in the Community Engagement section of the Countywide LRSP.

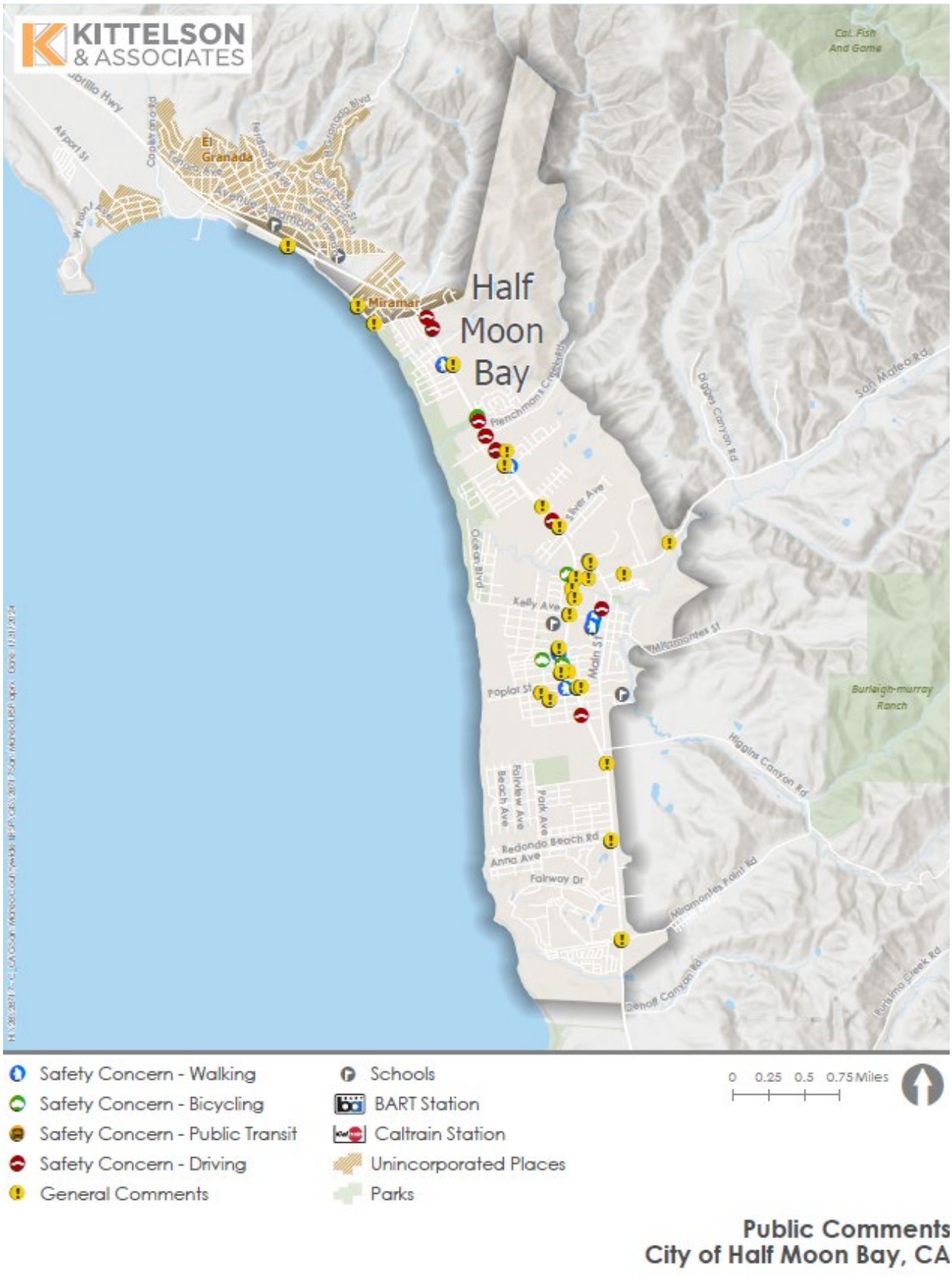
PHASE 2 COMMUNITY ENGAGEMENT FEEDBACK

The project team held an event at the Belmont Farmers' Market in January as part of Phase 2, which provided the project team with input on specific location concerns, general traffic safety/behavioral concerns, and opinions on specific engineering treatments or strategies. The comments received are provided in Appendix B. The following themes were identified for locations in the City of Half Moon Bay:

Motor Vehicle Comments

- Concerns about speeding on roadways, specifically between Highway 1 and Main Street
- Desire for improvements to encourage slower speeds

Figure 3. Webmap Comments in Half Moon Bay



CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix C.

Emphasis Areas

The project team analyzed crash data in Half Moon Bay and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the City can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the City of Half Moon Bay:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In Half Moon Bay, pedestrians and bicyclists were involved in 18 percent and 12 percent of the 17 reported F/SI crashes—higher than their overall share of all injury crashes (9 percent and 10 percent, total).
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Half Moon Bay, two of the three fatal/severe injury pedestrian crashes (67 percent) occurred in dark conditions. Among crashes of all modes, 24 percent of fatal/severe injury crashes occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In Half Moon Bay, 8 crashes or 6 percent of all reported injury crashes involve at fault drivers who are under 30 years old.

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In Half Moon Bay, "Too fast for conditions" was the top-cited violation among motor vehicle crashes (in 37 percent of injury crashes).
6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.
7. **Alcohol involvement.** Countywide, one in ten (10 percent) of motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol. In Half Moon Bay, 13 percent of all reported injury crashes involve impaired driving.

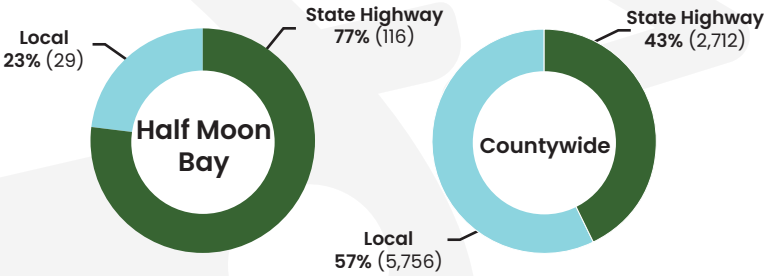
The next pages present summary findings from a crash data review that compares the City of Half Moon Bay to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

Half Moon Bay—Crash History

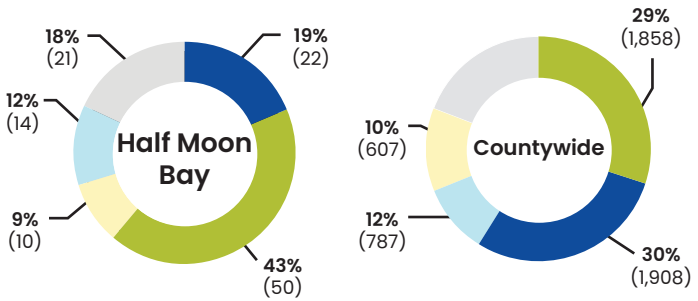
Total Crashes

In Half Moon Bay, 145 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Half Moon Bay compares:



Mode Involvement

Pedestrian Crashes (8)

	Fatal/all injury crashes	Fatal/severe injury crashes
Half Moon Bay	9% (13)	18% (3)
Countywide	13% (1,073)	23% (208)

Bicycle Crashes (5)

	Fatal/all injury crashes	Fatal/severe injury crashes
Half Moon Bay	10% (15)	12% (2)
Countywide	13% (1,067)	20% (176)

Motor Vehicle[1] Crashes (56)

	Fatal/all injury crashes	Fatal/severe injury crashes
Half Moon Bay	81% (117)	71% (12)
Countywide	75% (6,324)	57% (515)

13% (19)

of reported collisions in Half Moon Bay involved drugs or alcohol

6% (8)

of reported collisions in Half Moon Bay involved young drivers[1]

8% (625) Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

5% (472) Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

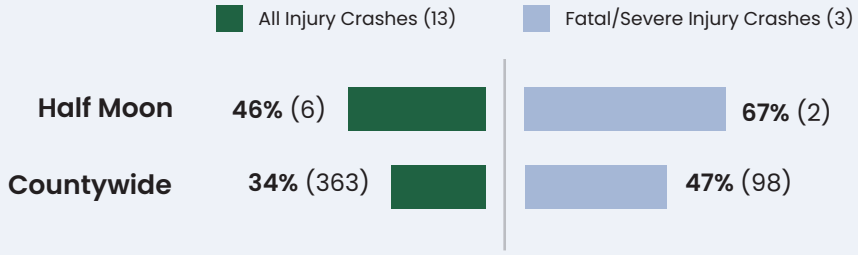
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

Half Moon Bay—Crash History

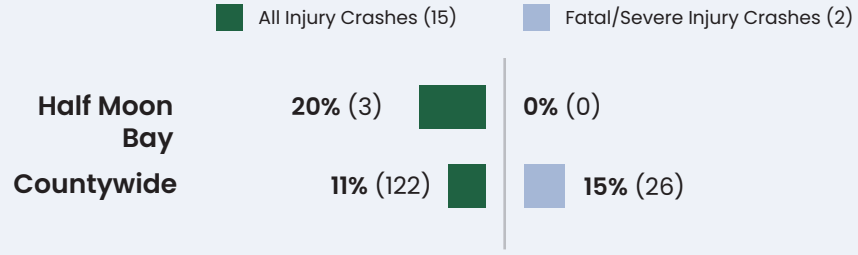
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Half Moon Bay compares to Countywide crashes:

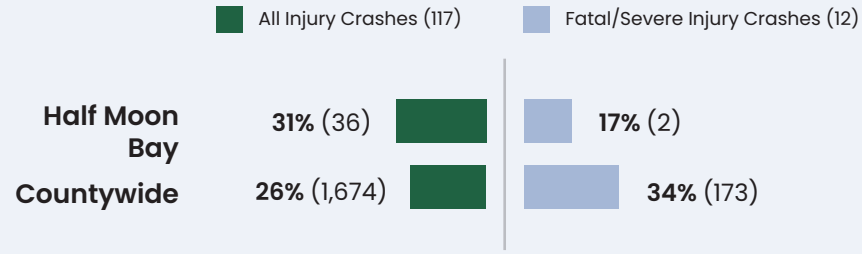
Share of Pedestrian Crashes in Dark Conditions (6)



Share of Bicyclist Crashes in Dark Conditions (3)

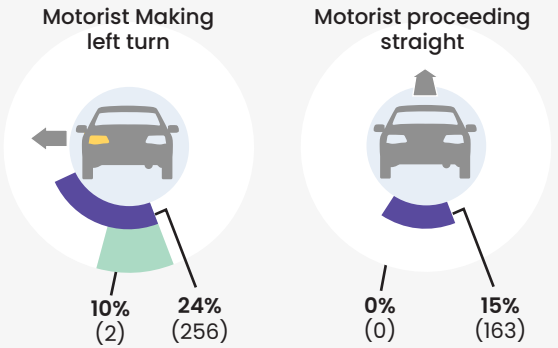


Share of Motor Vehicle Crashes in Dark Conditions (36)

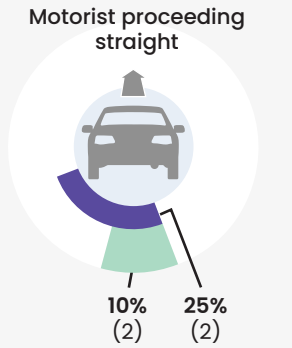


Reported Pedestrian Crashes (3)

Pedestrian Crossing at Intersection

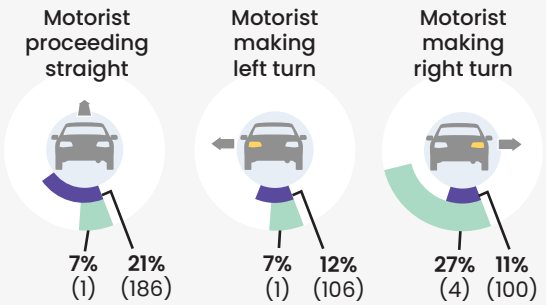


Pedestrian Crossing Not at a Crosswalk

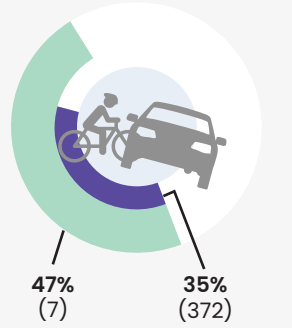


Reported Bicycle Crashes (2)

Bicyclist Proceeding Straight



Perpendicular Bicyclist Crashes



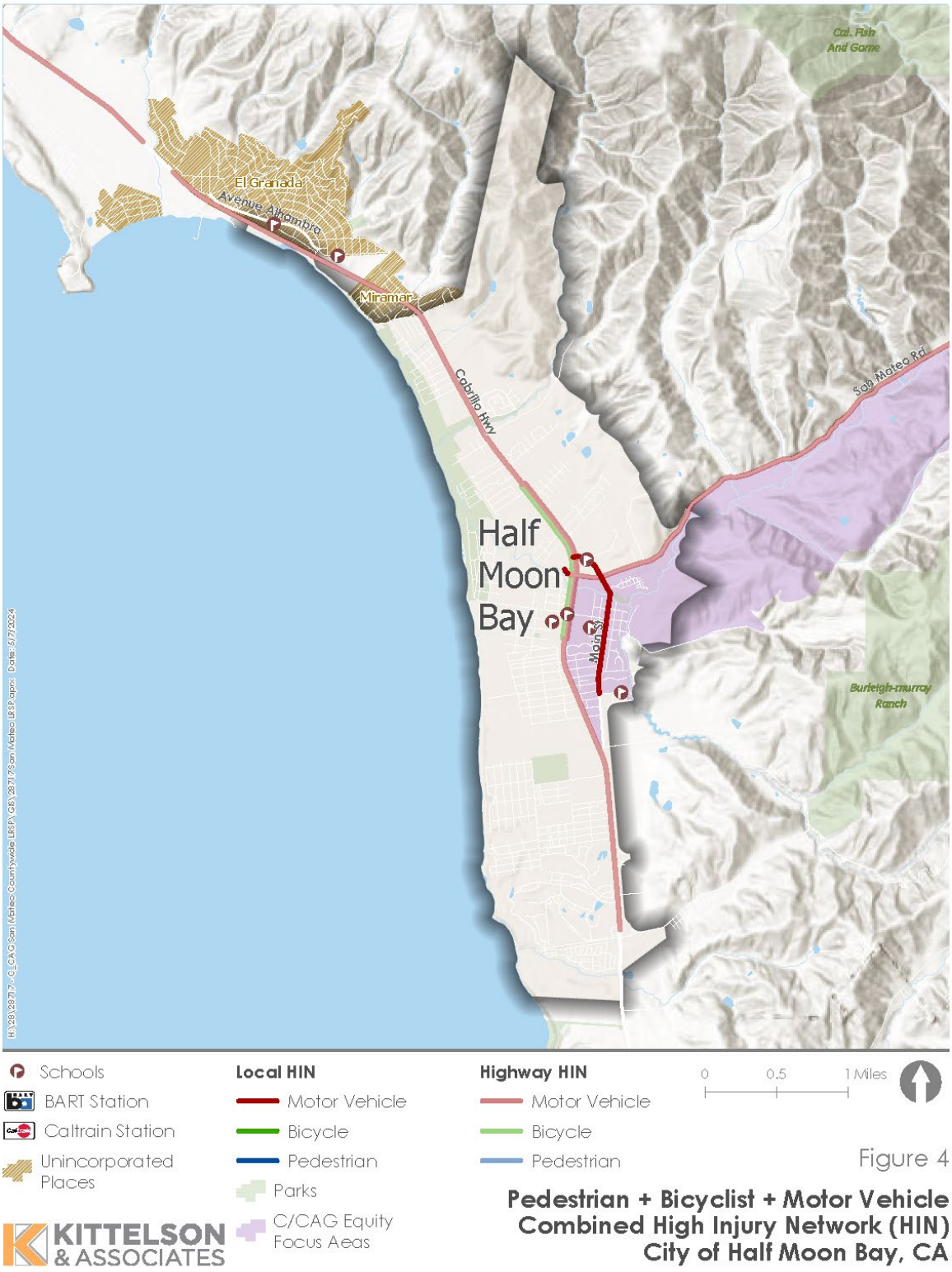
Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 4 show the HIN segments identified within the City.

Table 3. Countywide HIN Segments in Half Moon Bay

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
SR 1	Half Moon Bay, Pacifica, Unincorporated	30.4	X	X	
San Mateo Rd	Half Moon Bay, Unincorporated	6.6	X		
Main St	Redwood City, Half Moon Bay	2.0	X		

Figure 4. Countywide HIN within the City of Half Moon Bay



PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the City to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 5, Figure 6, and Figure 7).

Figure 5. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

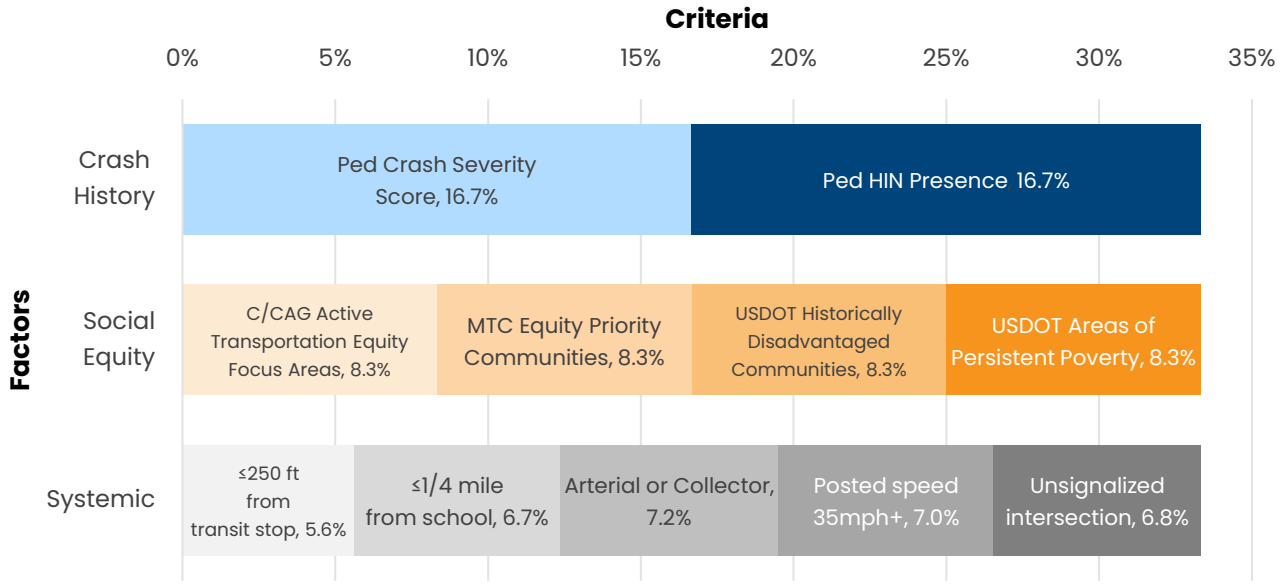


Figure 6. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

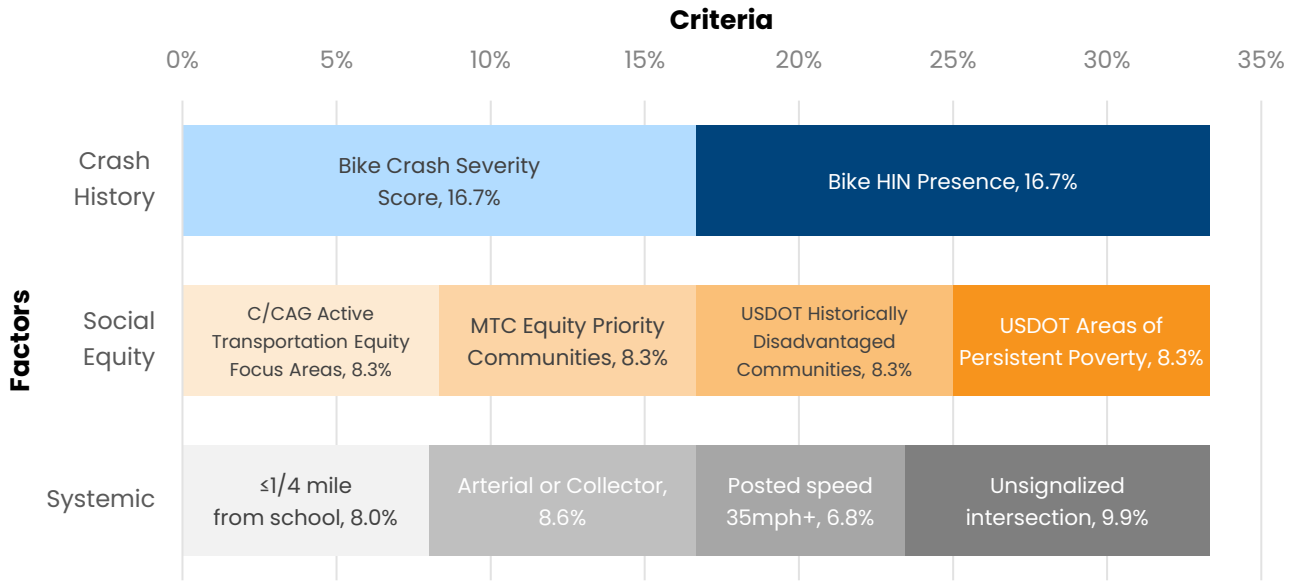
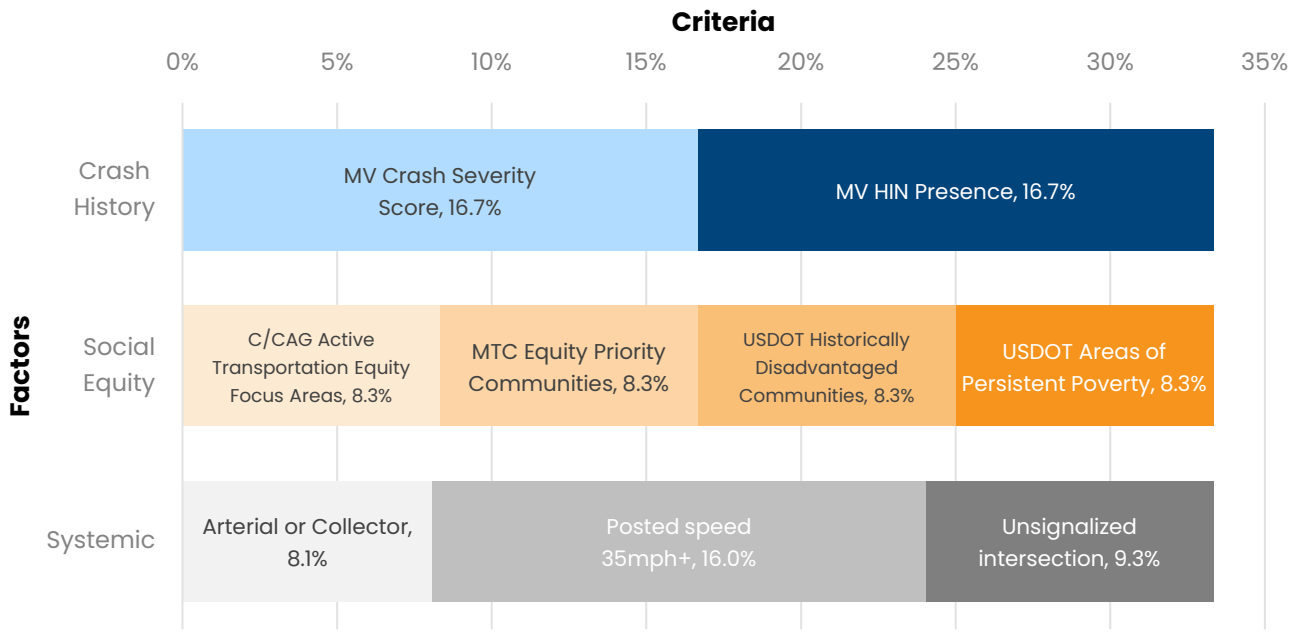


Figure 7. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the City to understand which locations meet which measures.

Results

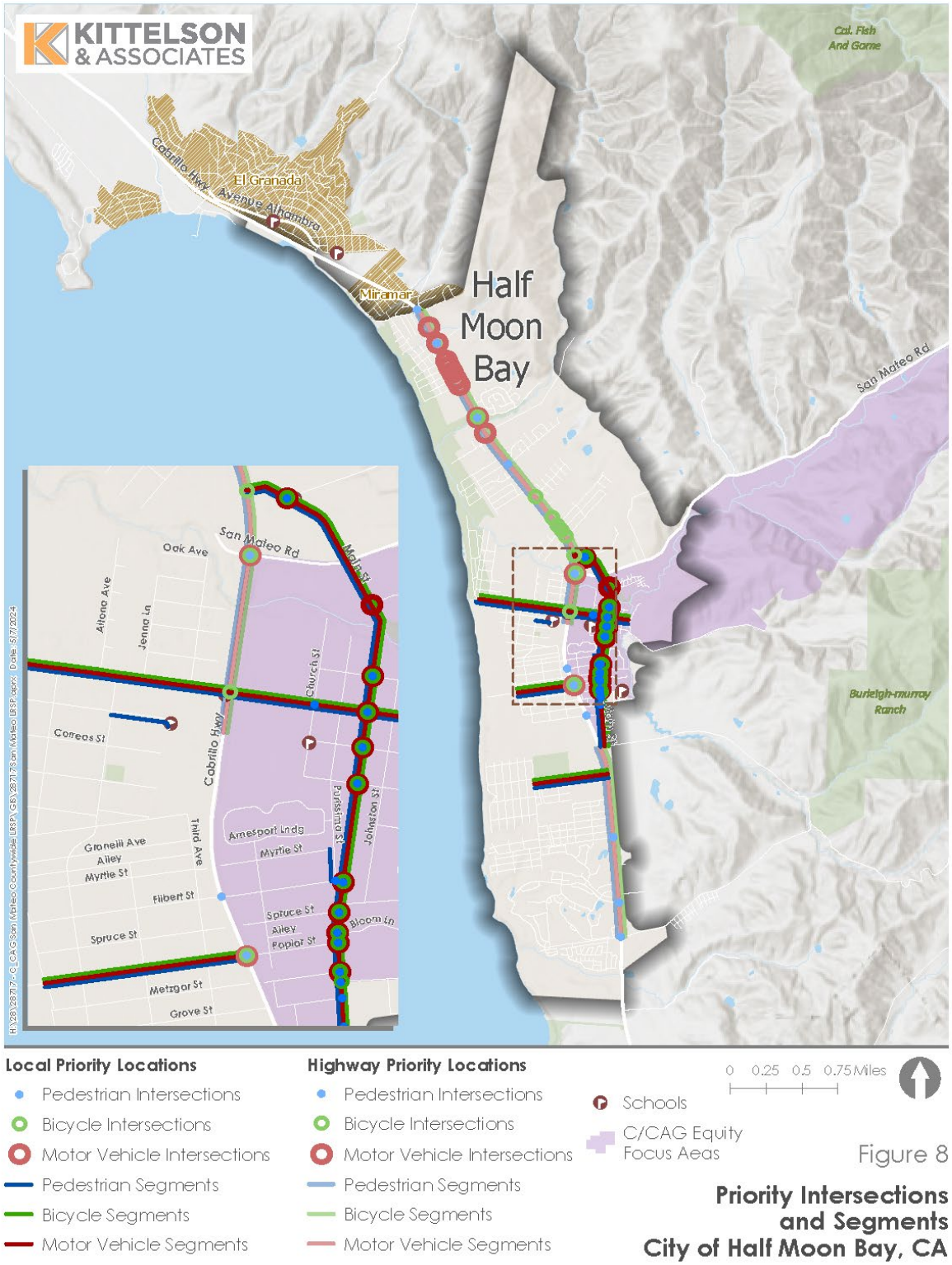
The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix D. Figure 8 also shows the locations.

Table 4. Priority Locations

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Highway 1 and Poplar St	Intersection	Yes	**X**	**X**	**X**
2	Highway 1 and Ruisseau Francais Ave	Intersection	Yes	**X**	**X**	**X**
3	Main St and Lewis Foster Dr	Intersection	No	**X**	**X**	**X**
4	Highway 1 and Miramontes Point Rd	Intersection	Yes			**X**
5	Highway 1 and Fairway Dr	Intersection	Yes			**X**
6	Highway 1 and Mirada Rd	Intersection	Yes			**X**
7	Highway 1 and Redondo Beach	Intersection	Yes			**X**
8	Highway 1 and Roosevelt Blvd	Intersection	Yes			**X**
9	Highway 1 and Filbert St	Intersection	Yes			**X**
10	Highway 1 and Spindrift Way	Intersection	Yes			**X**
11	Filbert St and Purissima St and Main St	Intersection	No			**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
12	Highway 1 and Seymour St	Intersection	Yes			**X**
13	Church St and Kelly Ave	Intersection	No			**X**
14	Highway 1 and Highway 92	Intersection	Yes	**X**	**X**	**X**
15	Kelly Ave	Corridor	No	**X**	**X**	**X**
16	Main St	Corridor	No	**X**	**X**	**X**
17	Poplar St, from Highway 1 to Railroad Ave	Corridor	No	**X**	**X**	**X**
18	Highway 1, from Miramontes Point Rd to Main St South	Corridor	Yes	**X**	**X**	**X**
19	Highway 1, from Main Spindrift Way to Russeau Francais Ave	Corridor	Yes	**X**	**X**	**X**
20	Wavecrest Rd, from Highway 1 to the Coastal Trail	Corridor	No	**X**	**X**	**X**
21	Miramontes Ave, from Alsace Lorraine to east end	Corridor	No			**X**

Figure 8: Half Moon Bay Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the City of Half Moon Bay. First are engineering recommendations: identified project scopes and a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the City to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the City could consider at these locations. The City can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of City-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- Kelly Ave E to W City limit. Recommended improvements include:
    - Separated bike lanes

  - Midblock pedestrian crossing with enhanced safety features (flashing beacons, curb extensions, advance "yield" lines)
  - Dynamic/variable speed warning signs
- Main St N to City limit. Recommended improvements include:
  - Separated bike lanes
  - Pedestrian crossing with enhanced safety features (Rectangular Rapid Flashing Beacon, curb extensions, advance "yield" lines) at Main St/Spruce St
  - Raised pedestrian crossings at three locations
  - Dynamic/variable speed warning signs

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix E.

Engineering Countermeasure Toolbox

This section presents Safe System-aligned engineering recommendations that can create levels of redundancy for traffic safety in the City of Half Moon Bay. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Table 5. City of Half Moon Bay Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Lighting*	All	Nighttime	0.4		Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Create directional median openings to allow (and restrict left turns and U-turns (signalized intersection)*	SI	Signalized local/arterial intersections	0.5	$-$$	Medium
Install raised pavement markers and striping*	SI	Wet, night, all	0.1	$	High
Install flashing beacons as advance warning (SI)*	SI	Rear end, broadside	0.3	$-$$	Medium
No right turn on red	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	Medium

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install pedestrian scramble*	SI	Pedestrian crashes, signalized local/arterial intersections	0.4	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
Install painted safety zone	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	High
Install Protected Intersection Elements	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$-$$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Convert to all-way STOP control (from two-way or Yield control)*	UI	All crashes	0.5	$	Low
Install signals*	UI	All crashes	0.3	$$$	Low
Convert intersection to roundabout (from all-way stop)*	UI	All crashes	Varies	$$$	Low
Convert intersection to roundabout (from stop or yield control on minor road)*	UI	All crashes	Varies	$$$	Low
Covert intersection to mini-roundabout*	UI	All crashes	0.3	$$	Low
Create directional median openings to allow (and restrict) left turns and U-turns (unsignalized intersections)*	UI	All crashes	0.5	$-$$	Medium
Install raised medians (refuge islands)*	UI	Pedestrians and bicycle	0.45	$	Medium
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install flashing beacons at stop-controlled intersection*	UI	Broadside, rear end	0.15	$$$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Install transverse rumble strips on approaches*	UI	All crashes	0.2	$	High
Install splitter islands on the minor road approaches*	UI	All crashes	0.4	$	Medium
Corridor access management	R	N/A	0.35	$	Medium
Install edgeline rumble strips/stripes*	R	All crashes	0.15	$-$$$	High
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Install raised pedestrian crossing*	R	Pedestrian and bicycle	0.35	$	Medium
Remove or relocate fixed objects outside of clear recovery zone*	R	Hit object	035	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Extend green time for bikes	SI	Bicycle	N/A	$	High
Extend yellow and all-red time	SI	All crashes	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Curb extensions	UI	All crashes	N/A	$-$$	Low
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Splitter islands	UI, SI	All crashes	N/A	$$	Medium
Approach curvature	UI, SI	All crashes	N/A	$$$	Low
Roadside design features	All	All crashes	N/A	$-$$$	Low

*Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above
2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the City aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the City's Safe System Approach.

Table 6. City of Half Moon Bay Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)		LCS2: High-Visibility Media Campaign LCS4: Implement Car-Free Zones
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)	LF1: Dedicated Funding	LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleets
Local Planning/ Evaluation (LPE)		LPE1: Annual Review LPE2: Plan Update LPE3: Safety and Equity Impacts Evaluation LPE4: Safe Routes to School LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: City of Half Moon Bay Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: City of Half Moon Bay Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the San Matteo County Sheriff's Office to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan.

Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness. Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, City of Half Moon Bay Public Works

LCS4: Implement Car-Free Zones

More effectively target resources to pedestrian crash problems in a limited geographic area. Realizing these zones requires upfront analysis and planning, countermeasure development, and implementation. Implementation can focus on addressing particular problems or on increasing general safety in specific areas during windows of peak pedestrian activity. (For example: Friday nights in commercial districts, Sundays on recreational routes/areas, etc.)
Lead agency: City of Half Moon Bay Public Works

LEC2: Speed Monitoring Awareness Trailer

Coordinate with the San Matteo County Sheriff's Office to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: County Sheriff's Office
Coordinating partners: City of Half Moon Bay Public Works

LF2: Equitable Investment

Prioritize citywide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: City of Half Moon Bay Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: City of Half Moon Bay Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO2: Engagement Accessibility

Plan community engagement efforts to be tailored for vulnerable road users and all travel modes. Make outreach materials available in accessible formats and multiple languages.

Lead agency: City of Half Moon Bay Public Works

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.

Lead agency: City of Half Moon Bay Public Works

LEO4: Transportation Safety Campaign

Run education campaigns and outreach to foster community awareness of a shared responsibility for road safety. Use the emphasis areas highlighted in this plan as focus areas and target groups for a campaign.

Lead agency: City of Half Moon Bay Public Works

Coordinating partners: C/CAG, County Public Health

LEO5: Safe City Fleets

Provide educational materials for City staff who drive City vehicles and integrate safety awareness training into contracting process with vendors who provide City services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on City vehicles and reporting on correction plans against unsafe driving.

Lead agency: City of Half Moon Bay Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to City Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.

Lead agency: City of Half Moon Bay Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.

Lead agency: City of Half Moon Bay Public Works

LPE3: Safety and Equity Impacts Evaluation

Fund a study to address traffic injury and enforcement inequities to inform policies, projects, programs, and needed data quality improvements.

Solicit feedback on the report's equity analysis from groups representing equity priority communities. Topics for the study may include injury related to homelessness, race/ethnicity, language, income, and immigration status, citations by demographics, citation type, and location.

Alternately, coordinate with the TSAC to participate in a countywide version of the same that can include the City as part of its scope.

Lead agency: C/CAG

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.

Develop a plan and timeline to include all schools in the City.

Lead agency: SMCOE

Coordinating partners: City of Half Moon Bay Public Works

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds.

To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.

Lead agency: City of Half Moon Bay Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Half Moon Bay's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The City of Half Moon Bay will develop a process to regularly collect data and information around the performance measures that can be used to assess changes city-wide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Half Moon Bay can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for Half Moon Bay and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 7. City of Half Moon Bay Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
2. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings city staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice
3. Monitor implementation of the Half Moon Bay LRSP to track progress towards goals.	• See above in this table

City of Half Moon Bay

San Mateo C/CAG Countywide LRSP

Town of Hillsborough

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the Town's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the Town can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the Town of Hillsborough. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The Town will revisit and update this LRSP at least every five years.

The Town of Hillsborough has a 2023 population of 10,962 per California Department of Finance. The Town has 82 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 11 reported crashes on surface streets in the Town and 2 fatal/severe injury crashes. In that time period, pedestrians were involved in 11 percent of all reported crashes and 20 percent of fatal/severe injury crashes. Bicyclists were involved in 18 percent of all reported crashes and 40 percent of fatal/severe injury crashes. The LRSP provides Safe System-aligned strategies tailored to Hillsborough's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the Town for public viewing.

VISION AND GOALS

The Town of Hillsborough's vision for roadway safety is:

- Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2050.

To support this vision, the Town has established the following goals:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.
3. Promote plan recommendations with identified safety partners to incorporate roadway safety through safety projects and educational campaigns in Hillsborough.
4. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.
5. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.
6. Identify opportunities to incorporate social equity into safety improvements.
7. Monitor implementation of the Hillsborough LRSP to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on Hillsborough's solid foundation of plans, policies, and programs that support safe, equitable mobility in the town. For a list of the Town of Hillsborough's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. Town of Hillsborough Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
Eucalyptus Pathway	The Town has an ongoing project, identified through prior planning processes to construct a 1,900-foot-long ADA-accessible path. The Town has received funding from San Mateo County Transportation Authority and the project is under construction.	Safe Roads

Program Name	Program Description	Safe System Elements
Pedestrian Master Plan	The Town is currently preparing its Bicycle and Pedestrian Pathway Master Plan. The Plan will be a guidance document for the Town to identify bicycle- and pedestrian-friendly pathways.	Safe Roads

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of Hillsborough's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- Hillsborough Police Department

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the Town's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

Table 2. Community Engagement Phases and Events

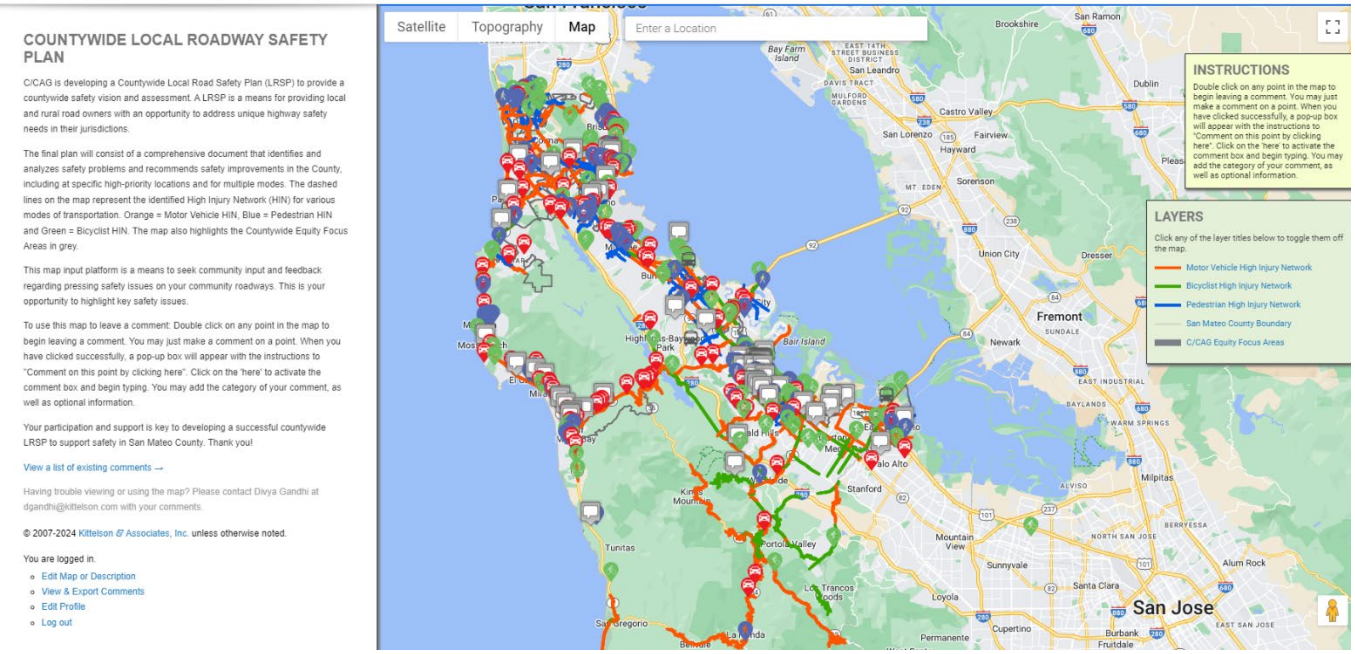
Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023		East Palo Alto

Date	Event	Location
August 19, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see).

Figure 1. Online Map Survey Tool



Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Countywide, there were a total of 528 comments recorded by 352 respondents. There was one comment made within the Town which was a comment that there is a general lack of coordination between cities in roadway safety planning. That comments is provided in Appendix A.

The Town may continue to monitor its SeeClickFix reports to monitor issues identified by residents and visitors.

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeways from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix C.

Emphasis Areas

The project team analyzed crash data in Hillsborough and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the Town can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the Town of Hillsborough:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In Hillsborough, among five reported F/SI crashes, a pedestrian was involved in one and bicyclists were involved in two. There was one recorded pedestrian F/SI crash and two recorded bicyclist F/SI crashes (out of 5 F/SI crashes in the period).
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Hillsborough, 9 or 33 percent of motor vehicle crashes occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial

1 Transportation Injury Mapping System, http://tims.berkeley.edu

and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.

4. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In Hillsborough, "Too fast for conditions" was cited for 4 out of 38 reported injury crashes (11 percent).
5. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.
6. **Alcohol involvement.** Countywide, one in ten (10 percent) of motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol. In Hillsborough, 13 percent of all reported injury crashes involve impaired driving.

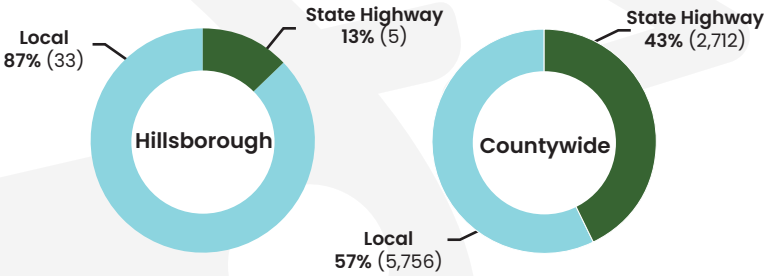
The next pages present summary findings from a crash data review that compares the Town of Hillsborough to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

Hillsborough—Injury & Fatal Crash History

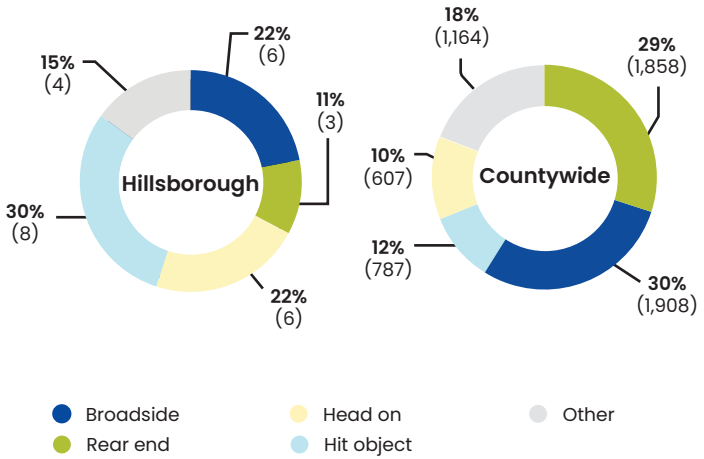
Total Crashes

In Hillsborough, 38 injury crashes, including 1 fatal crash were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Hillsborough compares:

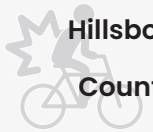


Mode Involvement

Pedestrian Crashes (4)

	All Injury Crashes	Fatal/Severe Injury Crashes
Hillsborough	11% (4)	20% (1)
Countywide	13% (1,073)	23% (208)

Bicycle Crashes (7)



	All Injury Crashes	Fatal/Severe Injury Crashes
Hillsborough	18% (7)	40% (2)
Countywide	13% (1,067)	20% (176)

Motor Vehicle[1] Crashes (27)

	All Injury Crashes	Fatal/Severe Injury Crashes
Hillsborough	71% (27)	40% (2)
Countywide	75% (6,324)	57% (515)

13% (5)

of reported collisions in Hillsborough involved drugs or alcohol

8% (625)

Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

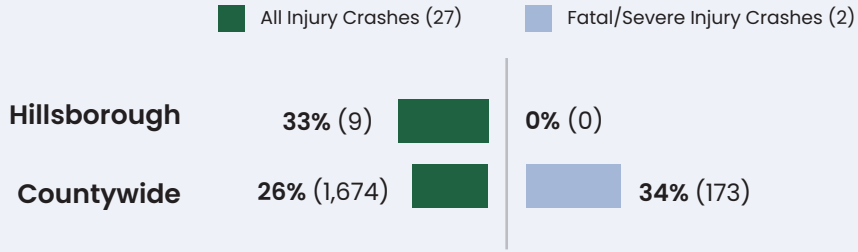
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

Hillsborough—Injury & Fatal Crash History

Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Hillsborough compares to Countywide crashes:

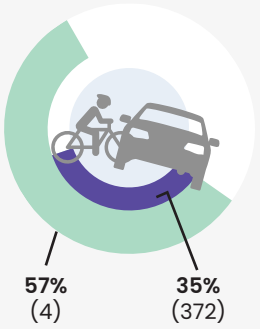
Share of Motor Vehicle Crashes in Dark Conditions (9)



Reported Bicycle Crashes (7)

Bicyclist Proceeding Straight

Perpendicular Bicyclist Crashes



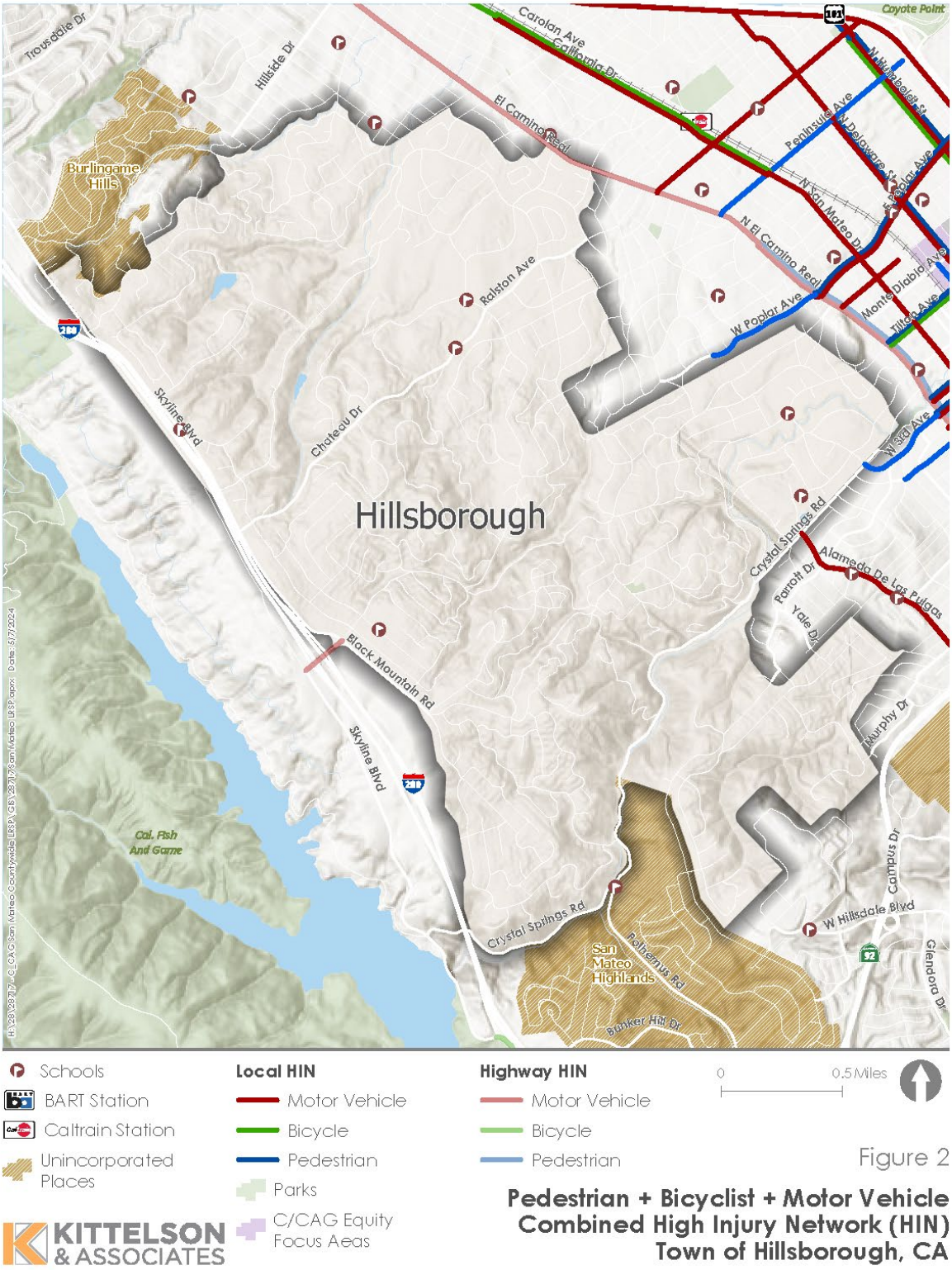
Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 2 show the HIN segments identified within the Town.

Table 3. Countywide HIN Segments in Hillsborough

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Golf Course Dr	Hillsborough, Unincorporated	0.2	**X**		

Figure 2. Countywide HIN within the Town of Hillsborough



PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the Town to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 3, Figure 4, and Figure 5).

Figure 3. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

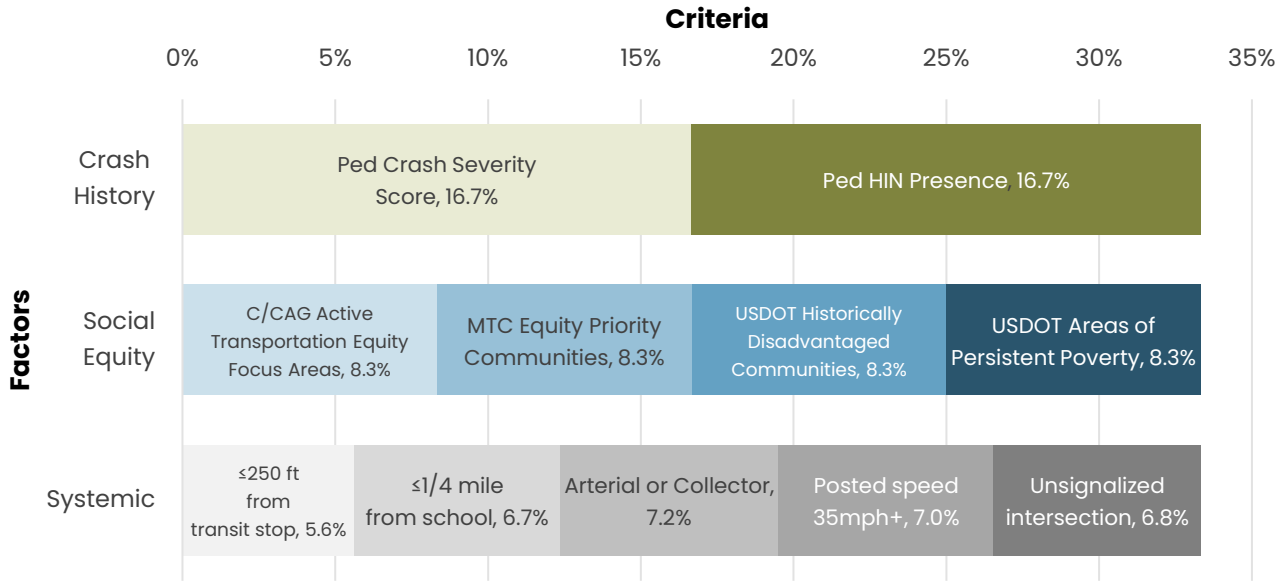


Figure 4. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

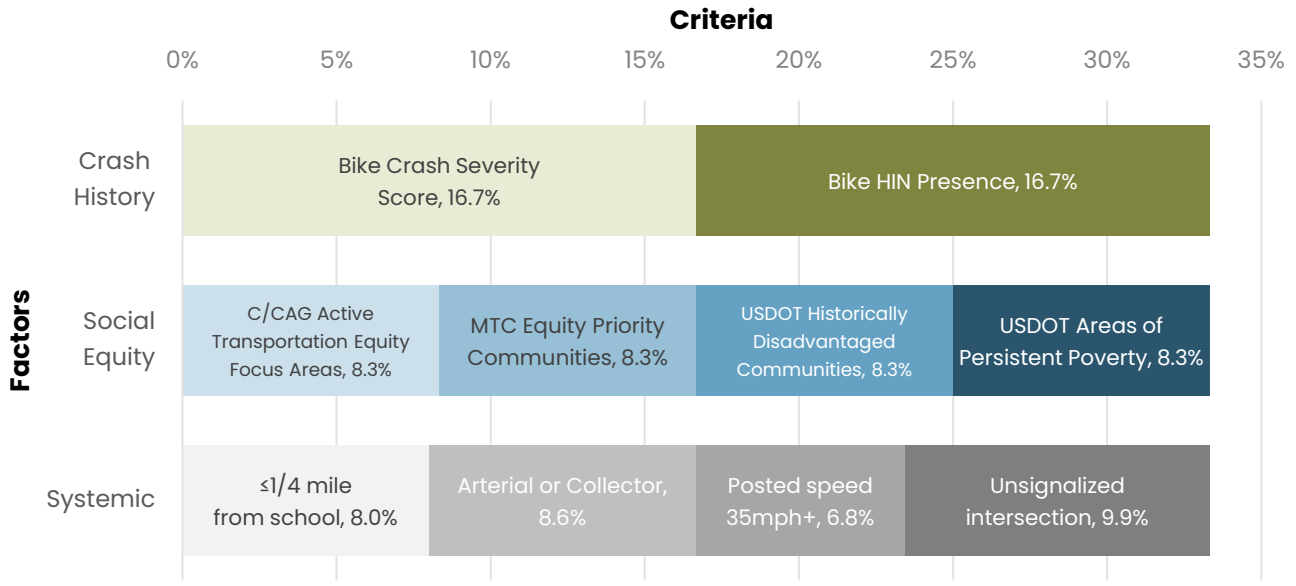
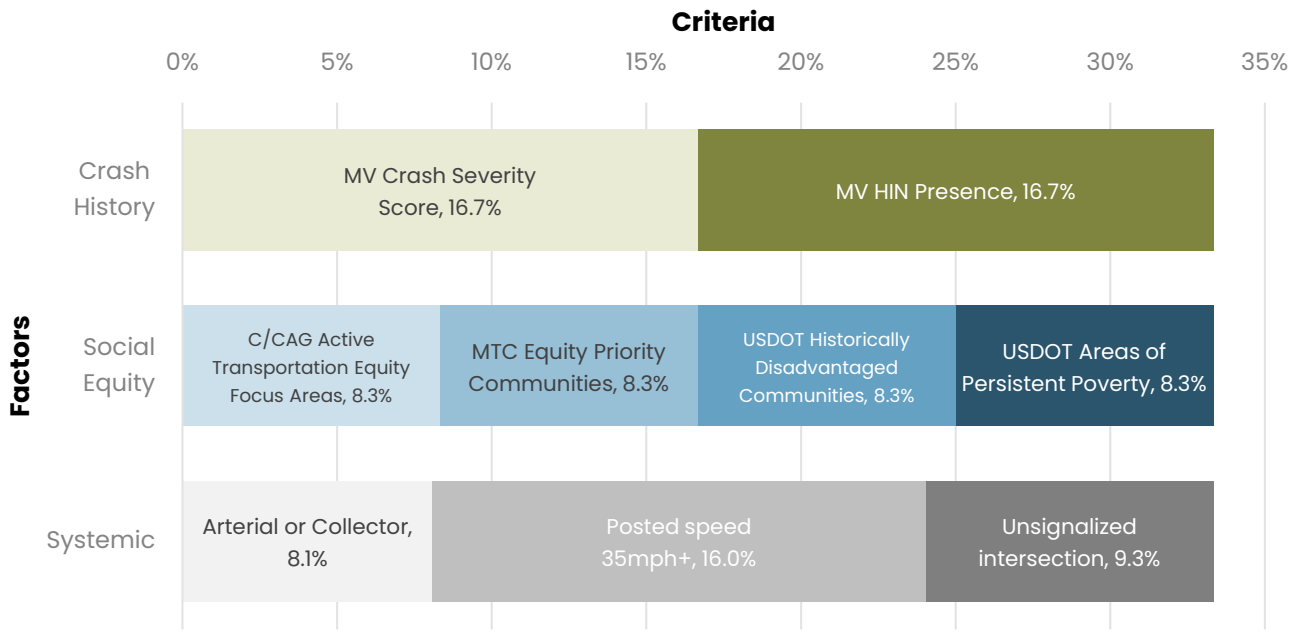


Figure 5. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the Town to understand which locations meet which measures.

Results

The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix D. Figure 6 also shows the locations.

Table 4. Priority Locations

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Skyline Blvd and Skyfarm Dr	Intersection	No	**X**	**X**	**X**
2	Hayne Rd and Golf Course Dr	Intersection	No	**X**	**X**	
3	Skyline Blvd and Butternut Dr	Intersection	No	**X**	**X**	**X**
4	Skyline Blvd and Rowan Tree Ln	Intersection	No	**X**	**X**	**X**
5	El Cerrito Ave and Gramercy Dr	Intersection	No	**X**	**X**	**X**
6	Santa Inez Ave and Arlington Ln	Intersection	No	**X**		
7	Black Mountain Rd and Denise Dr	Intersection	No	**X**		
8	Black Mountain Rd and Wedgewood Dr	Intersection	No	**X**		**X**
9	Merner Rd and Crystal Springs Rd	Intersection	No	**X**	**X**	**X**
10	Crystal Springs Ter and Crystal Springs Rd	Intersection	No	**X**	**X**	**X**

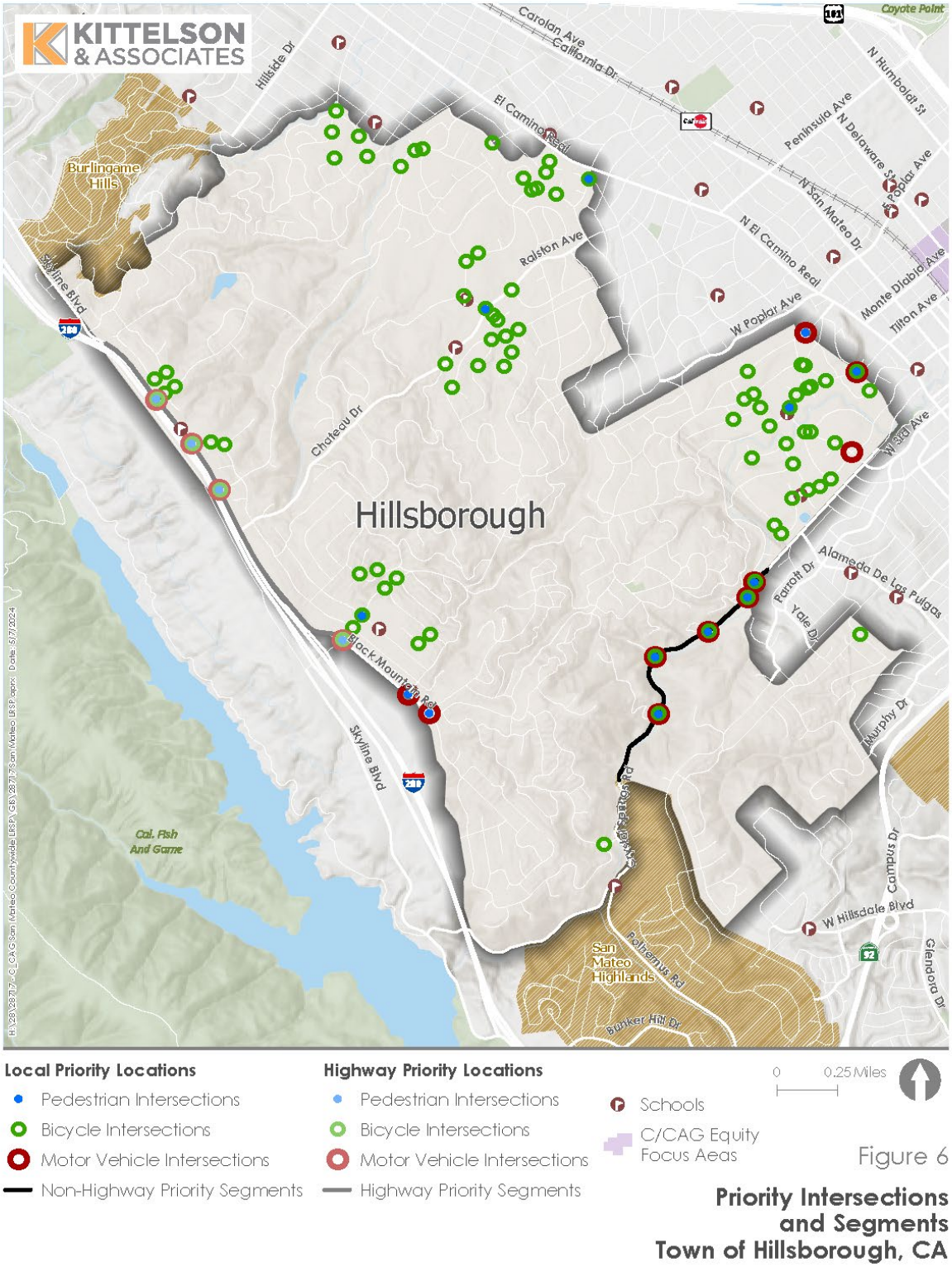
ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
11	Crystal Springs Rd and Ridgeway Rd	Intersection	No	**X**	**X**	**X**
12	Woodridge Rd and Crystal Springs Rd	Intersection	No	**X**	**X**	**X**
13	Crystal Springs Rd and El Cerrito Ave	Intersection	No	**X**	**X**	**X**
14	Stonehedge Rd and Baywood Ave	Intersection	No	**X**		
15	Hayne Rd and Golf Course Dr	Intersection	Yes			**X**
16	Kammerer Ct and Bellevue Ave	Intersection	No		**X**	**X**
17	Black Mountain Rd and Denise Rd	Intersection	No			**X**
18	Barbara Way and Hayne Rd	Intersection	No			**X**
19	El Cerrito Ave and Stonehedge Rd	Intersection	No		**X**	**X**
20	Eucalyptus Ave and Ralston Ave	Intersection	No		**X**	**X**
21	Stonepine Rd and Barroilhet Ave	Intersection	No		**X**	
22	Ralston Ave and Chateau Dr	Intersection	No		**X**	
23	Homeplace Ct and Barroilhet Ave	Intersection	No		**X**	
24	Eucalyptus Ave and Tamarack Dr	Intersection	No		**X**	
25	Stonepine Rd and Stonepine Ct	Intersection	No		**X**	
26	Tamarack Dr and Farmhill Ct	Intersection	No		**X**	
27	Tartan Trail Rd and Lakeview Dr	Intersection	No		**X**	
28	Downey Way and Acorn Dr	Intersection	No		**X**	
29	Fagan Dr and Margo Ln	Intersection	No		**X**	
30	Fagan Dr and Jackling Dr	Intersection	No		**X**	
31	Irwin Dr and Forest View Ave	Intersection	No		**X**	

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
32	Forest View Ave and Denham Ct	Intersection	No		**X**	
33	Carmelita Ave and Armsby Dr	Intersection	No		**X**	
34	Armsby Dr and Reynolds Ct	Intersection	No		**X**	
35	Eucalyptus Ave and Geri Ln	Intersection	No		**X**	
36	El Cerrito Ave and Waverly Pl	Intersection	No		**X**	
37	Warm Canyon Way and Remillard Dr	Intersection	No		**X**	
38	Hayne Rd and Darrell Rd	Intersection	No		**X**	
39	Remillard Dr and Mosswood Rd	Intersection	No		**X**	
40	Barbara Way and Hayne Rd	Intersection	No		**X**	
41	Camphor Ct and Rowan Tree Ln	Intersection	No		**X**	
42	Sherwood Ct and De Sabla Rd	Intersection	No		**X**	
43	Roehampton Rd and Richmond Rd	Intersection	No		**X**	
44	El Cerrito Ave and Poett Rd	Intersection	No		**X**	
45	Roblar Ave and Milford Ave	Intersection	No		**X**	
46	Laureldale Rd and Bridge Rd	Intersection	No		**X**	
47	Roehampton Rd and Poett Rd	Intersection	No		**X**	
48	Santa Inez Ave and Santa Maria Ln	Intersection	No		**X**	
49	Stonehedge Rd and St Francis Rd	Intersection	No		**X**	
50	Roblar Ave and El Cerrito Ave	Intersection	No		**X**	
51	Roblar Ave and Severn Ave	Intersection	No		**X**	
52	Roblar Ave and Ericson Rd	Intersection	No		**X**	
53	El Cerrito Ave and Wickham Pl	Intersection	No		**X**	

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
54	Fallenleaf Dr and Bridge Rd	Intersection	No		**X**	
55	Homs Ct and El Cerrito Ave	Intersection	No		**X**	
56	Stonehedge Rd and Bridge Rd	Intersection	No		**X**	
57	Floribunda Ave and Pepper Ave	Intersection	No		**X**	
58	Floribunda Ave and Highgate Ln	Intersection	No		**X**	
59	Fairway Cir and Floribunda Ave	Intersection	No		**X**	
60	Pepper Ave and Summerholme Pl	Intersection	No		**X**	
61	Newhall Rd and Willow Ave	Intersection	No		**X**	
62	Alberta Way and Roberts Way	Intersection	No		**X**	
63	Alberta Way and Hayne Rd	Intersection	No		**X**	
64	Robinwood Ln and Hayne Rd	Intersection	No		**X**	
65	Roberts Way and	Intersection	No		**X**	
66	Butternut Dr and Privet Dr	Intersection	No		**X**	
67	Churchill Dr And	Intersection	No		**X**	
68	Privet Dr and Churchill Dr	Intersection	No		**X**	
69	Grevillea Ct and Butternut Dr	Intersection	No		**X**	
70	Rowan Tree Ln and Darrell Rd	Intersection	No		**X**	
71	Poett Rd and Roblar Ave	Intersection	No		**X**	
72	Redwood Dr and Sierra Dr	Intersection	No		**X**	
73	Bridge Rd and Redwood Dr	Intersection	No		**X**	
74	Fallenleaf Dr and Uplands Dr	Intersection	No		**X**	
75	Uplands Dr and Normandy Ct	Intersection	No		**X**	
76	Uplands Dr and Redwood Dr	Intersection	No		**X**	
77	Uplands Dr and Rockridge Rd	Intersection	No		**X**	

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
78	Rockridge Rd and Greenbriar Way	Intersection	No		**X**	
79	Rockridge Rd and Creekwood Way	Intersection	No		**X**	
80	Barroilhet Ave and Conifer Ln	Intersection	No		**X**	
81	Eucalyptus Ave and Barroilhet Ave	Intersection	No		**X**	
82	Woodland Dr and Tournament Dr	Intersection	No		**X**	
83	Fairway Cir and Fairway Cir	Intersection	No		**X**	
84	Floribunda Ave and Walnut Ave	Intersection	No		**X**	
85	Eucalyptus Ave and New Place Rd	Intersection	No		**X**	
86	Eucalyptus Ave and Floribunda Ave	Intersection	No		**X**	
87	Floribunda Ave and Madrone Pl	Intersection	No		**X**	
88	Eucalyptus Ave and Bayberry Pl	Intersection	No		**X**	
89	Parkside Ave and Ralston Ave	Intersection	No		**X**	
90	Eucalyptus Ave and Tevis Pl	Intersection	No		**X**	
91	Skyline Blvd (SR 35), N town limit to Hayne Rd	Corridor	Yes	**X**	**X**	**X**
91	Crystal Springs Rd, El Cerrito Rd to S town limit	Corridor	No	**X**	**X**	**X**

Figure 6: Hillsborough Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the Town of Hillsborough. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align Town departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the Town to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the Town could consider at these locations. The Town can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed considering a Town-approved list of engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- El Cerrito Ave and Gramercy Dr. Recommended improvements include:
    - Installation of larger stop signs on all approaches
- Crystal Springs Rd—El Cerrito Ave to south town limit. Recommended improvements include:
    - Upgraded, larger stop signs and other warning or regulatory signs
    - Dynamic/variable speed warning signs

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix D.

Engineering Countermeasure Toolbox

This section presents Safe System-aligned engineering recommendations that can create levels of redundancy for traffic safety in the Town of Hillsborough. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align Town departments and partners in pursuit of the plan's vision and goals.

Table 5. Town of Hillsborough Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install flashing beacons as advance warning (SI)*	UI, R	Rear end, broadside	0.3	$-$$	Medium
Install advance stop bar before crosswalk (bicycle box)*	UI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High

*****Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the Town aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the Town's Safe System Approach.

Table 6. Town of Hillsborough Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee Participation	LCS2: High-Visibility Media Campaign
Local Enforcement Coordination (LEC)		LEC1: Law Enforcement Training LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)	LF1: Dedicated Funding	LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleets LEO6: Conspicuity Enhancements and Education
Local Planning/ Evaluation (LPE)		LPE1: Annual Review LPE2: Plan Update LPE4: Safe Routes to School LPE5: Data Quality Improvements LPE6: Crash Data Enhancements LPE7: Big Data LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)

- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: Town of Hillsborough Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: Town of Hillsborough Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the Town of Hillsborough Police Department to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan.
Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness.
Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, Town of Hillsborough Police Department, Town of Hillsborough Public Works

LEC1: Law Enforcement Training

Coordinate with the Town's Police Department to identify opportunities for integrating safety into training for new offices (e.g., NHTSA's pedestrian training for law enforcement).
Identify through the TSAC if opportunities for efficiency are available in coordination with the County Sheriff's Office or California Highway Patrol.
Lead agency: County Sheriff's Office
Coordinating partners: California Highway Patrol, Town of Hillsborough Public Works

LEC2: Speed Monitoring Awareness Trailer

Coordinate with Hillsborough PD to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: Town of Hillsborough Police Department
Coordinating partners: Town of Hillsborough Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: Town of Hillsborough Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects

- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO2: Engagement Accessibility

Plan community engagement efforts to be tailored for vulnerable road users and all travel modes. Make outreach materials available in accessible formats and multiple languages.
Lead agency: Town of Hillsborough Public Works

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.
Lead agency: Town of Hillsborough Public Works

LEO4: Transportation Safety Campaign

Run education campaigns and outreach to foster community awareness of a shared responsibility for road safety. Use the emphasis areas highlighted in this plan as focus areas and target groups for a campaign.
Lead agency: Town of Hillsborough Public Works
Coordinating partners: C/CAG, County Public Health

LEO5: Safe City Fleets

Provide educational materials for Town staff who drive Town vehicles and integrate safety awareness training into contracting process with vendors who provide Town services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on Town vehicles and reporting on correction plans against unsafe driving.
Lead agency: Town of Hillsborough Public Works

LEO6: Conspicuity Enhancements and Education

Educate pedestrians, bicyclists, and other vulnerable users in the importance of wearing reflective clothing and traveling in well-lit areas. Additional measures could include distributing reflective clothing to residents.
Lead agency: Town of Hillsborough Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to Town Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: Town of Hillsborough Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: Town of Hillsborough Public Works

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.

Develop a plan and timeline to include all schools in the Town.
Lead agency: SMCOE
Coordinating partners: Town of Hillsborough Public Works

LPE5: Data Quality Improvements

Conduct one or more studies to address the following challenges:

- Integrating hospital and police data
- Providing a means to collect and incorporate near-miss data into safety analysis

Lead agency: C/CAG
Coordinating partners: County Sheriff's Office, Local Jurisdictions, Local Police Departments, Town of Hillsborough

LPE6: Crash Data Enhancements

Study integrating crash data with Police Department's tracking system for timely, efficient reporting and sharing of injury crashes, including geolocated data.
Review current crash data form and study existing best practices. Consider adding select visible disability statuses to the crash data form. If feasible and prudent, add this field to the crash data form.
Lead agency: County Sheriff's Office
Coordinating partners: California Highway Patrol, C/CAG, MTC

LPE7: Big Data

Coordinate with C/CAG through the TSAC to identify a pathway for obtaining and incorporating integrated curb-level activity data including volumes, paths, speeds, and behaviors of pedestrians, bicycles, vehicles, etc. These data are available from a number of big data sources on the market. The goal would be to enable improved data availability for safety planning.
Lead agency: C/CAG
Coordinating partners: MTC, SMCTA, Town of Hillsborough

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds.
To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.
Lead agency: Town of Hillsborough Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Hillsborough's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The Town of Hillsborough will develop a process to regularly collect data and information around the performance measures that can be used to assess changes townwide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Hillsborough can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for Hillsborough and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 7. Town of Hillsborough Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
2. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.	• Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) versus outside these areas • Report-backs to the Town Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable. • Implementation of a high-visibility media campaign • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the Town
3. Promote plan recommendations with identified safety partners to incorporate roadway safety through safety projects and educational campaigns in Hillsborough.	• Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions townwide for safety plans or projects. • Report-backs to the Town Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable
4. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings Town staff have participated in regarding Safe System elements, available tools, or practices

GOAL	MEASURE OF SUCCESS
	• Improved data availability or maintenance to enhance safety analysis and practice
5. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community. 6. Identify opportunities to incorporate social equity into safety improvements. 7. Monitor implementation of the Hillsborough LRSP to track progress towards goals.	• See above in this table

Town of Hillsborough

San Mateo C/CAG Countywide LRSP

City of San Carlos

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the City's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the City can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the City of San Carlos. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The San Mateo City and County Association of Governments (C/CAG) will revisit and update this LRSP at least every five years.

The City of San Carlos has a 2023 population of 29,496 per California Department of Finance. The city has 89 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 281 reported crashes on surface streets in the City and 32 fatal/severe injury crashes In that time period, pedestrians were involved in 14 percent of all reported crashes and 28 percent of all fatal/severe injury crashes. Bicyclists were involved in 14 percent of all reported crashes and 13 percent of all fatal/severe injury crashes. The LRSP provides Safe System-aligned strategies tailored to San Carlos's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon C/CAG Board and San Carlos City Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the City for public viewing.

VISION & GOALS

The City of San Carlos's vision for roadway safety is:

- Eliminate all traffic fatalities and reduce the number of non-fatal crashes by 50 percent by 2050.
- Promote a culture of roadway safety in San Carlos's departments, businesses, and residents.

To support this vision, the City has established the following goals:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities.
3. Promote plan recommendations with identified safety partners to incorporate roadway safety through safety projects and educational campaigns in San Carlos.
4. Provide opportunities for community engagement to identify issues and inform safety solutions across the community.
5. Embrace the Safe System approach to promote engineering and non-engineering strategies in the community.
6. Identify opportunities to incorporate social equity into safety improvements.
7. Monitor implementation of the San Carlos LRSP to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on San Carlos's solid foundation of plans, policies, and programs that support safe, equitable mobility in the city. For a list of the City of San Carlos's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. City of San Carlos Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation. The City's audits are included on its Bicycle and Pedestrian Master Plan website.	Safe Roads Safe Speeds Safe Road Users
Bicycle and Pedestrian Master Plan	The 2020 Bicycle and Pedestrian Master Plan establishes a long-term vision for improving walking and bicycling in San Carlos and provides a strategy to develop a comprehensive bicycling and	

Program Name	Program Description	Safe System Elements
	walking network that provides access to transit, schools, and downtown.	
2017 Neighborhood Traffic Management Program (NTMP)	The City's 2017 NTMP helps the City achieve an efficient multi-modal transportation system and maintain safe streets by providing a process for identifying traffic-calming and speed reduction measures to reduce speeds, improve pedestrian safety, reduce cut-through traffic, and reduce collisions and noise and air pollution.	

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of San Carlos's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

Figure 1. A Phase 1 pop-up event held at the San Carlos Block Party.

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- San Mateo County Sheriff's Office

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the City's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

Table 2. Community Engagement Phases and Events

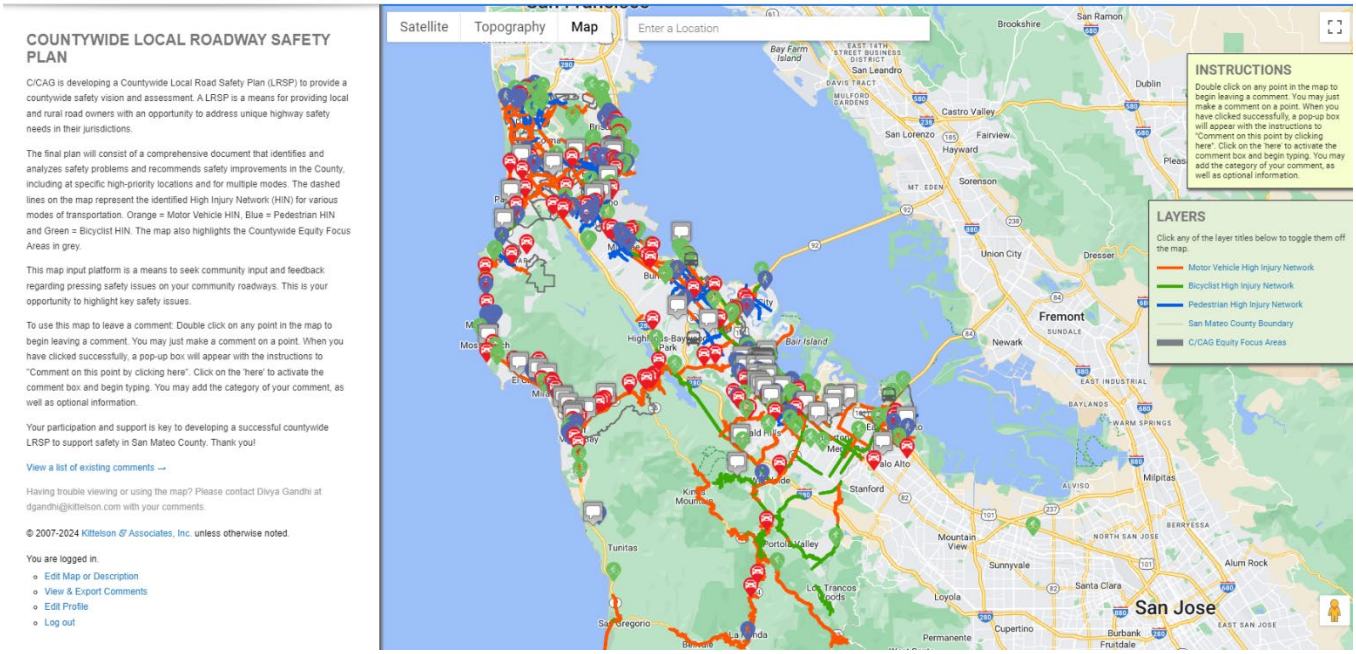
Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee

March – April 024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 2). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Figure 2. Online Map Survey Tool



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Countywide, there were a total of 528 comments recorded by 352 respondents. There were 69 comments made within the City of San Carlos in addition to the conversations and feedback recorded at the Phase 1 event in August. The comments received are provided in Appendix A. The comments included the following:

COMMUNITY ENGAGEMENT FEEDBACK

Biking Concerns/Requests

- Add new bike infrastructure such as protected bike lanes, separated bike lanes, road diets and bike paths on overpasses/underpasses.
- Requests for maintenance of existing bike infrastructure such as repaving bike lanes.
- Requests for a more connected bike network.
- Concerns regarding conflicts with motor vehicles including high traffic volumes and congestion, vehicle speeds, right of way issues, and turning conflicts at intersections.
- Remove on-street parking to make more way for bikes along the roadway.

- Request to provide modal filters: to allow only bicycles and pedestrians on certain streets.

Pedestrian Concerns/Requests

- Add new pedestrian infrastructure or upgrade existing infrastructure such as building new sidewalks, widening existing sidewalks, raised pedestrian crossing, pedestrian refuge islands, and high visibility crosswalks.
- Support for additional pedestrian signals and signage to enhance pedestrian safety.
- Concerns regarding conflicts with motor vehicles including right of way issues, speeding, and running STOP signs.
- Concerns regarding curb ramps being insufficient for wheelchair or other mobility challenged roadway users.

Traffic Enforcement Concerns

- Multiple concerns regarding running STOP signs.
- Concerns regarding speeding observed at multiple locations.
- Concerns regarding illegal parking along roadways and on sidewalks.

Roadway Infrastructure/ Traffic Operations Concerns

- Concerns regarding narrow lanes and steep slopes in the city.
- Support for additional signals and signs to reduce vehicle conflict points at intersections.
- Requests to convert two-way streets to one-way streets.
- Clear sight triangles to improve visibility on intersection approaches.
- Request to provide more parking downtown.

The location and modal emphasis of comments in San Carlos is presented in Figure 70. The project team also identified common themes in the responses made countywide which may be relevant to the City. Those are presented in the Community Engagement section of the Countywide LRSP.

PHASE 2 COMMUNITY ENGAGEMENT FEEDBACK

The project team held an event at the Belmont Farmers' Market in January as part of Phase 2, which provided the project team with input on specific location concerns, general traffic safety/behavioral concerns, and opinions on specific engineering treatments or strategies. During the Belmont Farmers' Market outreach, community members shared feedback on locations specific to San Carlos. The following themes were identified for locations in the City of San Carlos:

General Comments

- Concerns that some roadways are too narrow for traveling
- Concerns that some three- or four-way intersections are confusing to navigate

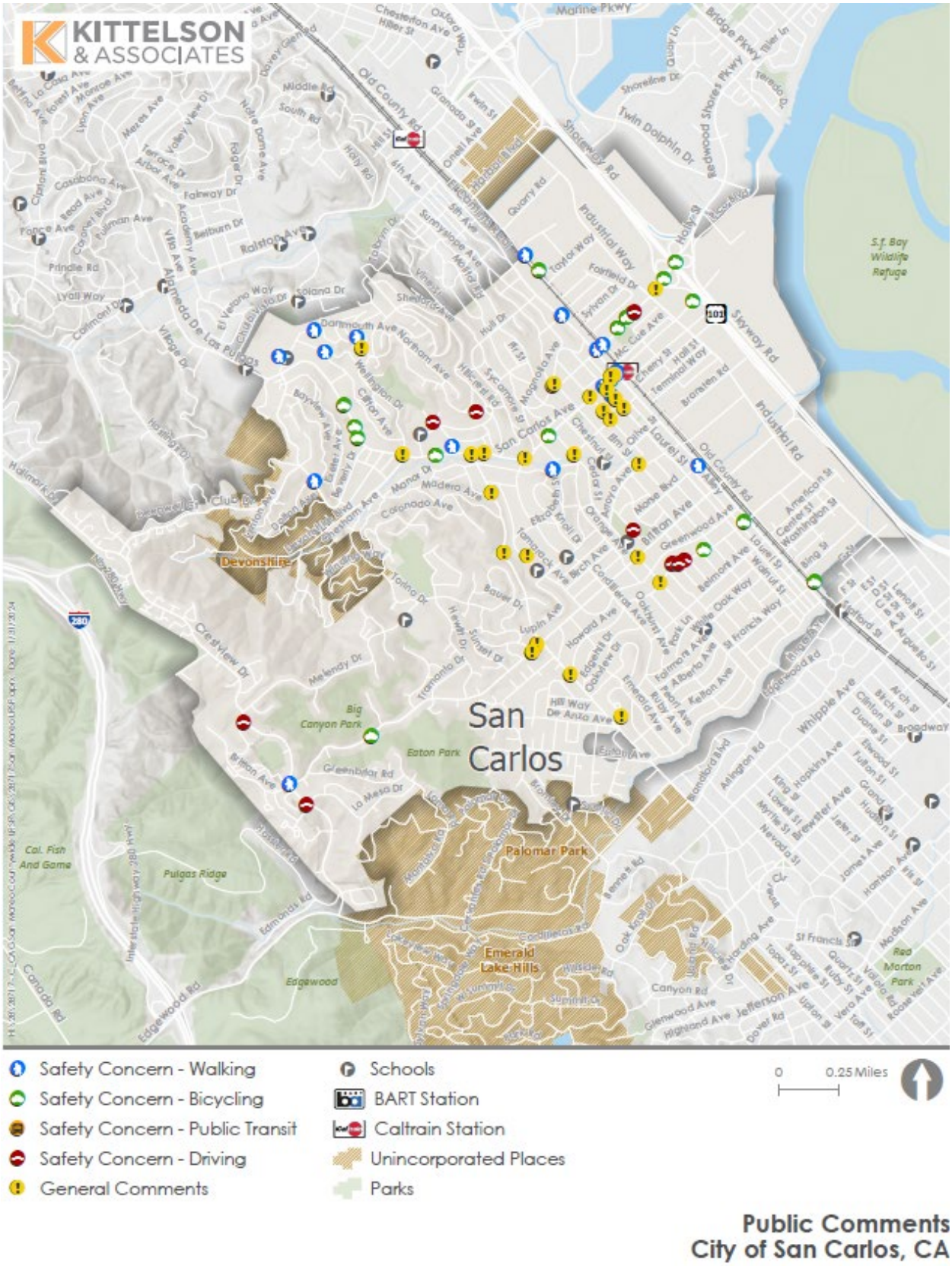
Bicycle Comments

- Desire for separated bike lanes, specifically on hilly street like Brittan Avenue

Motor Vehicle Comments

- Concerns about congestion on roadways that connect to highways, such as Windsor Drive
- Concerns about speeding on roadways, such as Industrial Road

Figure 3. Webmap Comments in San Carlos



CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeway from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. Near-miss data could serve as a good surrogate measure for safety but are very difficult to accurately define and record systematically. Some agencies have successfully used video-based conflict monitoring algorithms to capture near-miss information at select locations. The techniques show promise for identifying conflicts that correlate to crashes, but the ability to scale the technology is still unclear.[2]This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix B.

Emphasis Areas

The project team analyzed crash data in San Carlos and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the City can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the City of San Carlos:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In San Carlos, pedestrians and bicyclists were involved in 28 percent and 13 percent of the 32 reported F/SI crashes. The pedestrian share is higher than their overall share of all injury crashes (14 percent).
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In San Carlos, 28 percent of the two fatal/severe injury crashes occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

[2] For example, the Pennsylvania Department of Transportation evaluated the technology as part of its SMART intersections project. More information is available online at https://www.penndot.pa.gov/ProjectAndPrograms/Planning/Research-And-Implementation/Documents/Smart%20Intersections.pdf

4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In San Carlos, 21 crashes or 7 percent of all reported injury crashes involve at fault drivers who are under 30 years old.
5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In San Carlos, "Too fast for conditions" was the top-cited violation among motor vehicle crashes (in 30 percent of injury crashes).
6. **Alcohol involvement.** Countywide, one in ten (10 percent) of motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol. In San Carlos, 7percent of all reported injury crashes involve impaired driving.

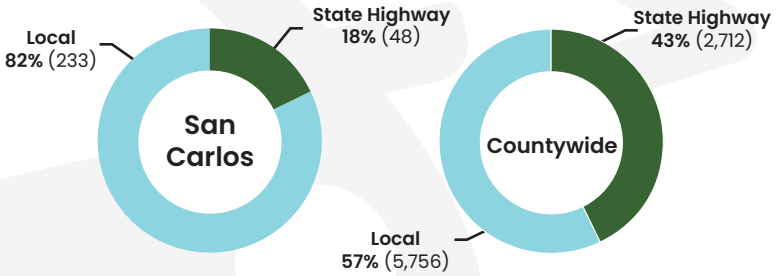
The next pages present summary findings from a crash data review that compares the City of San Carlos to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

San Carlos—Crash History

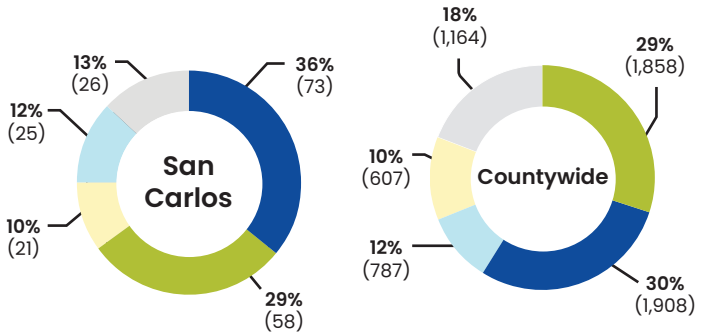
Total Crashes

In San Carlos, 281 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

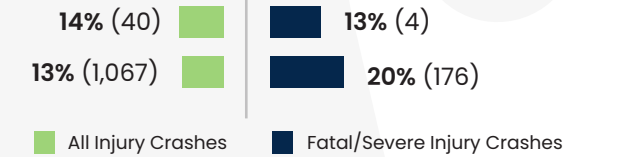
Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how San Carlos compares:



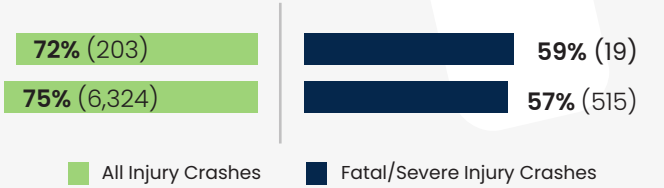
Mode Involvement

Pedestrian Crashes (38)

Bicycle Crashes (40)



Motor Vehicle[1] Crashes (203)



7% (21)
of reported collisions in San Carlos involved drugs or alcohol

8% (625) Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

5% (15)
of reported collisions in San Carlos involved young drivers[1]

5% (472) Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

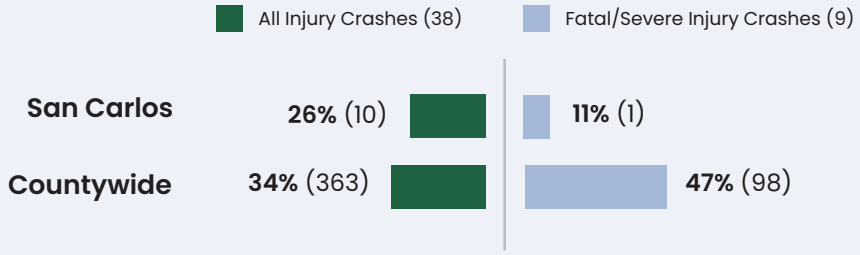
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

San Carlos—Crash History

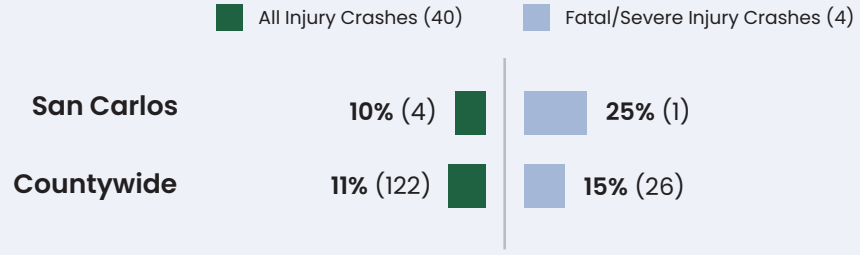
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how San Carlos compares to Countywide crashes:

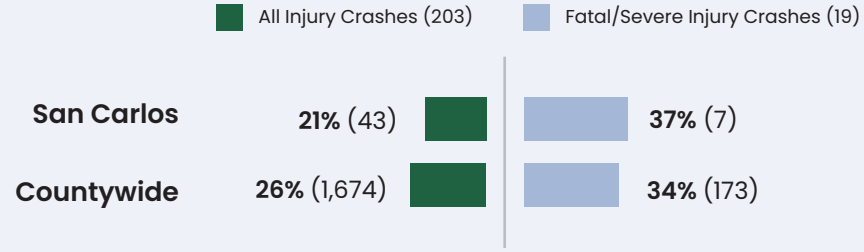
Share of Pedestrian Crashes in Dark Conditions (10)



Share of Bicyclist Crashes in Dark Conditions (4)

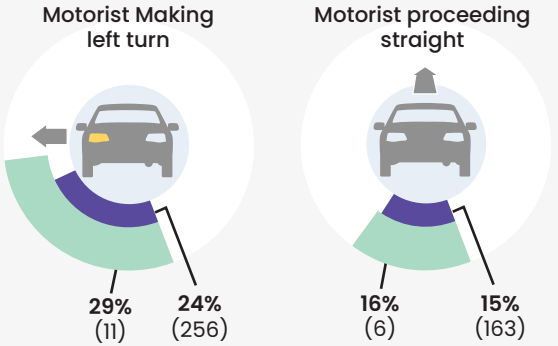


Share of Motor Vehicle Crashes in Dark Conditions (43)

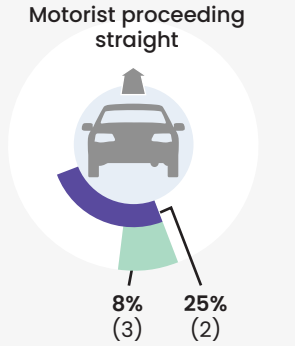


Reported Pedestrian Crashes (38)

Pedestrian Crossing at Intersection

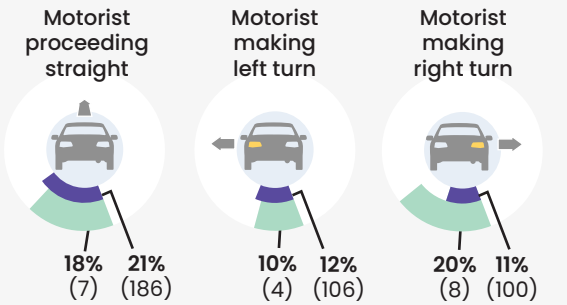


Pedestrian Crossing Not at a Crosswalk

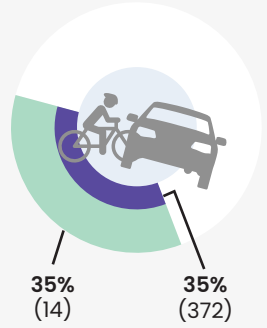


Reported Bicycle Crashes (40)

Bicyclist Proceeding Straight



Perpendicular Bicyclist Crashes



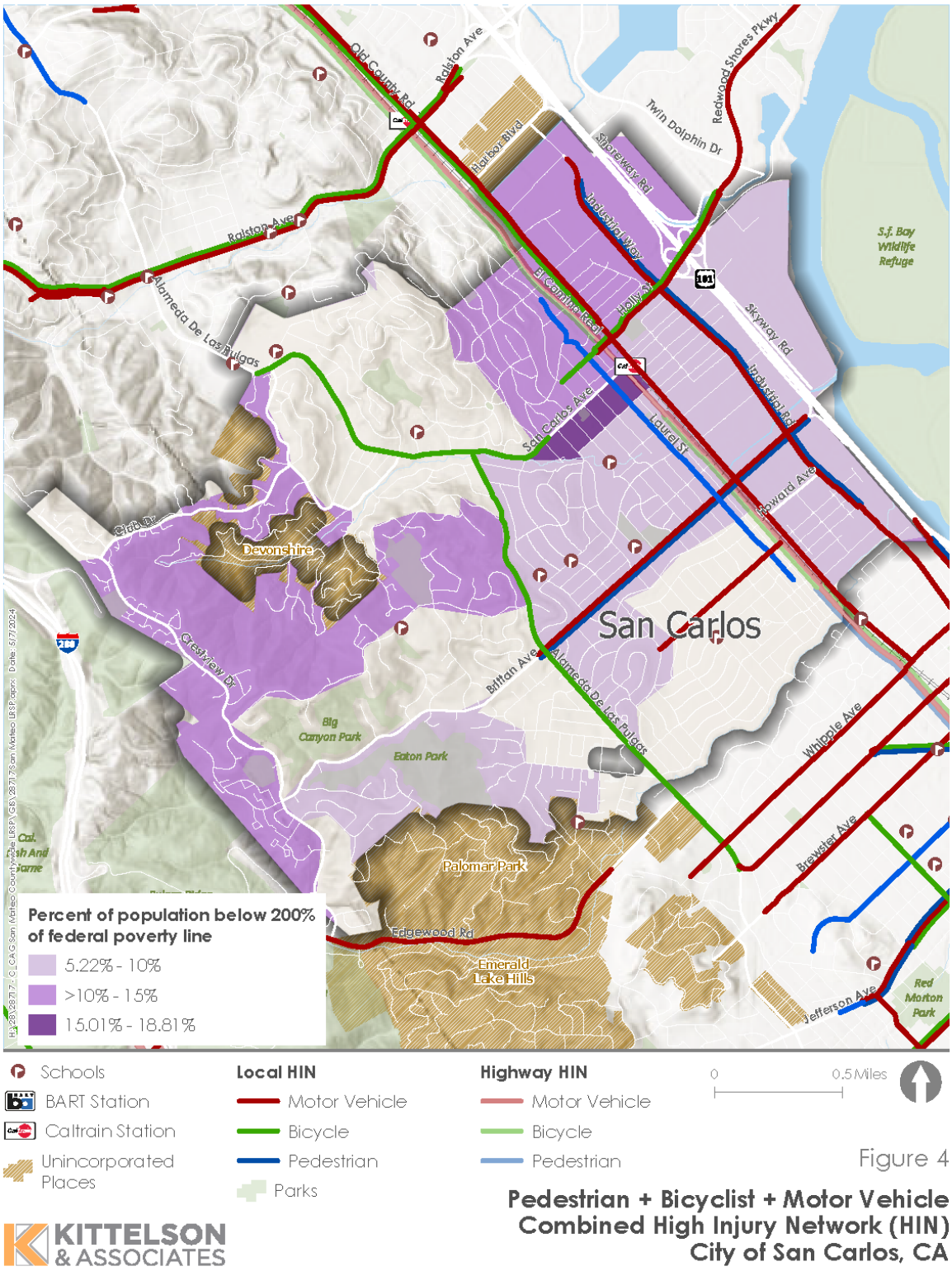
Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 3 and Figure 4 show the HIN segments identified within the City.

Table 3. Countywide HIN Segments in San Carlos

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Belmont Ave	San Carlos	0.6	X		
Brittan Ave	San Carlos	1.4	X		X
Laurel St	San Carlos	1.5			X
San Carlos Ave	San Carlos	1.4		X	
El Camino Real	San Carlos, Atherton, Menlo Park, Redwood City, Millbrae, San Bruno, Belmont, San Mateo, Burlingame, South San Francisco, Colma, Unincorporated	23.5	X	X	X
Alameda de las Pulgas	San Carlos, Atherton, Redwood City, Belmont, San Mateo, Unincorporated	6.7	X	X	X
Old County Rd	San Carlos, Belmont, Harbor/Industrial	3.4	X	X	
Holly St	San Carlos, Redwood City	1.0	X	X	
Industrial Rd	San Carlos, Redwood City	2.4	X		X

Figure 4. Countywide HIN within the City of San Carlos



PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the City to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 5, Figure 6,and Figure 7).

Figure 5. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

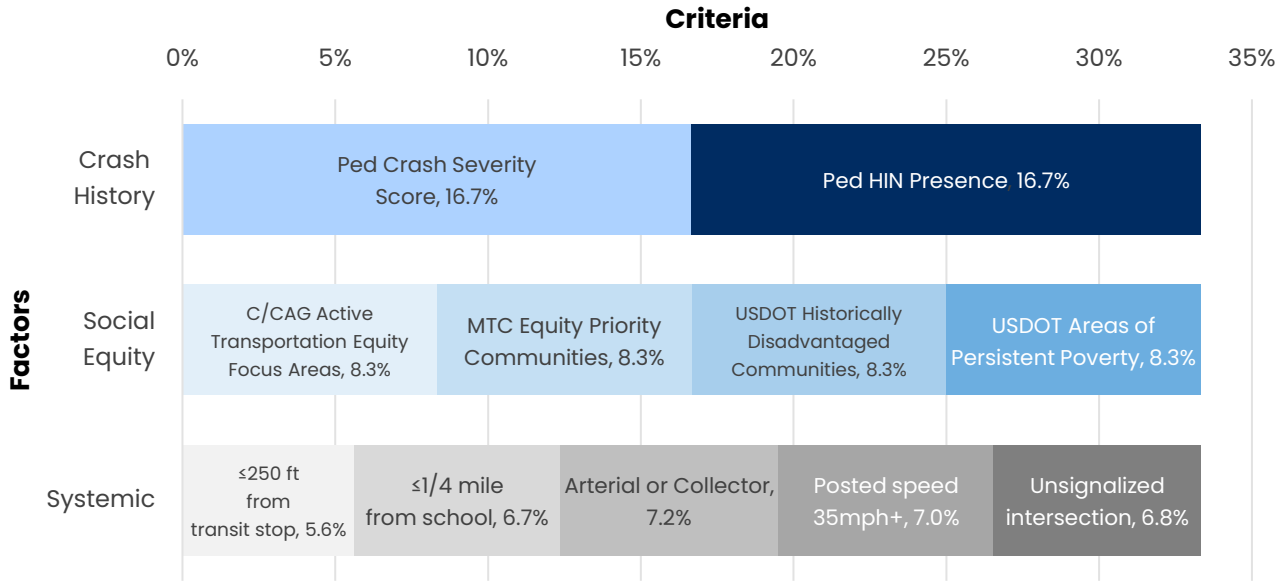


Figure 6. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

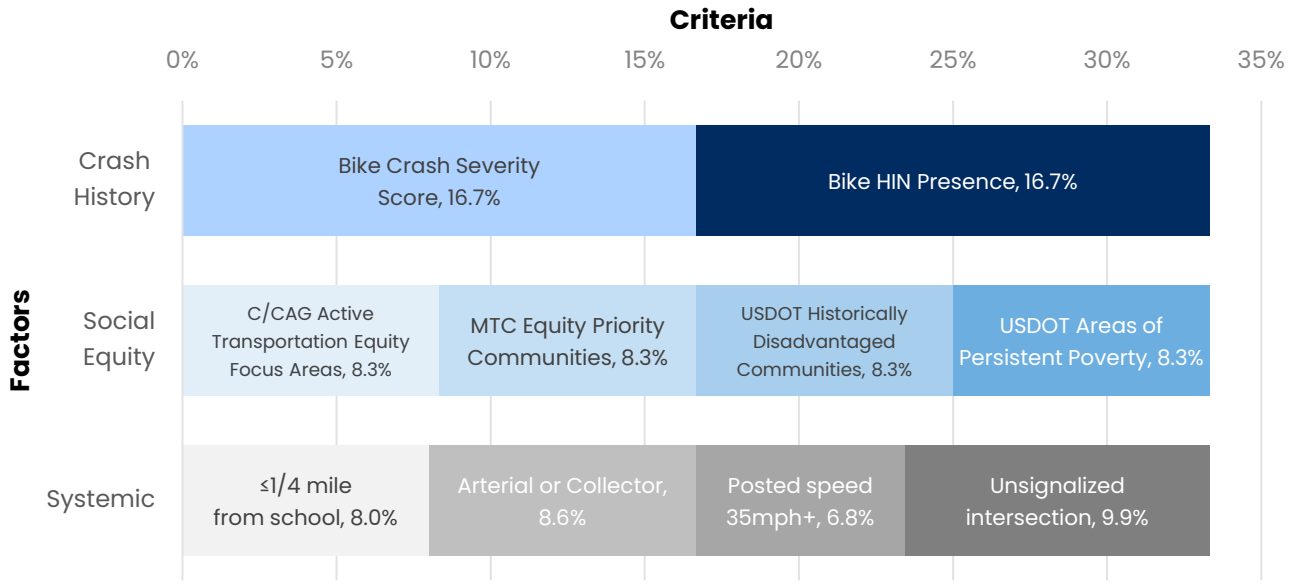
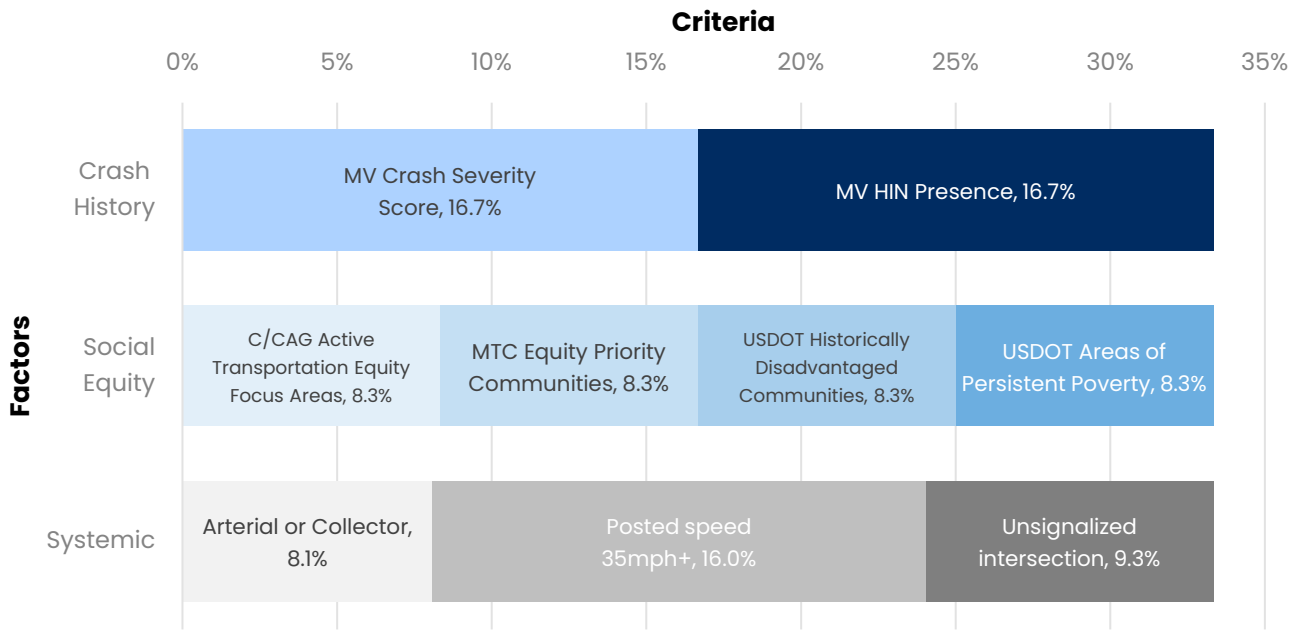


Figure 7. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the City to understand which locations meet which measures.

Results

The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix C. Figure 8 also shows the locations.

Table 4. Priority Locations

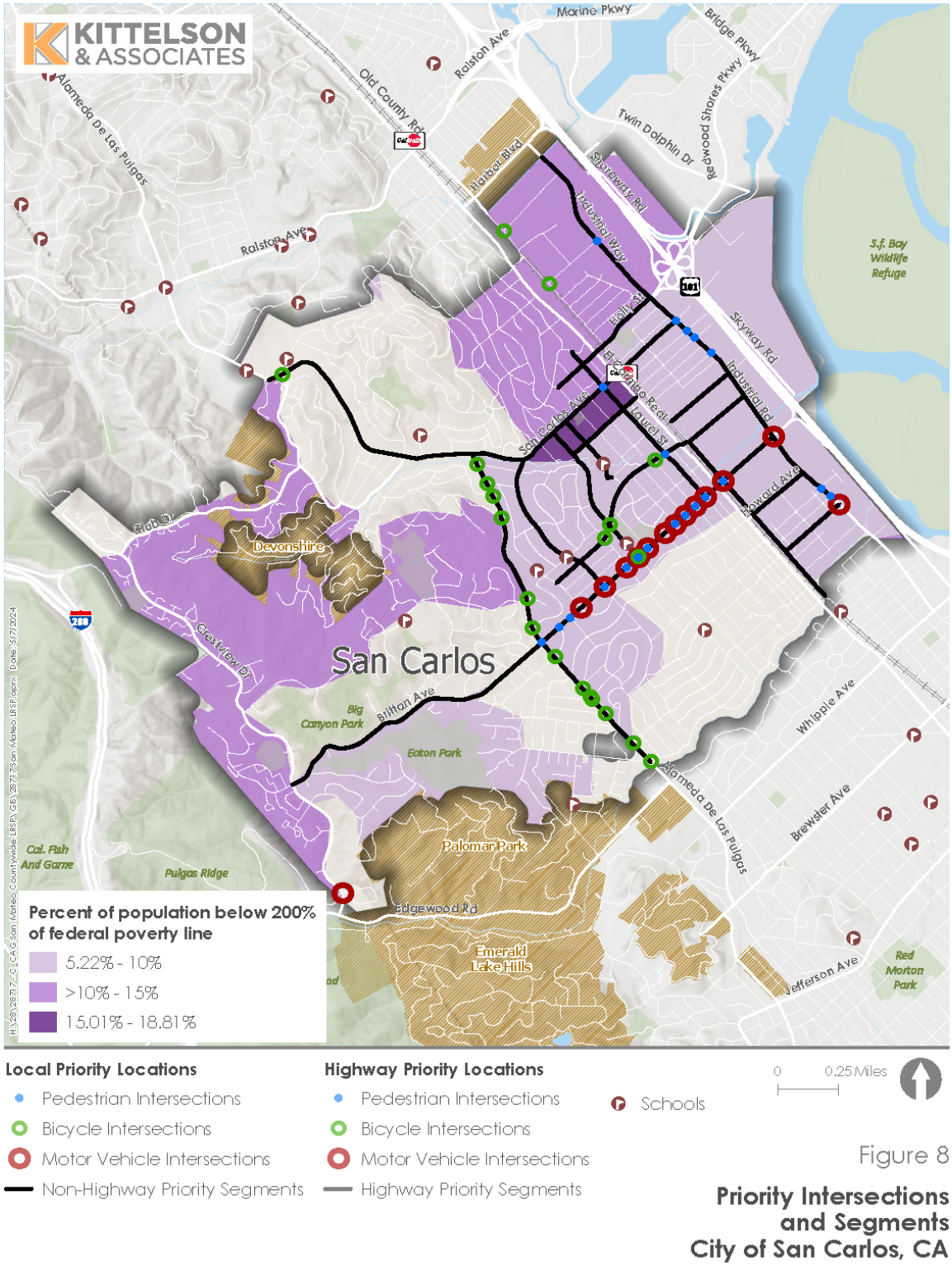
ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Brittan Ave and Cordilleras Ave	Intersection	No	**X**		**X**
2	Brittan Ave and Cedar St	Intersection	No	**X**	**X**	**X**
3	Brittan Ave and Elm St	Intersection	No	**X**		**X**
4	Greenwood Ave and Tamarack Ave	Intersection	No	**X**		
5	Brittan Ave and Rosewood Ave	Intersection	No	**X**		**X**
6	Woodland Ave and Brittan Ave	Intersection	No	**X**		
7	Brittan Ave and Chestnut St	Intersection	No	**X**		
8	Brittan Ave and Orange Ave	Intersection	No	**X**		**X**
9	Walnut St and Brittan Ave	Intersection	No	**X**		**X**
10	Brittan Ave and Old County Rd	Intersection	No	**X**		**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
11	Industrial Rd and Brittan Ave	Intersection	No	**X**		
12	Laurel St and Brittan Ave	Intersection	No	**X**		**X**
13	Industrial Rd and Washington St	Intersection	No	**X**		**X**
14	Edmonds Rd and Edmond Dr	Intersection	No	**X**		
15	Alameda De Las Pulgas and San Carlos Ave	Intersection	No	**X**		
16	Tanklage Rd and Industrial Rd	Intersection	No	**X**		
17	Cambridge St and San Carlos Ave	Intersection	No	**X**		
18	Circle Star Way and G St	Intersection	No	**X**		
19	Brittan Ave and Hudson Ct	Intersection	No	**X**		
20	Upland Ave and San Carlos Ave	Intersection	No	**X**		
21	Brittan Ave and Dayton Ave	Intersection	No			**X**
22	Brittan Ave and Brook St	Intersection	No			**X**
23	Industrial Rd and San Carlos Ave	Intersection	No			**X**
24	American St and Industrial Rd	Intersection	No			**X**
24	Industrial Rd and Montgomery Ln	Intersection	No			**X**
25	Terminal Way and Industrial Rd	Intersection	No			**X**
26	Center St and Industrial Rd	Intersection	No			**X**
27	Industrial Way and Taylor Way	Intersection	No			**X**
28	Industrial Rd and Cherry Ln	Intersection	No			**X**
29	San Carlos Ave and Laurel St	Intersection	No			**X**
30	Brittan Ave and Alameda De Las Pulgas	Intersection	No			**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
31	Rockridge Rd and Alameda De Las Pulgas	Intersection	No		**X**	
32	Lupin Ave and Alameda De Las Pulgas	Intersection	No		**X**	
33	San Carlos Ave and Club Dr	Intersection	No		**X**	
34	Alameda De Las Pulgas and Alma St	Intersection	No		**X**	
35	Alameda De Las Pulgas and Graceland Ave	Intersection	No		**X**	
36	Old Country Rd and Taylor Way	Intersection	No		**X**	
37	Alameda De Las Pulgas and Carmelita Ave	Intersection	No		**X**	
38	Alameda De Las Pulgas and St Francis Way	Intersection	No		**X**	
39	Alameda De Las Pulgas and Pine Ave	Intersection	No		**X**	
40	Quarry Rd and Old Country Rd	Intersection	No		**X**	
41	Alameda De Las Pulgas and Madera Ave	Intersection	No		**X**	
42	Eaton Ave and Alameda De Las Pulgas	Intersection	No		**X**	
43	Alameda De Las Pulgas and Oakview Dr	Intersection	No		**X**	
44	Hill Way and Alameda De Las Pulgas	Intersection	No		**X**	
45	Alameda De Las Pulgas and Wildwood Ave	Intersection	No		**X**	
46	Ridge Rd and Alameda De Las Pulgas	Intersection	No		**X**	
47	Orange Ave and Arroyo Ave	Intersection	No		**X**	
48	Arroyo Ave and Walnut St	Intersection	No		**X**	
49	Cedar St and Arroyo Ave	Intersection	No		**X**	
50	Brittan Ave, from Industrial Rd to Crestview Dr	Corridor	Yes	**X**	**X**	**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
51	San Carlos Ave, from city limits W of Cranfield to E of Industrial Rd	Corridor	No		**X**	**X**
52	Industrial Rd, from city limits N of Quarry to Center St	Corridor	No	**X**		**X**
53	Alameda De Las Pulgas, from San Carlos Ave to Eaton Ave	Corridor	No		**X**	**X**
54	Old County Rd, from Commercial St to city limit S of Bing St	Corridor	No	**X**		**X**
55	Arroyo Ave, from Tamarack Ave to Industrial Rd	Corridor	No		**X**	**X**
56	Cedar St, from San Carlos Ave to Brittan Ave	Corridor	No	**X**	**X**	**X**
57	Laurel St, from Bush St to Brittan Ave	Corridor	No	**X**		**X**
58	Holly St, from Magnolia Ave to Industrial Rd	Corridor	No			
59	Cherry St, from Cedar St to El Camino Real	Corridor	No			
60	Cordilleras Ave, from San Carlos Ave to Brittan Ave	Corridor	No	**X**		**X**
61	Howard Ave, from Old County Rd to Industrial Ave	Corridor	No			
62	Chestnut St, from San Carlos Ave to Woodland Ave	Corridor	No			
63	Bransten St, from Old County Rd to Industrial Rd	Corridor	No			
64	Commercial Ave, from Old County Rd to Industrial Rd	Corridor	No			
65	Washington St, from Old County Rd to Industrial Rd	Corridor	No	**X**		

Figure 8: San Carlos Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the City of San Carlos. First are engineering recommendations: identified project scopes and a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the City to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the City could consider at these locations. The City can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of City-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- Brittan Ave—Crestview Dr to Industrial Rd. Recommended improvements include:
  - Pedestrian crossing signs and markings
  - Signs with fluorescent sheeting (regulatory or warning)
  - Dynamic/variable speed warning signs
  - Edgeline rumble strips/stripes (outside of residential areas)
  - Separated bike lanes
  - Improved signal hardware (lenses, backplates with retroreflective borders, mounting, size, and number)
  - Installation of advance stop bar before crosswalk (bicycle box)
  - Modified signal phasing to include leading pedestrian interval
  - Reduction in travel lanes
- San Carlos Ave—city limits to Industrial Rd. Recommended improvements include:
  - Improved signal hardware (lenses, backplates with retroreflective borders, mounting, size, and number)
  - Installation of advance stop bar before crosswalk (bicycle box)
  - Modified signal phasing to include a leading pedestrian interval
  - Dynamic/variable speed warning signs
  - Separated bike lanes

Another corridor of interest for City concept advancement is Alameda de las Pulgas. Development of that project scope is beyond the scope of this plan but represents a next step for the City. For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix D.

Engineering Countermeasure Toolbox

This section presents Safe System-aligned engineering recommendations that can create levels of redundancy for traffic safety in the City of San Carlos. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align City departments and partners in pursuit of the plan's vision and goals.

Table 5. City of San Carlos Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Lighting*	All	Nighttime	0.4		Medium
Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very high

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install left-turn lane and add turn phase*	SI	Signalized local/arterial intersections	0.55	$-$$$	Low
Convert signal to mast arm (from pedestal-mounted)*	SI	Signalized local/arterial intersections	0.3	$-$$$	Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Create directional median openings to allow (and restrict left turns and U-turns (signalized intersection)*	SI	Signalized local/arterial intersections	0.5	$-$$	Medium
Install raised pavement markers and striping*	SI	All crashes	0.1	$	High
Install flashing beacons as advance warning*	SI	Rear-end, broadside	0.3	$-$$	Medium
No right turn on red	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	Medium
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium
Convert intersection to roundabout (from signal)*	SI	Signalized local/arterial intersections	Varies	$-$$$	Low
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install pedestrian crossing*	SI	Pedestrian crashes,	0.25	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
		signalized local/arterial intersections			
Install pedestrian scramble*	SI	Pedestrian crashes, signalized local/arterial intersections	0.4	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	SI	Pedestrian crashes, signalized local/arterial intersections	0.6	$	High
Install painted safety zone	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$	High
Install Protected Intersection Elements	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$-$$$	Low
Convert to all-way STOP control (from two-way or Yield control)*	UI	All crashes	0.5	$	Low
Install signals*	UI	All crashes	0.3	$$$	Low
Convert intersection to roundabout (from all-way stop)*	UI	All crashes	Varies	$$$	Low

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Convert intersection to roundabout (from STOP or yield control on minor road)*	UI	All crashes	Varies	$$$	Low
Convert intersection to mini-roundabout*	UI	All crashes	0.3	$$	Low
Create directional median openings to allow (and restrict) left turns and U-turns (unsignalized intersections)*	UI	All crashes	0.5	$-$$	Medium
Install raised medians (refuge islands)*	UI	Pedestrians and bicycle	0.45	$	Medium
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High
Install flashing beacons at stop-controlled intersection*	UI	Broadside, rear end	0.15	$$$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Install transverse rumble strips on approaches	UI	All crashes	0.2	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
(outside of residential areas)*					
Install splitter islands on the minor road approaches*	UI	All crashes	0.4	$	Medium
Road diet (Reduce travel lanes from four to three, and add a two-way, left-turn lane and bike lanes)*	R	All crashes	0.35	$	Medium
Corridor access management	R	N/A	0.35	$	Medium
Install edgeline rumble strips/stripes (outside of residential areas)*	R	All crashes	0.15	$-$$$	High
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	Low
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Install raised pedestrian crossing*	R	Pedestrian and Bicycle	0.35	$	Medium
Remove or relocated fixed objects outside of clear recovery zone*	R	Hit object	0.35	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Extend green time for bikes	SI	Bicycle	N/A	$	High
Extend yellow and all-red time	SI	All crashes	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
Bicycle signal/exclusive bike phase	SI	Bicycle	N/A	$-$$	Low
Curb extensions	UI	All crashes	N/A	$-$$	Low
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low
Curb radius reduction	SI, UI	All crashes	N/A	$$	Low
Splitter islands	UI, SI	All crashes	N/A	$$	Medium
Approach curvature	US, SI	All crashes	N/A	$$$	Low
Roadside design features	All	All crashes	N/A	$-$$$	Low

*Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the City aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the City's Safe System Approach.

Table 6. City of San Carlos Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee Participation	LCS2: High-Visibility Media Campaign LCS3: Communication Protocol LCS4: Implement Car-Free Zones
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)	LF1: Dedicated Funding	LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleet
Local Planning/ Evaluation (LPE)		LPE1: Biennial Review LPE2: Plan Update LPE4: Safe Routes to School LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: City of San Carlos Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: City of San Carlos Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the San Matteo County Sheriff's Office to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan.
Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness.
Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, City of San Carlos Public Works

LCS3: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident.
Lead agency: C/CAG
Coordinating partners: City of San Carlos Public Works

LCS4: Implement Car-Free Zones

More effectively target resources to pedestrian crash problems in a limited geographic area. Realizing these zones requires upfront analysis and planning, countermeasure development, and implementation. Implementation can focus on addressing particular problems or on increasing general safety in specific areas during windows of peak pedestrian activity. (For example: Friday nights in commercial districts, Sundays on

recreational routes/areas, etc.)
Lead agency: City of San Carlos Public Works

LEC2: Speed Monitoring Awareness Trailer

Coordinate with San Matteo County Sheriff's Office to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: County Sheriff's Office
Coordinating partners: City of San Carlos Public Works

LF2: Equitable Investment

Prioritize citywide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: City of San Carlos Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: City of San Carlos Public Works

LEO1: Roadway Safety Education in Schools

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO2: Engagement Accessibility

Plan community engagement efforts to be tailored for vulnerable road users and all travel modes. Make outreach materials available in accessible formats and multiple languages.
Lead agency: City of San Carlos Public Works

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.
Lead agency: City of San Carlos Public Works

LEO4: Transportation Safety Campaign

Run education campaigns and outreach to foster community awareness of a shared responsibility for road safety. Use the emphasis areas highlighted in this plan as focus areas and target groups for a campaign.

Lead agency: City of San Carlos Public Works
Coordinating partners: C/CAG, County Public Health

LEO5: Safe City Fleets

Provide educational materials for City staff who drive City vehicles and integrate safety awareness training into contracting process with vendors who provide City services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on City vehicles and reporting on correction plans against unsafe driving.
Lead agency: City of San Carlos Public Works

LPE1: Biennial Review

Provide a biennial review of plan implementation progress. This review includes an update and presentation to City Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: City of San Carlos Public Works

LPE2: Plan Update

Update the plan, likely as part of a Countywide plan update, within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: C/CAG

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.
Develop a plan and timeline to include all schools in the City.
Lead agency: SMCOE
Coordinating partners: City of San Carlos Public Works

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds.
To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.
Lead agency: City of San Carlos Public Works

IMPLEMENTATION & MONITORING

A key part of achieving San Carlos's vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The City of San Carlos will develop a process to regularly collect data and information around the performance measures that can be used to assess changes city-wide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which San Carlos can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for San Carlos and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 7. City of San Carlos Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly monitor crashes to respond to safety problems and changing conditions. Prioritize locations with high crash rates for safety improvements. 2. Review proposed improvement plans to ensure that roadway projects, retrofits, and maintenance projects incorporate complete streets that support multiple modes of travel.	• Number of LRSP project locations advanced through project development, reported at the agency level • Three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
3. Advance the active transportation efforts of the City and regional agencies to achieve the greenhouse gas (GHG) reduction.	• Distribution at the jurisdiction level for safety projects within equity focus areas (C/CAG EFAs or MTC EPCs) versus outside these areas • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable. • Implementation of a high-visibility media campaign • Expansion of SRTS and Roadway Safety Education in Schools programs to more schools within the City
4. Implement safety countermeasures systemically and as part of all projects to target emphasis areas and underserved communities. 5. Provide opportunities for community engagement in roadway capital improvement projects to identify safety solutions.	• Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions citywide for safety plans or projects. • Report-backs to the City Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable

GOAL	MEASURE OF SUCCESS
6. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings city staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice
7. Monitor implementation of the San Carlos LRSP to track progress towards goals.	• See above in this table

City of San Carlos

San Mateo C/CAG Countywide LRSP

Town of Woodside

LOCAL ROADWAY SAFETY PLAN

FINAL DRAFT

MAY 2024

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GLOSSARY OF TERMS

Countermeasures are engineering infrastructure improvements that can be implemented to reduce the risk of collisions.

Emphasis Areas represent types of roadway users, locations, or collisions with safety issues identified based on local trends that merit special focus in the Town's approach to reducing fatal and severe injury collisions.

Local Roadway Safety Plans, or LRSPs, are documents that provide local-level assessments of roadway safety and identify locations and strategies to improve safety on local roadways.

Crash Severity is defined by the guidelines established by the Model Minimum Uniform Crash Criteria (MMUCC, Fifth Edition) and is a functional measure of the injury severity for any person involved in the crash.

- **Fatal Collision [K]** is death because of an injury sustained in a collision or an injury resulting in death within 30 days of the collision.
- **Severe Injury [A]** is an injury other than a fatal injury which results in broken bones, dislocated or distorted limbs, severe lacerations, or unconsciousness at or when taken from the collision scene. It does not include minor laceration.
- **Other Visible Injury [B]** includes bruises (discolored or swollen); places where the body has received a blow (black eyes and bloody noses); and abrasions (areas of the skin where the surface is roughened or blotchy by scratching or rubbing which includes skinned shins, knuckles, knees, and elbows).
- **Complaint of Pain [C]** classification could contain authentic internal or other non-visible injuries and fraudulent claims of injury. This includes: 1. Persons who seem dazed, confused, or incoherent (unless such behavior can be attributed to intoxication, extreme age, illness, or mental infirmities). 2. Persons who are limping but do not have visible injuries; 3. Any person who is known to have been unconscious because of the collision, although it appears he/she has recovered; 4. People who say they want to be listed as injured do not appear to be so.
- **Property Damage Only [O]** Collision is a noninjury motor vehicle traffic collision which results in property damage.

Highway Safety Improvement Program (HSIP) is one of the nation's core federal-aid programs. Caltrans administers HSIP funds in the state of California and splits the state share of HSIP funds between State HSIP (for state highways) and local HSIP (for local roads). The latter is administered through a call for projects biennially.

Primary Collision Factors (PCFs) convey the violation or underlying causal factor for a collision. Although there are often multiple causal factors, a reporting officer at the scene of a collision indicates a single relevant PCF related to a California Vehicle Code violation.

Safe Streets for All (SS4A) is a federal discretionary grant program created by the 2021 Bipartisan Infrastructure Law with $5 billion in appropriated funds for 2022 through 2026.

Safe System Approach is a layered method for roadway safety promoted by the FHWA. This approach uses redundancies to anticipate mistakes and minimize injury. For more, visit https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf.

Safety Partners are agencies, government bodies, businesses, and community groups that the Town can work with to plan, promote, and implement safety projects.

Strategies are non-engineering tools that can help address road user behavior, improve emergency services, and build a culture of safety.

Systemic safety defines an analysis and improvement approach based on roadway and environmental factors correlated with crash risk (rather than targeting locations solely on documented crash history). The approach takes a broad view to evaluate risk across an entire roadway system.

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INTRODUCTION

This chapter serves as a standalone local roadway safety plan (LRSP) for the Town of Woodside. It was developed concurrently with the Countywide LRSP; therefore, some discussion will refer back to the Countywide LRSP to avoid redundancy.

However, because every community has unique safety challenges, this LRSP includes individually tailored emphasis areas, crash trends, prioritized project lists, project scope recommendations, Safe System-aligned recommendations, and implementation/monitoring recommendations. A living document, this LRSP is designed to be flexible and responsive to evolving community needs. The Town will revisit and update this LRSP at least every five years.

The Town of Woodside has a 2023 population of 5,128 per California Department of Finance. The town has 45 total centerline miles per Caltrans 2022 California Public Road Data. From 2018 through 2022, there were 185 reported crashes on surface streets in the Town and 44 fatal/severe injury crashes. In that time period, pedestrians were involved in 1 percent of all reported crashes and 2 percent of fatal/severe injury crashes. Bicyclists were involved in 39 percent of all reported crashes and 48 percent of fatal/severe injury crashes. The LRSP provides Safe System-aligned strategies tailored to Woodside's crash history and local priorities, as well as performance measures to evaluate progress.

This LRSP was informed by technical analysis as well as from input from key stakeholders and the general public. The following sections describe the plan development and recommendations.

Contents

This LRSP provides the following:

- A vision and associated goals
- Crash data and trends
- Engagement and coordination activities
- Prioritized projects and social equity considerations
- Policies, plans, guidelines and standards
- Safe System – aligned recommendations
- Implementation and tracking

Upon Council adoption and affirmation of the plan's vision and goals in 2024, this plan will be posted online by the Town for public viewing.

VISION & GOALS

The Town of Woodside vision for roadway safety is:

- Achieve 50 percent reduction in fatal and severe injury crashes by 2050.

To support this vision, the Town has established the following goals:

1. Regularly review crash history and community needs to identify and prioritize opportunities to reduce crash risk for roadway users of all ages and abilities.
2. Reduce the number of annual fatal and severe injury crashes across all public Town roadways.
3. Implement safety countermeasures systemically to target emphasis areas.
4. Partner with other local agencies to incorporate roadway safety into all actions.
5. Provide opportunities for citizen engagement in identifying issues and inform solutions for roadway safety across the community.
6. Embrace the Safe System approach to promote engineering and non-engineering strategies in the community.
7. Identify opportunities to incorporate social equity into safety improvements.
8. Monitor implementation to track progress towards goals.

PLAN DEVELOPMENT

Existing Safety Efforts

This LRSP relies on Woodside's solid foundation of plans, policies, and programs that support safe, equitable mobility in the town. For a list of the Town of Woodside's existing initiatives and ongoing efforts to build a Safe System, see Table 1:

Table 1. Town of Woodside Safety Policies, Plans, Guidelines, Standards, and Programs

Program Name	Program Description	Safe System Elements
San Mateo C/CAG Safe Routes to School (SR2S) Program Guide	The SR2S program works to make it easier and safer for students to walk and bike to school. C/CAG partners with the County Office of Education to increase biking and walking and safe travel to school. Annual reports summarize schools' participation.	Safe Roads Safe Speeds Safe Road Users
Roadway lighting and conspicuity improvements	The Town has made or will make the following lighting and conspicuity enhancements: • Installed lighted crosswalks • Made striping improvements • Added pedestrian markings where applicable • Increased pedestrian warning signs	Safe Roads, Safe Road Users, Safe Vehicles

Program Name	Program Description	Safe System Elements
General roadway design improvements	The Town has made or will make the following general design improvements: • Added curb ramps • Added pathways • Reduced crosswalk lengths where appropriate	Safe Roads, Safe Vehicles, Safe Speeds

Safety Partners

A variety of agency staff and community partners were involved throughout the development of this LRSP and played an integral role in identifying priorities, providing local context, and reviewing the existing conditions analysis. Many of the strategies identified in this plan will require coordination with these partners and their support of Woodside's effort to create a culture of roadway safety. While additional partners may be identified in the future, those involved in development of the LRSP include:

- City/County Association of Governments of San Mateo County (C/CAG)
- County Public Health
- Sustainability Department
- San Mateo County Office of Education (SMCOE)
- San Mateo County Transportation Authority (SMCTA)
- California Highway Patrol
- Metropolitan Transportation Commission (MTC)
- Silicon Valley Bicycle Coalition (SVBC)
- Caltrans
- San Mateo County Sheriff's Office

Figure 1. A pop-up event held by the project team at the Woodside Public Library

Community Engagement and Input

This LRSP includes community members' experiences and concerns gathered from project team hosted pop-up events and an interactive webmap.

ENGAGEMENT TIMELINE AND EVENTS

The project team hosted a series of public engagement events countywide to support the concurrent development of the Countywide LRSP and of the Town's plan. These events focus on jurisdiction-specific issues and on countywide concerns. The table below lists the events, organized by themed engagement phases, and is followed by the community input themes we heard.

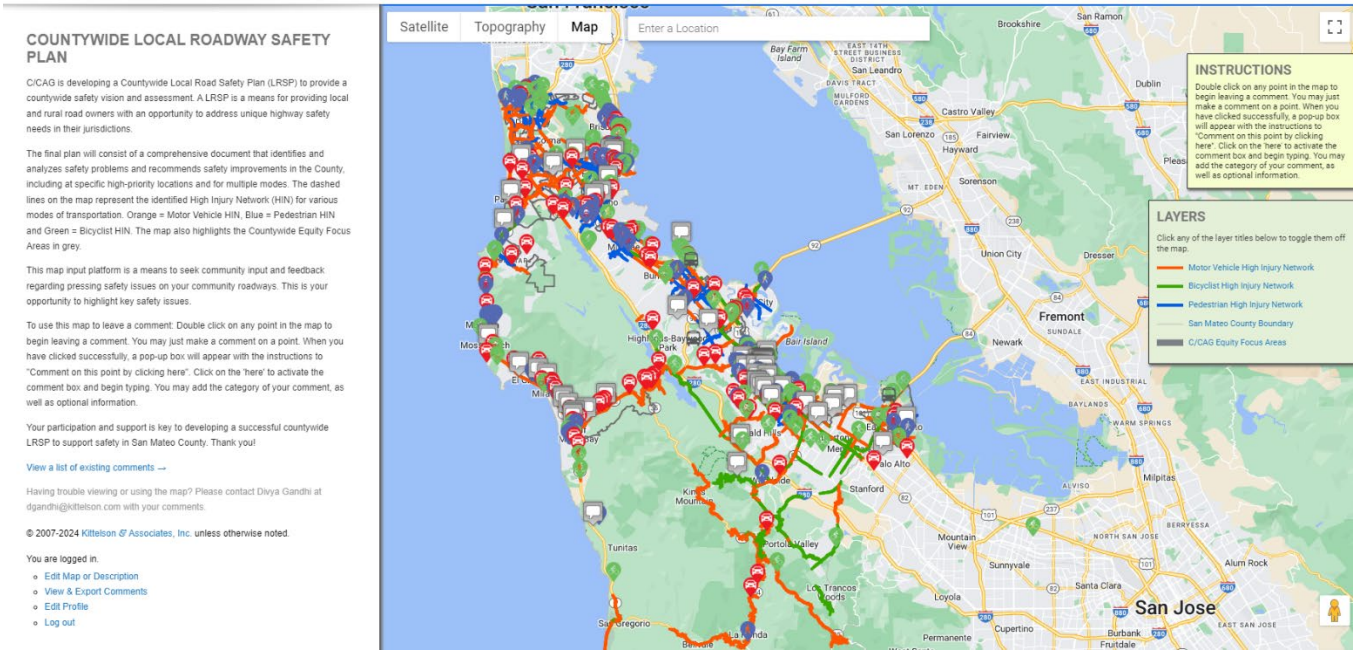
Table 2. Community Engagement Phases and Events

Date	Event	Location
August 10, 2023	**Countywide Virtual Kickoff Meeting:** Shared the purpose and timing of the plan	Virtual meeting (recorded and posted to plan website)
August 16, 2023	**Phase 1 Pop-up/Tabling Event:** Shared crash data analysis; received input on locations and safety concerns	East Palo Alto
August 19, 2023		Half Moon Bay Farmers Market
August 20, 2023		Foster City Summer Days
August 27, 2023		San Carlos Block Party
August – September, 2023	**Phase 1 Concurrent Online Input**	Online webmap (countywide input)
December 17, 2023	**Phase 2 Pop-up/Tabling Event:** Shared draft prioritized locations and types of engineering recommendations; received comments on locations and votes/input on types of treatments and desired locations	Belmont Farmers' Market
December 20, 2023		Woodside Public Library
January 9, 2024		Colma BART Station
January 16, 2024		Atherton Library
January 18, 2024		Brisbane Farmers' Market
February 7, 2024		Portola Valley Bicycle, Pedestrian, & Traffic Safety Committee
March – April 2024	**Phase 3 Draft Plan** Share the draft plan publicly on the project website, through electronic distribution channels, and with presentations to C/CAG Committees and the Board.	Various

ONLINE MAP SURVEY

The project team made an online countywide webmap tool and survey available during August and September 2023 for the public to provide comments and respond to questions to guide the plan's development (see Figure 76). Respondents were able to record location-specific feedback, associate a travel mode, and leave a detailed comment pertaining to a safety concern.

Figure 2. Online Map Survey Tool



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Countywide, there were a total of 528 comments recorded by 352 respondents. There were five comments made within the Town of Woodside in addition to the conversations and feedback recorded at the Phase 1 event in August. The comments included the following:

The location and modal emphasis of comments in Woodside is presented in Figure 3. The comments received are provided in Appendix A. The project team also identified common themes in the responses made countywide which may be relevant to the Town. Those are presented in the Community Engagement section of the Countywide LRSP.

Pedestrian Concerns/Requests

- Add new pedestrian infrastructure or upgrade existing infrastructure such as building new sidewalks and high visibility crosswalks.
- Conflicts with motor vehicles due to speeding, running STOP signs and right of way issues.
- Concerns regarding speeding bicycles and creating potential conflicts with pedestrians.

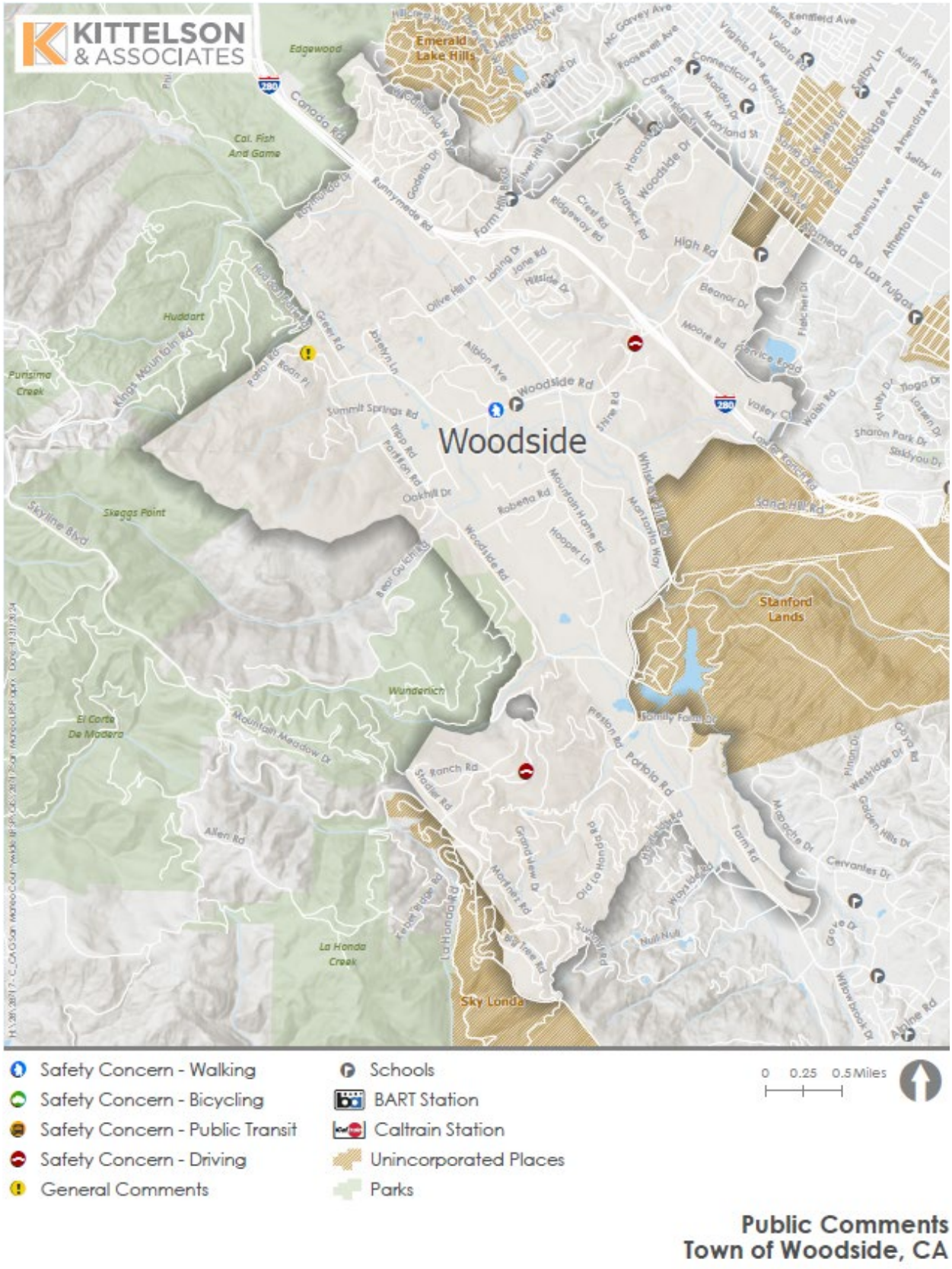
Traffic Enforcement Concerns

- Concerns regarding speeding and running STOP signs.

Roadway Infrastructure/ Traffic Operations Concerns

- Concerns regarding high traffic volumes and traffic congestion.

Figure 3. Webmap Comments in Woodside



PHASE 2 COMMUNITY ENGAGEMENT FEEDBACK

The project team held an event at the Woodside Public Library in December as part of Phase 2, which provided the project team with input on specific location concerns, general traffic safety/behavioral concerns, and opinions on specific engineering treatments or strategies. The comments received are provided in Appendix B. The following themes were identified:

General Comments

- Desire for improved bus service in the Town (e.g., more frequent buses)
- Desire to reduce intersection footprint so crosswalks are shorter distances and vehicles can slow down when making turns
- Desire to create more separation for people walking, biking, and driving

Pedestrian Comments

- Desire for sidewalks, specifically on Woodside Road
- Desire for crosswalks at key destinations, such as schools, parks, and town center, especially along Woodside Road
- Concerns that existing crosswalks around schools are not visible enough for children to cross safely

Bicycle Comments

- Desire for multiuse paths, shoulders, and/or bike lanes to separate bicycles and motor vehicles

Motor Vehicle Comments

- Desire for signage and other improvements on winding roadways to alert drivers of curves and encourage slower speeds, specifically on Old La Honda Road, Kings Mountain Road, and Woodside Road
- Desire for signals and signs at crosswalks, such as Canada Road
- Concerns that parking/access management delays traffic, specifically at Canada Road and Woodside Road

Countermeasure Comments

- Desire for urban and rural countermeasures
- Desire for additional lighting / flashing lights at intersections, especially around schools and commercial areas
- Desire for larger or additional signs, especially at crosswalks
- No desire for curb extensions or pedestrian refuge islands, especially on narrow roads

CRASH DATA & TRENDS

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[1] (TIMS) Crash database representing the full years 2018 through 2022. TIMS is a commonly used data source for safety plans. This analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. We removed crashes along grade-separated freeway were removed from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections.

The crash records used provide the best available data for analysis but do not account for crashes that go unreported or for near-miss events. This plan includes recommendations that would improve jurisdictions' ability to capture one or both of those elements and enhance future crash analyses.

The discussion that follows provides a high-level overview of crash trends that informed the plan recommendations. For a more complete description of trends and findings, refer to Appendix C.

Emphasis Areas

The project team analyzed crash data in Woodside and compared countywide trends to establish emphasis areas. Emphasis areas are crash dynamic, behavioral, or road user characteristics that the Town can focus on to maximize fatal and severe injury reduction on local roads.

A review of crash data and input led to the development of the following emphasis areas for the Town of Woodside:

1. **Pedestrian and bicyclist safety.** Countywide, pedestrians were involved in 13 percent of injury crashes but 23 percent of fatal/severe injury crashes, showing a disproportionate involvement in the most severe outcomes. Similarly, bicyclists were involved in 13 percent of injury crashes but 20 percent of fatal/severe injury crashes. In Woodside, pedestrians and bicyclists were involved in 2 percent and 48 percent of the 44 reported F/SI crashes—higher than their overall share of all injury crashes (0.5 percent and 39 percent, total). Bicyclists were involved in 72 reported injury crashes and 21 reported F/SI crashes.
2. **Nighttime/low light safety.** Countywide, crashes occurring in dark conditions—especially in dark, unlit conditions--are more severe than those that occur in daylight. Motor vehicle crashes in dark, unlit conditions have about double the average severity when they occur compared to crashes in daylight. In Woodside, 7 or 32 percent of the fatal/severe injury motor vehicle crashes occurred in dark conditions.
3. **Unsignalized intersections on arterials/collectors.** Countywide, crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways – most commonly along arterial and collector roadways. Pedestrian and bicyclist crashes most frequently occur at unsignalized intersections.
4. **Vulnerable age groups (youth and aging).** Countywide across all modes, crash victims between the 15 to 34 years old are more likely to be injured including F/SI as a result of traffic safety than other groups. Victims between the ages 50 – 69 and 75 to 84 are also more likely to be severely injured than other groups. In Woodside, 4 crashes or 2 percent of all reported injury crashes involve at fault drivers who are under 30 years old.

[1] Transportation Injury Mapping System, http://tims.berkeley.edu

5. **Motor vehicle speed related roadway segment crashes.** Countywide, motor vehicle crashes were more severe along roadway segments than at any other location type; unsafe speed was the most commonly cited the primary crash factor (27 percent of injury crashes and 23 percent of fatal/severe injury crashes). In Woodside, "Too fast for conditions" was the top-cited violation among motor vehicle crashes (in 46 percent of injury crashes).
6. **High speed roadways (35+mph).** Countywide, crashes on roadways with posted speeds 40mph or higher had an average crash severity per mile 13 times higher than along roadways with posted speeds of 25 mph or less.
7. **Alcohol involvement.** Countywide, one in ten (10 percent) of motor vehicle injury crashes and one in five F/SI motor vehicle crashes (19 percent) involved alcohol. In Woodside, 6 percent of all reported injury crashes involve impaired driving.

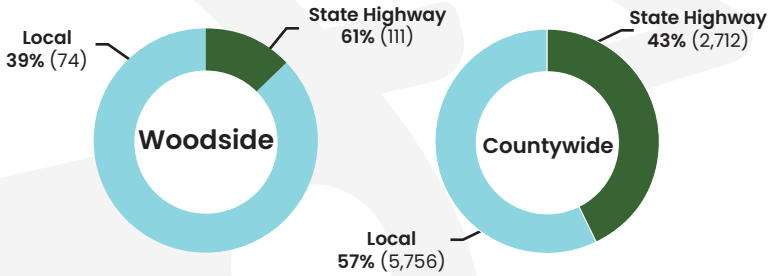
The next pages present summary findings from a crash data review that compares the Town of Woodside to countywide trends in these emphasis areas. It includes summary statistics related to the above-cited emphasis areas but also shows:

- The share of local crashes that occurred on or at a State Highway facility compared to Countywide levels.
- The most frequently reported local crash types compared to Countywide levels.
- The share of bicyclist and motor vehicle crashes among all injury crashes and among F/SI crashes. Countywide and locally, bicyclist crashes account for a higher share of F/SI crashes than among all injury levels.
- The share of local and Countywide crashes occurring in dark conditions for crashes of all injury levels and for F/SI crashes (organized by mode).
- Reported pedestrian and bicyclist crashes summarized by the most common preceding movements countywide, with a comparison of those movements' share of local crashes to Countywide shares.
- The local and Countywide share of crashes involving drugs or alcohol and involving drivers under age 30.

Woodside—Crash History

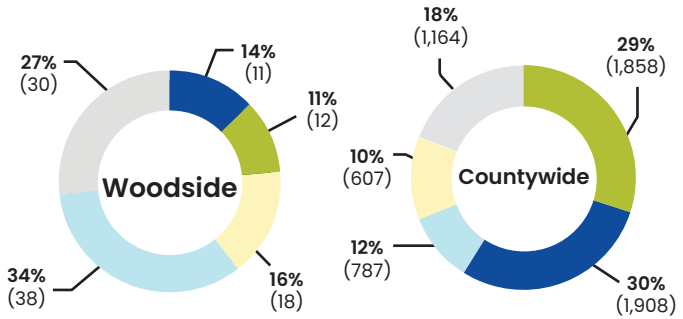
Total Crashes

In Woodside, 185 fatal and injury crashes were reported on at-grade facilities between 2018 – 2022, where:



Most Frequent Collision Types

Broadside, rear-end, head-on, and hit-object crashes were the most common crash types in the region. Here is how Woodside compares:



Mode Involvement

Pedestrian Crashes (1)

	All Injury Crashes	Fatal/Severe Injury Crashes
Woodside	1% (1)	2% (1)
Countywide	13% (1,073)	23% (208)

Bicycle Crashes (72)

	All Injury Crashes	Fatal/Severe Injury Crashes
Woodside	39% (72)	48% (21)
Countywide	13% (1,067)	20% (176)

Motor Vehicle[1] Crashes (112)

	All Injury Crashes	Fatal/Severe Injury Crashes
Woodside	61% (112)	50% (22)
Countywide	75% (6,324)	57% (515)

6% (12)

of reported collisions in Woodside involved drugs or alcohol

2% (4)

of reported collisions in Woodside involved young drivers[1]

8% (625) Compared to the countywide total, where 8% (625) of reported collisions involved drugs or alcohol

5% (472) Compared to the countywide total, where 5% (472) of reported collisions involved young drivers[2]

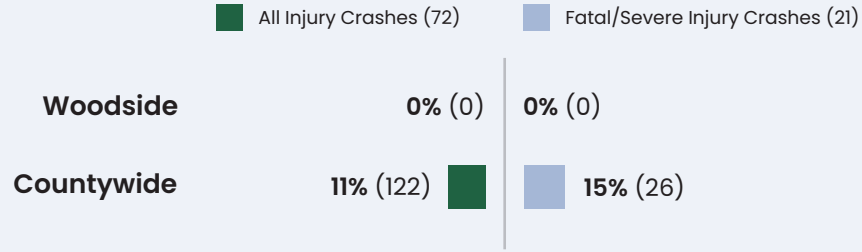
1. *Motor crashes include motor vehicles and motorcyclists.*
2. *Young driver crashes are crashes that involve at fault drivers who are under 30 years old.*

Woodside—Crash History

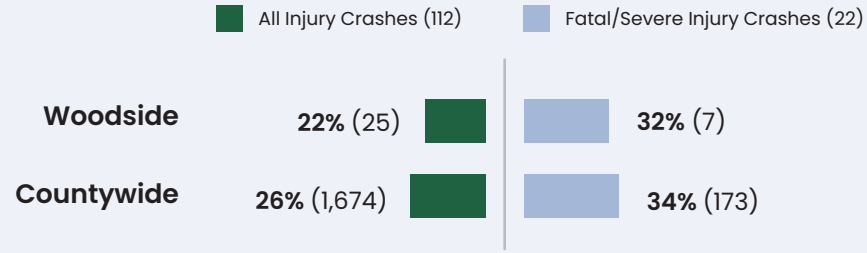
Dark Conditions

Crashes reported in nighttime conditions were found to be more severe—especially in dark, unlit conditions. Here is how Woodside compares to Countywide crashes:

Share of Bicyclist Crashes in Dark Conditions (0)

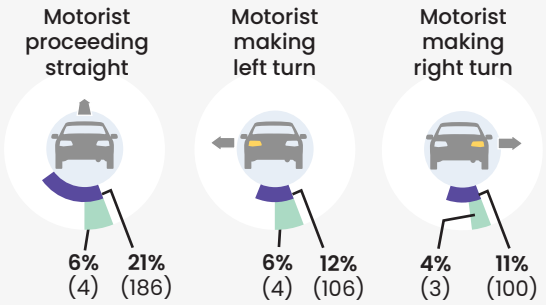


Share of Motor Vehicle Crashes in Dark Conditions (25)

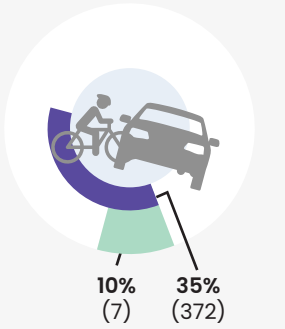


Reported Bicycle Crashes (72)

Bicyclist Proceeding Straight



Perpendicular Bicyclist Crashes



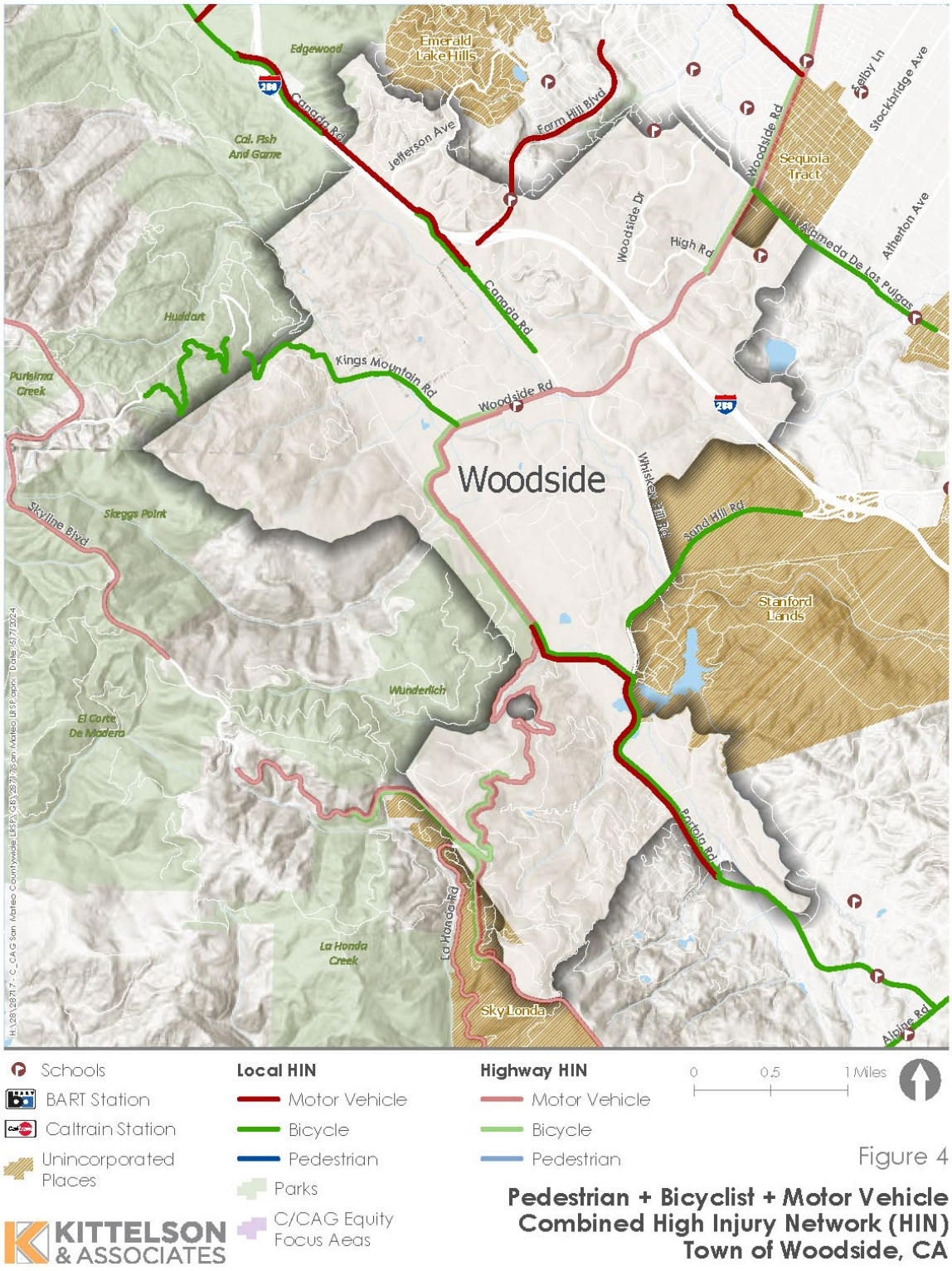
Countywide High Injury Network

In addition to the systemic analysis findings, the analysis included countywide spatial analysis to identify a countywide high injury network for each travel mode (pedestrians, bicyclists, and motor vehicles). The countywide HIN results were folded into the subsequent regional and local prioritization (described in the next section). Additionally, the characteristics of the HIN and crashes along them were identified as risk factors and incorporated into emphasis areas and into a systemic portion of the prioritization process. Table 88 and Figure 78 show the HIN segments identified within the Town.

Table 3. Countywide HIN Segments in Woodside

Roadway name	All County Jurisdiction(s) including this HIN Roadway	Total Length, all jurisdictions included (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Portola Rd	Portola Valley, Woodside, Unincorporated	4.2	X	X	
SR 84	Woodside, Menlo Park	2.6	X		
SR 35	Woodside, Pacifica, San Bruno, South San Francisco, Daly City, Unincorporated	25.3	X	X	
Farm Hill Blvd	Woodside, Redwood City	1.8	X		
Woodside Rd	Woodside, Redwood City, Unincorporated	7.0	X	X	
Canada Rd	Woodside, Unincorporated	7.1	X	X	
Kings Mountain Rd	Woodside, Unincorporated	3.5		X	
La Honda Rd	Woodside, Unincorporated	14.0	X	X	

Figure 4. Countywide HIN within the Town of Woodside



PROJECT IDENTIFICATION & PRIORITIZATION

Methodology

Using the results of the crash data analysis and adding a focus on social equity, the project team identified priority locations for the Town to target for future safety improvements. The prioritization used three equally weighted factors to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. Using systemic factors emphasizes a proactive rather than purely reactive approach. Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 5, Figure 6, and Figure 7).

Figure 5. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

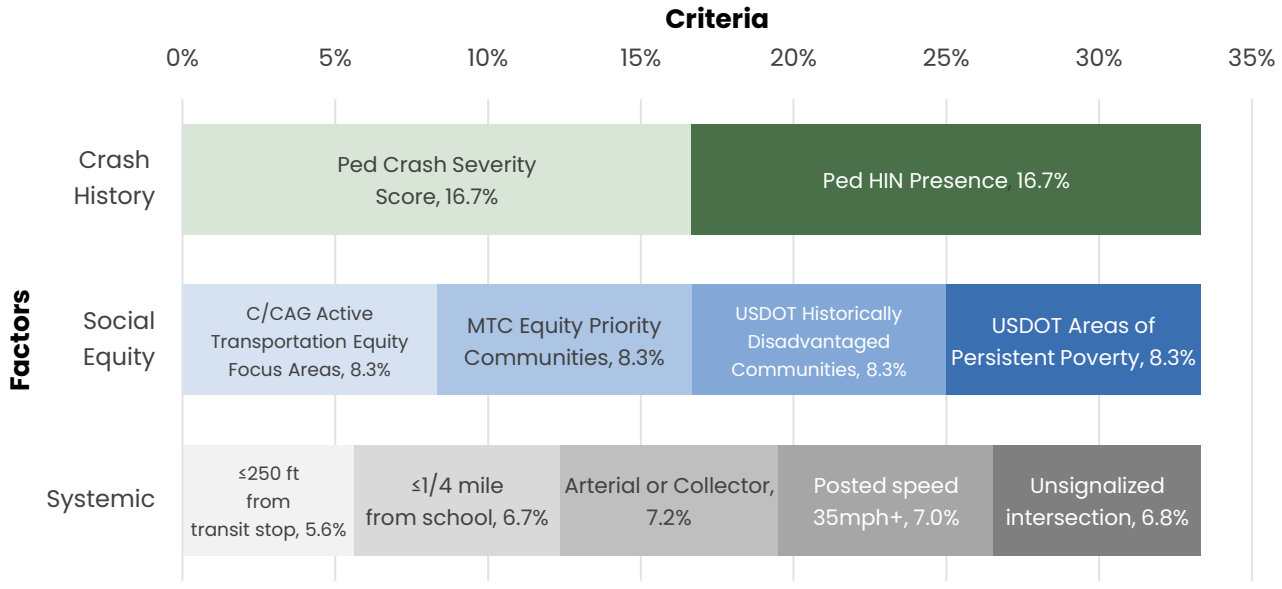


Figure 6. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)

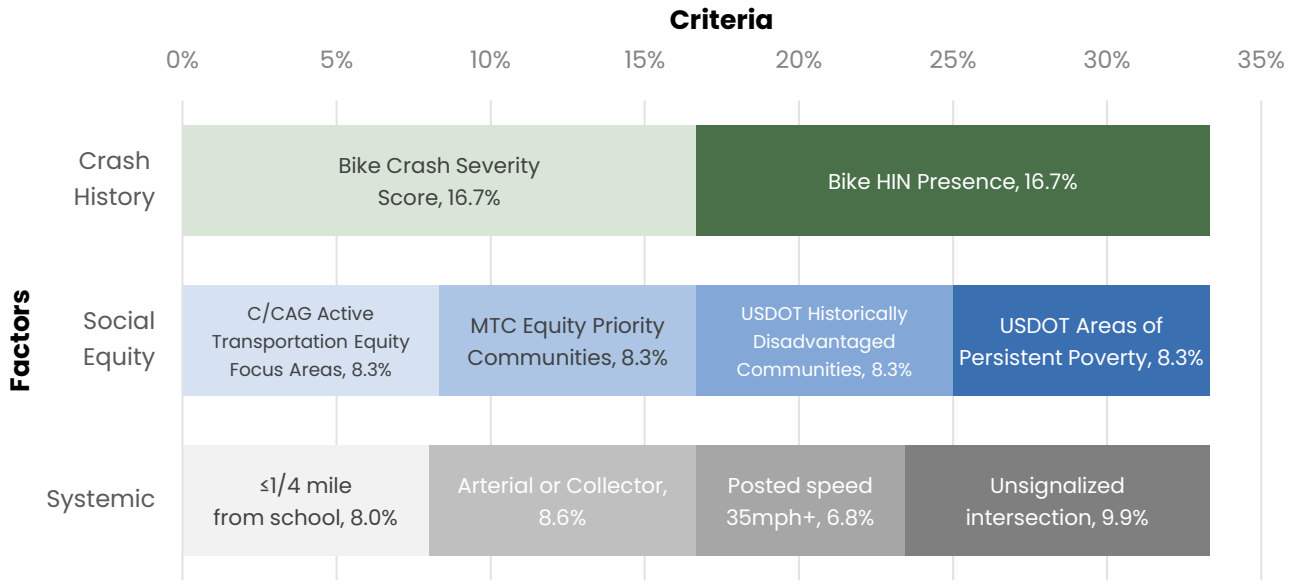
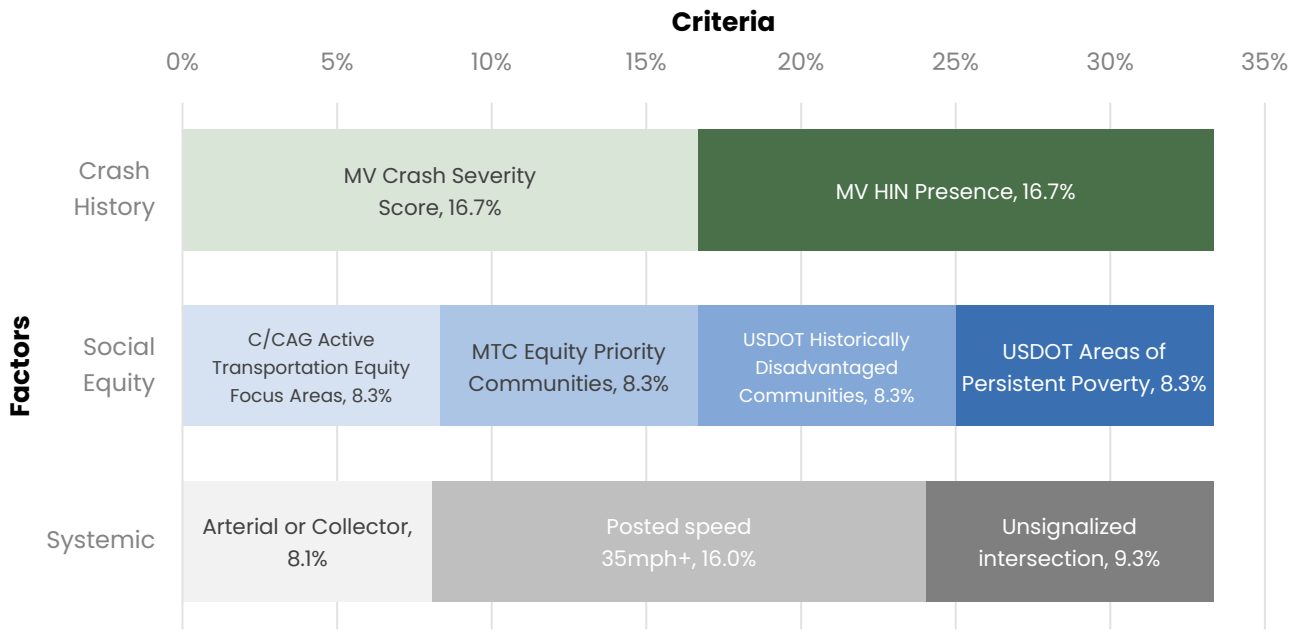


Figure 7. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100 Percent)



Social Equity

Social equity is a critical factor for project prioritization, and emphasizing social equity within a project prioritization process helps to promote infrastructure spending and improvements in disadvantaged and/or disinvested neighborhoods. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. The prioritization included measures accounting for all of the following indicators:

- C/CAG Active Transportation Equity Focus Areas
- MTC Equity Priority Communities
- USDOT Historically Disadvantaged Communities
- USDOT Areas of Persistent Poverty

Layering in these four indicators allows the prioritization to identify more locations that may meet the criteria for just one of these indicators while still elevating locations that show up in multiple or all indicators. The raw scoring data also equips the Town to understand which locations meet which measures.

Results

The prioritization resulted in the following top locations. For more details (including the scores of each location), consult Appendix D. Figure 8 also shows the locations.

Table 4. Priority Locations

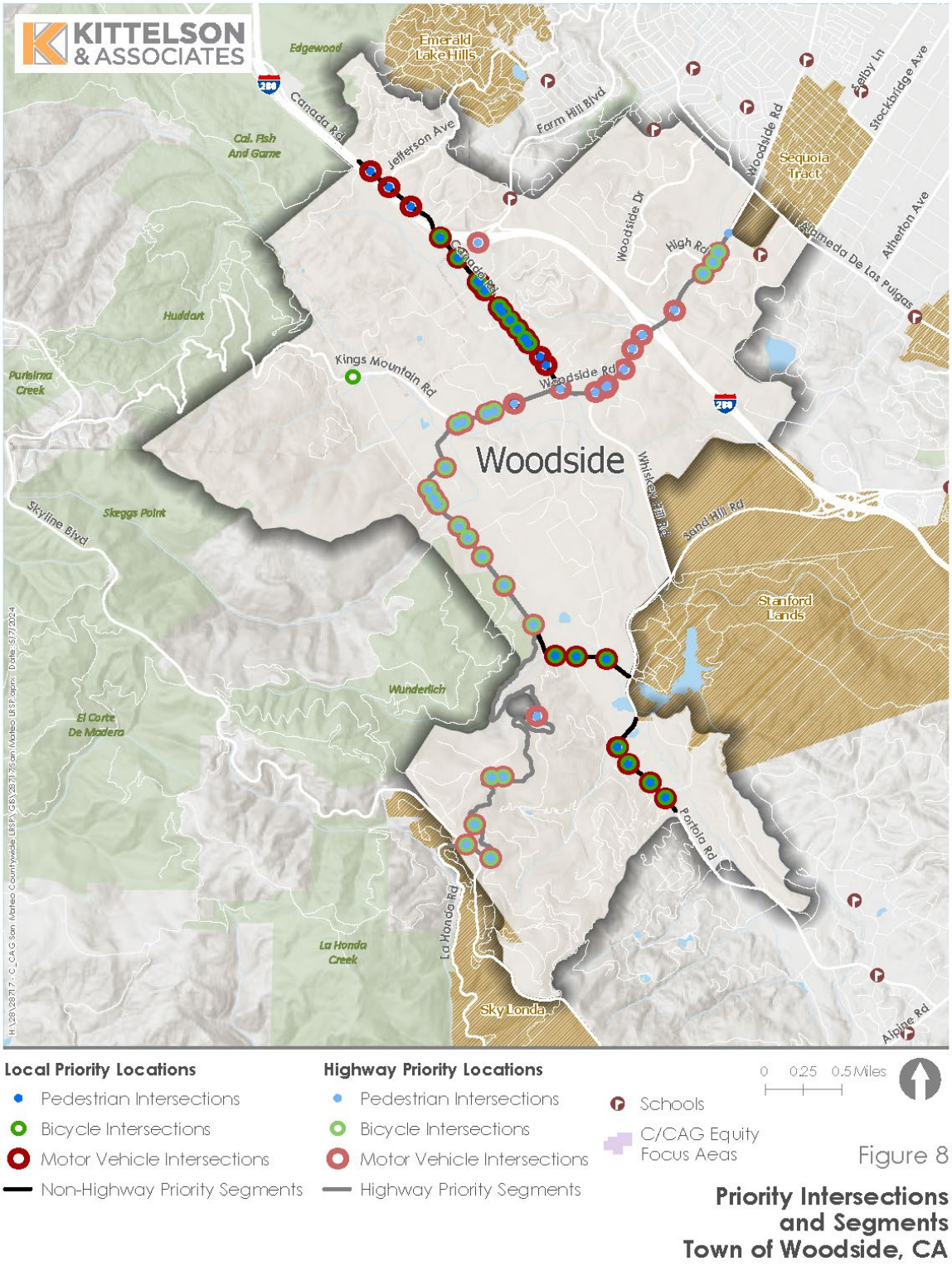
ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
1	Woodside Rd and Lindenbrook Rd	Intersection	Yes	**X**		**X**
2	Martinez Rd and La Honda Rd	Intersection	Yes	**X**	**X**	**X**
3	Portola Rd and Old La Honda Rd	Intersection	No	**X**	**X**	**X**
4	Woodside Rd and Northgate Dr	Intersection	Yes	**X**	**X**	**X**
5	Interstate Highway 280 Hwy and Farm Hill Blvd	Intersection	Yes	**X**		**X**
6	La Honda Rd and Portola Rd	Intersection	Yes	**X**	**X**	**X**
7	La Honda Rd and Skyline Blvd	Intersection	Yes	**X**	**X**	**X**
8	La Honda Rd and Fox Hill Rd	Intersection	Yes	**X**		**X**
9	Portola Rd and Mountain Home Rd	Intersection	No	**X**	**X**	**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
10	La Honda Rd and Grandview Dr	Intersection	Yes	**X**	**X**	**X**
11	Portola Rd and Home Rd	Intersection	No	**X**	**X**	**X**
12	Woodside Rd and Bear Gulch Rd	Intersection	Yes	**X**	**X**	**X**
13	Canada Rd and Woodside Rd	Intersection	Yes	**X**		**X**
14	High Rd and Woodside Rd	Intersection	Yes	**X**	**X**	**X**
15	Miramontes Rd and Woodside Rd	Intersection	Yes	**X**	**X**	**X**
16	Woodside Rd and Fox Hollow Rd	Intersection	Yes	**X**	**X**	**X**
17	Woodside Rd and Oakhill	Intersection	Yes	**X**	**X**	**X**
18	Portola Rd and Montecito Rd	Intersection	No	**X**	**X**	**X**
19	Canada Rd and Corto Ln	Intersection	No	**X**	**X**	**X**
20	Canada Rd and Olive Hill Ln	Intersection	No	**X**	**X**	**X**
21	Portola Rd and Phillip Rd	Intersection	No	**X**	**X**	**X**
22	Skywood Way and La Honda Rd	Intersection	Yes	**X**	**X**	**X**
23	Tripp Rd and Woodside Rd	Intersection	Yes	**X**	**X**	**X**
24	Portola Rd and Forest View Rd	Intersection	No	**X**	**X**	**X**
25	Southgate Dr and State Highway 84 Hwy	Intersection	Yes	**X**	**X**	**X**
26	Smoke Tree Ln and Woodside Rd	Intersection	Yes	**X**	**X**	**X**
27	Canada Rd and Eucalyptus Ct	Intersection	No	**X**	**X**	**X**
28	Canada Rd and Bardet Rd	Intersection	No	**X**	**X**	**X**
29	Canada Rd and Arbor Ct	Intersection	No	**X**	**X**	**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
30	Canada Rd and Alta Vista Rd	Intersection	No	**X**	**X**	**X**
31	Canada Rd and Neuman Ln	Intersection	No	**X**	**X**	**X**
32	Canada Rd and Runnymede Rd	Intersection	No	**X**	**X**	**X**
33	Why Worry Ln and Woodside Rd	Intersection	Yes	**X**	**X**	**X**
34	Woodside Rd and Roberta Rd	Intersection	Yes	**X**	**X**	**X**
35	La Honda Rd and Friars Ln	Intersection	Yes	**X**	**X**	**X**
36	Kings Mountain Rd and Woodside Rd	Intersection	Yes	**X**	**X**	**X**
37	Woodside Rd and Martin Ln	Intersection	Yes	**X**	**X**	**X**
38	Woodside Rd and Bridle Ln	Intersection	Yes	**X**	**X**	**X**
39	Woodside Rd and Montelena Ct	Intersection	Yes	**X**	**X**	**X**
40	Canada Rd and Mission Trail Rd	Intersection	No	**X**	**X**	**X**
41	Canada Rd and Glenwood Ave	Intersection	No	**X**	**X**	**X**
42	Canada Rd and Laning Dr	Intersection	No	**X**	**X**	**X**
43	Tadin Ln and Portola Rd	Intersection	No	**X**	**X**	**X**
44	Woodside Rd and Albion Ave	Intersection	Yes	**X**		**X**
45	Moore Rd and State Highway 84 Hwy	Intersection	Yes	**X**		**X**
46	Whiskey Hill Rd and Woodside Rd	Intersection	Yes	**X**		**X**
47	Quail Meadows Dr and Woodside Rd	Intersection	Yes	**X**		**X**
48	Woodside Rd and Hobart Heights Rd	Intersection	Yes	**X**		**X**

ID	Location	Corridor/ Intersection	State Highway?	Motor Vehicle Emphasis	Bicycle Emphasis	Pedestrian Emphasis
49	Shine Rd and Woodside Rd	Intersection	Yes	**X**		**X**
50	Canada Ln and Canada Rd	Intersection	No	**X**		**X**
51	Woodside Rd and Haciendas Dr	Intersection	Yes	**X**		**X**
52	Dean Rd and Canada Rd	Intersection	No	**X**		**X**
53	Canada Rd and Monticello Ct	Intersection	No	**X**		**X**
54	Canada Rd and Jefferson Ave	Intersection	No	**X**		**X**
55	Canada Rd and Godetia Dr	Intersection	No	**X**		**X**
56	Churchill Ave and Woodside Rd	Intersection	Yes			**X**
57	Kings Mountain Rd and Greer Rd	Intersection	No		**X**	
58	Portola Rd, Family Farm Rd to E town limit	Corridor	No	**X**	**X**	**X**
59	Canada Rd, W town limit to Woodside Rd (SR84)	Corridor	No	**X**	**X**	**X**
60	Portola Rd, Woodside Rd (SR84) to E town limit	Corridor	No	**X**	**X**	**X**
61	Woodside Rd, E town limit to Haciendas Dr	Corridor	Yes	**X**	**X**	**X**
62	Woodside Rd, Haciendas Dr to Mountain Home Rd	Corridor	Yes	**X**		**X**
63	Woodside Road, Mountain Home Road to Kings Mountain Road	Corridor	Yes	**X**	**X**	**X**
64	Woodside Rd/La Honda Rd, Kings Mountain Rd to S town limit	Corridor	Yes	**X**	**X**	**X**

Figure 8: Woodside Priority Locations



IMPROVEMENTS – ENGINEERING, POLICY & PROGRAMS

This section presents Safe System-aligned recommendations that can create levels of redundancy for traffic safety in the Town of Woodside. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align Town departments and partners in pursuit of the plan's vision and goals.

Project Scopes

With the development of this plan the project team worked with the Town to identify two project locations or two groups of project locations to apply safety treatments. We worked from the list of priority project locations and used potential benefit-to-cost ratio to identify a suite of treatments the Town could consider at these locations. The Town can move forward with further project development and community engagement to advance solutions at these locations. They may also consider bundling some of the treatments identified with the same treatments at other, similar locations identified in this plan, for a systemic approach.

The project scopes were developed exclusively from a list of Town-approved engineering countermeasures, which are presented as an engineering toolbox in the next section. The team prepared a suite of treatments to reduce crashes at the project locations. For each treatment, the list presents a planning-level cost of the treatments as recommended and the crash reduction benefit.

The scoped project locations include:

- Canada Rd—W town limit to Woodside Rd (SR 84). Recommended improvements include:
    - Dynamic/variable speed warning signs
    - Separated bike lanes
    - Two pedestrian crossings with enhanced safety features (flashing beacons, curb extensions, advance "yield" lines)

- Woodside Rd—Mountain Home Rd to Kings Mountain Rd. Recommended improvements include:
  - Upgraded signs with new fluorescent sheeting (regulatory or warning)
  - Dynamic/variable speed warning signs
  - Separated bike lanes

For more information on the location, cost, and crash diagnostics of these project scopes, see Appendix E.

Engineering Countermeasure Toolbox

This section presents Safe System-aligned engineering recommendations that can create levels of redundancy for traffic safety in the Town of Woodside. First is a table of engineering countermeasures proven to reduce fatal and severe injury crashes. The countermeasures align to the crash types as listed in the table. Complementing those countermeasures is a holistic set of policy and programmatic recommendations that will help align Town departments and partners in pursuit of the plan's vision and goals.

Table 5. Town of Woodside Countermeasure Toolbox

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number*	SI	Signalized local/arterial intersections	0.15	$	Very high
Install left-turn lane and add turn phase*	SI	Signalized local/arterial intersections	0.55	$-$$$	Low
Convert signal to mast arm (from pedestal-mounted)*	SI	Signalized local/arterial intersections	0.3	$-$$$	Medium
Install raised median on approaches*	SI	Signalized local/arterial intersections	0.25	$-$$$	Medium
Install raised pavement markers and striping*	SI	All crashes	0.1	$	High
Centerline hardening or continuous raised median	SI	All crashes	0.46	$	Medium
Install pedestrian countdown signal heads*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install pedestrian crossing*	SI	Pedestrian crashes, signalized local/arterial intersections	0.25	$	High
Install advance stop bar before crosswalk (bicycle box)*	SI	Pedestrian crashes, signalized local/arterial intersections	0.15	$	High
Install Protected Intersection Elements	SI	Pedestrian crashes, signalized local/arterial intersections	N/A	$-$$$	Low
Install pedestrian crossings (signs and markings only)*	UI	Pedestrians and bicycle	0.25	$-$$$	High
Install pedestrian crossings (with enhanced safety features)*	UI	Pedestrians and bicycle	0.35	$-$$$	Medium
Install/upgrade larger or additional STOP signs or other intersection warning or regulatory signs*	UI	Turning crashes related to lack of driver awareness	0.15	$	High
Upgrade intersection pavement markings*	UI	Turning crashes related to lack of driver awareness	0.25	$	High
Install pedestrian signal or pedestrian hybrid beacon*	UI	Pedestrian and bicycle	0.3	$$$	High
Road diet (Reduce travel lanes from four to three, and add a two-way, left-turn lane and bike lanes)*	R	All crashes	0.35	$	Medium

Countermeasure Name	Applicable Location(s)[1]	Crash Types Applicable	Crash Reduction Factor (If Available)	Cost (if available)[2]	Systemic Opportunity?
Install separated bike lanes*	R	Pedestrian and bicycle	0.45	$-$$	High
Install/upgrade pedestrian crossing (with enhanced safety features)*	R	Pedestrian and bicycle	0.35	$$-$$$	Medium
Remove or relocated fixed objects outside of clear recovery zone*	R	Hit object	0.35	$-$$	High
Install delineators, reflectors, and/or object marker*	R	All crashes	0.15	$	High
Install/upgrade signs with new fluorescent sheeting (regulatory or warning)*	R	All crashes	0.15	$	High
Install dynamic/variable speed warning signs*	R	Driver behavior	0.3	$	High
Extend pedestrian crossing time	SI	Pedestrian	N/A	$	High
Pedestrian phase recall	SI	Pedestrian	N/A	$	High
Extend green time for bikes	SI	Bicycle	N/A	$	High
Extend yellow and all-red time	SI	All crashes	N/A	$	High
Lane narrowing	R	All crashes	N/A	$-$$	Low
Bicycle crossing (solid green paint)	UI	Bicycle	N/A	$	Medium
ADA-compliant directional curb ramps and audible push buttons	SI	Pedestrian	N/A	$-$$	Low

*Indicates countermeasure is eligible for California HSIP funding as of the most recent funding cycle

1: UI = Unsignalized Intersection; SI = Signalized Intersection; R = Roadway segments; All = All of the above2: $ = ≤$50,000; $$ = $50,000 - $200,000; $$$ = > $200,000

Proposed Policy, Program, and Guidelines Recommendations

In addition to the engineering countermeasures and projects recommended above, the Town aims to promote policies, programs, and standards that foster a culture of safety. The table below defines several policy and program recommendations organized into thematic categories. Implemented in cooperation with partners, these recommendations will deepen the dedication to safety shared throughout the community and round out the Town's Safe System Approach.

Table 6. Town of Woodside Policy and Program Recommendations

Category	Near-Term Recommendations	Long-Term or Ongoing Recommendations
Local Culture Shift (LCS)	LCS1: Transportation Safety Advisory Committee Participation	LCS2: High-Visibility Media Campaign LCS3: Communication Protocol
Local Enforcement Coordination (LEC)		LEC2: Speed Monitoring Awareness Radar Trailer
Local Funding (LF)	LF1: Dedicated Funding	LF2: Equitable Investment LF3: Prioritize Investments
Local Education / Outreach (LEO)		LEO1: Roadway Safety Education in Schools LEO2: Engagement Accessibility LEO3: Educational Materials for New Facilities LEO4: Transportation Safety Campaign LEO5: Safe City Fleet LEO6: Conspicuity Enhancements and Education
Local Planning/ Evaluation (LPE)		LPE1: Annual Review LPE2: Plan Update LPE4: Safe Routes to School LPE8: Speed Limits/Speed Management Plan

NEAR-TERM ACTIONS

LCS1: Transportation Safety Advisory Committee Participation

Actively participate in the newly-formed County Transportation Safety Advisory Committee (TSAC). Bring agenda items as relevant, including but not limited to:

- Safety project updates with every step along the project development process (studies initiated / under way /complete, funding identified, design phases initiated / under way / complete)
- Annual updates to the TSAC regarding implementation progress that may be relevant for C/CAG annual monitoring reporting (e.g., projects on identified priority locations and/or the regional High Injury Network, community engagement efforts and summaries, safety funding applied for / received)
- Opportunities for cross-jurisdiction coordination (e.g., roadways or intersections shared with adjacent jurisdictions or Caltrans)
- Requests for trainings / best practices that could be provided through the TSAC

Lead agency: Town of Woodside Public Works

LF1: Dedicated Funding

Propose ongoing, dedicated funding and staffing for implementation and monitoring of the safety plan, including presiding over the TSAC. This role may be fulfilled by a partial FTE or through staff augmentation.
Lead agency: Town of Woodside Public Works

LONG-TERM OR ONGOING ACTIONS

LCS2: High-Visibility Media Campaign

Coordinate with County Public Health and the San Matteo County Sheriff's Office to implement a local high-visibility media campaign pertaining to one or more emphasis areas identified in this plan.
Dedicated law enforcement with media supporting the enforcement activity to ensure public awareness.
Potential communication tools:

- Bus ads
- Social media
- Text messages

Lead agency: County Public Health
Coordinating partners: County Sheriff's Office, California Highway Patrol, Sustainability Department, SMCOE, Town of Woodside Public Works

LCS3: Communication Protocol

Adopt and develop safety-related communication protocols in coordination with the TSAC. The protocols will promote consistent public communication regarding language usage and statements related to transportation safety. Encourage language in line with Vision Zero and Safe System principles that acknowledges mistakes are inevitable but death and severe injury are preventable. For example, promote use of the word crash rather than accident.
Lead agency: C/CAG
Coordinating partners: Town of Woodside Public Works

LEC2: Speed Monitoring Awareness Trailer

Coordinate with San Matteo County Sheriff's Office to deploy a trailer to monitor speeds on streets and to raise awareness of speeding. It can be deployed long term along HIN and other arterials, or short term in neighborhoods. Use the priority locations and data in this plan to identify locations and schedule for deployment.
Lead agency: County Sheriff's Office
Coordinating partners: Town of Woodside Public Works

LF2: Equitable Investment

Prioritize townwide safety investments in disadvantaged communities. Use the presence of disadvantaged communities (as identified with C/CAG Equity Focus Areas, MTC Equity Priority Communities, USDOT Historically Disadvantaged Communities, and/or USDOT Areas of Persistent Poverty) as a factor to elevate funding for certain projects or other safety-related programs.
Lead agency: Town of Woodside Public Works

LF3: Prioritize Investments

Use the priority locations identified in this plan to determine safety project opportunities to advance for further project development and to identify funding. Identify pathways for improvement for the locations on the list. Continue to engage the community to refine the priorities within the list of identified sites.
Lead agency: Town of Woodside Public Works

LEO1: Roadway Safety Education in School

Continue School Travel Fellowship Program to provide the following:

- Technical assistance to schools and planners to implement demonstration projects
- ATP Project Specialist to work with educators to provide technical assistance (bike rodeos, parent engagement workshops and resources, walk and bike audits, and additional support for walk/bike to school encouragement events) to schools in EPCs

Lead agency: SMCOE
Coordinating partners: County Public Health, Sustainability Department, SVBC

LEO2: Engagement Accessibility

Plan community engagement efforts to be tailored for vulnerable road users and all travel modes. Make outreach materials available in accessible formats and multiple languages.
Lead agency: Town of Woodside Public Works

LEO3: Educational Materials for New Facilities

Develop and distribute educational materials and/or videos demonstrating how to navigate and interact with newer active transportation facilities (e.g., bike boxes, Pedestrian Hybrid Beacons, separated bike lanes, etc.) Include information about the purpose and goals of this infrastructure.
Lead agency: Town of Woodside Public Works

LEO4: Transportation Safety Campaign

Run education campaigns and outreach to foster community awareness of a shared responsibility for road safety. Use the emphasis areas highlighted in this plan as focus areas and target groups for a campaign.
Lead agency: Town of Woodside
Coordinating partners: C/CAG, County Public Health

LEO5: Safe City Fleets

Provide educational materials for Town staff who drive Town vehicles and integrate safety awareness training into contracting process with vendors who provide Town services. Other measures include installing safety features (such as pedestrian/obstacle detection and speed tracking) on Town vehicles and reporting on correction plans against unsafe driving.
Lead agency: Town of Woodside Public Works

LEO6: Conspicuity Enhancements and Education

Educate pedestrians, bicyclists, and other vulnerable users in the importance of wearing reflective clothing and traveling in well-lit areas. Additional measures could include distributing reflective clothing to residents.
Lead agency: Town of Woodside Public Works

LPE1: Annual Review

Provide an annual review of plan implementation progress. This review includes an update and presentation to Town Council as well as a written update to the TSAC so that C/CAG may compile county plan implementation status.
Lead agency: Town of Woodside Public Works

LPE2: Plan Update

Update the plan within five years of publication. The plan update will revise actions to reflect current crash trends and will integrate technological advancements and changes in best practices as needed.
Lead agency: Town of Woodside Public Works

LPE4: Safe Routes to School

Continue to participate in school safety assessments at all public and private schools, develop implementation plans for improvements up to one quarter mile from the schools.
Develop a plan and timeline to include all schools in the Town.
Lead agency: SMCOE
Coordinating partners: Town of Woodside Public Works

LPE8: Speed Limits/Speed Management Plan

Per California Assembly Bill 43 (passed in 2021), identify business activity districts, safety corridors, and in areas with high ped/bike activities to implement reduced speeds.
To the extent possible, complement the speed reduction with design treatments like those identified in this plan to effect reduced speeds by the desired amount.
Lead agency: Town of Woodside Public Works

IMPLEMENTATION & MONITORING

A key part of achieving Woodside vision is consistently evaluating roadway safety performance and tracking progress towards the goals. The Town of Woodside will develop a process to regularly collect data and information around the performance measures that can be used to assess changes townwide and at the top priority locations.

Implementation actions are organized by plan goals and grouped by time: near-term actions, which Woodside can initiate immediately, and longer-term actions, which may require coordination and additional staff time.

This section identifies recommendations for Woodside and other county-level safety partners to implement the plan. These are aligned with the Safe System Approach and include a framework to measure plan progress over time.

Table 7. Town of Woodside Goals and Measures of Success

GOAL	MEASURE OF SUCCESS
1. Regularly monitor crashes to respond to safety problems and changing conditions. Prioritize locations with high crash rates for safety improvements. 2. Reduce the number of annual fatal and severe injury crashes across all public Town roadways.	• Number of LRSP project locations advanced through project development, reported at the agency level • Annual and three-year total reported crashes, fatal/severe injury crashes, crashes by mode, and crashes by emphasis areas identified
3. Implement safety countermeasures systemically to target emphasis areas. 4. Provide opportunities for community engagement in roadway capital improvement projects to identify safety solutions. 5. Identify opportunities to incorporate social equity into safety improvements. 6. Partner with other local agencies to incorporate roadway safety into all actions.	• Community engagement included as part of all C/CAG-funded safety project development activities • Number of engagement touchpoints and number of community member interactions townwide for safety plans or projects. • Report-backs to the Town Council and TSAC regarding community engagement, including information about outreach to disadvantaged communities where applicable
7. Embrace the Safe System Approach to promote engineering and non-engineering strategies in the community.	• Percent of school district participation in SRTS and roadway safety education opportunities • Number of trainings Town staff have participated in regarding Safe System elements, available tools, or practices • Improved data availability or maintenance to enhance safety analysis and practice
8. Monitor implementation of the Woodside LRSP to track progress towards goals.	• See above in this table

Town of Woodside

San Mateo C/CAG Countywide LRSP

Appendix A

Web Comments received by Agency

Web Comments - All Comments

City/County Name	id	Comment	Comment Type	Created	Likes
NOT STATED	147239	Lots of potholes. Road improvements	Safety Concern - Driving	2023-08-16 18:25:02 UTC	0
NOT STATED	147241	Bike safety improvements along north fair oaks	Safety Concern - Bicycling	2023-08-16 18:29:28 UTC	0
NOT STATED	147243	Woodland and Newell the light in front splits and there are a ton of potholes. No bike lanes and a lot of kids	Safety Concern - Bicycling	2023-08-16 18:32:26 UTC	0
NOT STATED	147247	Lots of drivers speeding and running red lights. Causes a ton of accidents	Safety Concern - Driving	2023-08-16 18:36:28 UTC	0
NOT STATED	147437	Middlefield Rd - poor visibilitySan Carlos Pop-up		2023-08-28 18:56:03 UTC	0
ATHERTON	148067	Install a modal filter at Selby and Stockbridge so motor vehicles cannot continue straight on Selby. Selby is a busy bike commute route, it should not serve drivers who are trying to bypass El Camino.	Safety Concern - Bicycling	2023-09-17 01:55:00 UTC	1
ATHERTON	148068	Modal filter needed here, or at the Barry/Atherton intersection. Only bikes and pedestrians should be able to use Barry Lane to connect between Atherton Ave and Elena Ave, motor vehicles should not be allowed through.	Safety Concern - Bicycling	2023-09-17 01:57:41 UTC	1
BELMONT	147137	Unsafe for pedestrians, speeding observed	Safety Concern - Walking	2023-08-11 00:56:42 UTC	2
BELMONT	147140	Speeding observed on Broadway, unsafe for pedestrians.	Safety Concern - Walking	2023-08-11 01:31:02 UTC	0
BELMONT	147324	Narrow road with a lot of bikers in the street, which makes it unsafe for both cars and bikers. Since the road is windy, it's extra dangerous.	Safety Concern - Driving	2023-08-21 17:23:34 UTC	0
BELMONT	147325	Roads are rough/unfinished.	Safety Concern - Driving	2023-08-21 17:26:08 UTC	0
BELMONT	148049	Old County Rd between Ralston Ave and Brittan Ave: remove all street parking and install buffered bike lanes all the way through this important north-south bike corridor. Bike lanes need to be wide enough or buffers open for faster bikes to pass. Install	Safety Concern - Bicycling	2023-09-16 23:58:54 UTC	0
BELMONT	148077	This should be a 3 way intersection with stop sign at Buckland and Lyndhurst. There is bottle necking here due to parked cars on side of road, and a blind hill. So, cars driving in center of road without visibility of oncoming cars at the 3/way perpendic	Safety Concern - Driving	2023-09-18 15:00:45 UTC	0
BELMONT	148081	The curb extension which is supposed to protect the pedestrian crossing inhibits the flow of southbound el Camino bicyclists who are riding to the far right of the travel lanes (no dedicated bike infrastructure). This curb extension forces bicyclists int	Safety Concern - Bicycling	2023-09-18 23:11:10 UTC	0
BRISBANE	147348	Cars on Main St. fail to yield to (or try to beat) oncoming bike traffic on Bayshore	Safety Concern - Bicycling	2023-08-22 14:42:54 UTC	3
BRISBANE	147369	merging from the southbound bike lane on the straight-away to the ""go forward"" bike box at the intersection often creates bike / car conflicts. a more prominent bike lane transition (dotted lines in paint) would make this a safer and more appealing ro	Safety Concern - Bicycling	2023-08-22 18:28:29 UTC	4
BRISBANE	147390	Very difficult merge for cyclists heading north on bayshore that turn left onto Geneva. The rumble strip extends a large distance. This signal would benefit from more specific bike lanes and a signal.	Safety Concern - Bicycling	2023-08-22 22:10:02 UTC	4
BRISBANE	147546	This "flyover" is an accident waiting to happen. You have cyclists trying to merge with cars going 60-65 mph, way over the limit and the cars going north from the flyover are using freeway speeds.	Safety Concern - Bicycling	2023-08-31 20:56:34 UTC	2
BRISBANE	147548	More cars using Bayshore to avoid the freeway. Posted speed is 45. I am constantly passed by cars going 65. This is a residential part of Bayshore and this high rate of speed is unacceptable. Someone is going to get killed. Roadway needs traffic calming	Safety Concern - Walking	2023-08-31 20:59:29 UTC	2
BRISBANE	147550	Treacherous intersection for anyone wishing to cross the street to reach the bus stop. Cars going 65 mph and running the light. Very wide intersection with nothing to indicate pedestrians might be crossing.	Safety Concern - Walking	2023-08-31 21:03:40 UTC	1
BRISBANE	147551	Excessive speed and lack of roadway separation for bicyclists (and pedestrians) is atrocious. Cars go 55,65 mph on this stretch of road that seems rural but isn't. At least separate the roadway because someone is going to get hurt.	Safety Concern - Bicycling	2023-08-31 21:07:25 UTC	2
BRISBANE	147552	Speed on this stretch of road is usually 60 mph where the posted limit is 40. Either enforce the speed or at least lower to 35 and then maybe cars will go 40.	Safety Concern - Driving	2023-08-31 21:10:36 UTC	1
BRISBANE	147693	From the intersection of Bayshore and San Bruno Avenue in the south to the entrance to Brisbane in the north, there is NO safe walkable space for pedestrians. There is no sidewalk, there is no separation of pedestrians from traffic that is travelling upw	Safety Concern - Walking	2023-09-03 00:20:23 UTC	3
BRISBANE	147765	kids travel this route on their way to school		2023-09-06 02:24:25 UTC	1
BRISBANE	147812	Vehicles routinely exceed the 45mph speed limit, usually traveling at 55-60 mph on this stretch of Bayshore Blvd. There are pedestrians (no sidewalk), bicycles, buses, heavy trucks and vehicles making unprotected left turns. This is a very dangerous ro	Safety Concern - Driving	2023-09-07 15:26:51 UTC	2
BRISBANE	147813	Pedestrians and children going to school routinely walk along this stretch of Bayshore Blvd. There is no sidewalk. It is dangerous	Safety Concern - Walking	2023-09-07 15:28:45 UTC	2
BRISBANE	147824	A pedestrian crosswalk with overhead flashing red/yellow lights may be helpful at the bus stop area to assist people walking across to catch the bus or shuttle.		2023-09-07 16:29:05 UTC	2
BRISBANE	147826	Pedestrian sidewalk is narrow. Absence of crosswalks.	Safety Concern - Walking	2023-09-07 17:12:01 UTC	3
BRISBANE	147864	It would be a great help to pedestrians (SamTrans riders who work on Sierra Point, for example) and cyclists (wanting to avoid Bayshore Blvd.) if there was a safe crossing south of the Lagoon.	Safety Concern - Bicycling	2023-09-08 18:30:44 UTC	1

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BRISBANE	147865	It would be a great help to pedestrians (SamTrans riders who work on Sierra Point, for example) and cyclists (wanting to avoid Bayshore Blvd.) if there was a safe crossing south of the Lagoon.	Safety Concern - Walking	2023-09-08 18:32:00 UTC	0
BRISBANE	148007	Large trucks cannot make the turn without going into oncoming traffic which is concerning given the limited visibility in the turn.	Safety Concern - Driving	2023-09-15 16:34:45 UTC	1
BRISBANE	148091	The southbound Sierra Point Parkway bike path narrows dangerously as one enters the underpass area - exactly where visibility dims due to the shade/absence of lighting. There is a gravel side path that could be - and should be - finished properly that w	Safety Concern - Bicycling	2023-09-20 23:47:49 UTC	1
BRISBANE	148092	The Bay Trail stops and is broken at this point. Need to find a way to extend and continue it to the north.	Safety Concern - Bicycling	2023-09-20 23:50:57 UTC	1
BURLINGAME	147032	Bike lanes	Safety Concern - Bicycling	2023-08-03 22:50:02 UTC	0
BURLINGAME	147249	North San Mateo, Burlingame, Los Altos, Menlo Park - good for biking EPA Farmers Market		2023-08-16 18:41:17 UTC	0
BURLINGAME	147365	Old Bayshore Highway between Milbrae Ave and Broadway feels unsafe when biking due the nature of there not being a bike lane (unprotected or protected) and because Old Bayshore is a 4-lane road. I'd argue that traffic on this route is not very high, and	Safety Concern - Bicycling	2023-08-22 17:21:44 UTC	6
BURLINGAME	147395	Southbound on Old Bayshore Hwy is nervewracking through the intersection here, especially since I want to continue straight and turn left at Airport Blvd (to turn into Bay Park and continue on the bike path). I was actually struck by a car, thankfully a	Safety Concern - Bicycling	2023-08-22 22:21:13 UTC	3
BURLINGAME	147398	It would be great to extend the bay trail so that it goes along the bay. There are two gaps that force me to take the interior trail (and go on Beach road). It's not bad, but it's narrow, bumpy, and often there are pedestrians walking dogs off-leash wh	Safety Concern - Bicycling	2023-08-22 22:26:21 UTC	1
BURLINGAME	147402	Completely agree with what is said here, no clear path to go to the turn left lane		2023-08-22 22:39:47 UTC	1
BURLINGAME	147403	Yeah I second this, It's the most dangerous intersection on my commute. In order to get to the bike path over broadway you have to go from the bike lane to the left lane going straight through broadway, crossing 2 lanes in an area where cars are often sp		2023-08-22 22:42:34 UTC	1
BURLINGAME	147530	A lot of El Camino in Burlingame needs to be repaved due to a combination of potholes and large tree roots damaging the roads. I have never walked here but I would guess the tree roots are probably messing up the sidewalks too. I donâ€™t know if widening	Safety Concern - Driving	2023-08-31 05:00:22 UTC	0
BURLINGAME	147531	Better signage is needed to indicate what lanes are going where when getting on and off 101 at the Broadway exit. Drivers are often in the wrong lane and cutting others off with very short distances before reaching the next intersection that will get the	Safety Concern - Driving	2023-08-31 05:13:24 UTC	0
BURLINGAME	147760	The intersection of El Camino Real/Primrose Road/Bayswater Ave./Cypress Ave./Carol Ave. is very complex, and confusing for motorists, pedestrians and bicyclists. Often times, it is very difficult to know which roadway leg has the right-of-way given the	Safety Concern - Bicycling	2023-09-05 22:36:20 UTC	0
BURLINGAME	147830	This intersection could use a sign or painted road to guide the cyclists to bay trail and not onto the narrow shared road thats shared with pedestrians, cars and commuter buses!	Safety Concern - Bicycling	2023-09-07 21:57:55 UTC	0
BURLINGAME	147831	I second this!		2023-09-07 21:59:08 UTC	0
BURLINGAME	147902	The eastern (or northeastern?) crosswalk for Trousdale and El Camino is actually at Trousdale and Irwin, where there are no pedestrian signals. It's unclear when it is safe to cross, or when cars may be turning left onto Trousdale from El Camino. Please	Safety Concern - Walking	2023-09-11 21:52:54 UTC	0
BURLINGAME	148244	Bad visibility for side road drivers turning onto ECR. I lost a car here a few years ago.	Safety Concern - Driving	2023-09-29 21:15:28 UTC	0
DALY CITY	147842	Limited visibility of pedestrians when exiting bart garage	Safety Concern - Walking	2023-09-07 23:18:34 UTC	0
DALY CITY	147896	The onramp to southbound 280 means cars are entering/leaving quickly and don't always slow down for pedestrians or even see pedestrians.	Safety Concern - Walking	2023-09-11 21:33:21 UTC	1
DALY CITY	147897	No protection for pedestrians walking on highway overpass sidewalk. Bollards or barrier wall would enhance pedestrian safety. This is true for strip starting at east end of Boulevard Cafe all the way to intersection between John Daly Blvd and Junipero Se	Safety Concern - Walking	2023-09-11 21:35:32 UTC	0
DALY CITY	147898	Cars speed down Sheffield, take sharp turns onto Lake Vista and speed down the street heading to the elementary school for drop-off and pick-up. Traffic calming (stop sign at Lake Vista and Sheffield, speed bumps on both streets) should be added to prote	Safety Concern - Walking	2023-09-11 21:38:07 UTC	0
DALY CITY	147899	There is no crosswalk here to connect the library to the neighborhood (which is also where most people park for the library). Cars move at a fast speed down Southgate and crossing the street can feel unsafe, especially with kids in tow.	Safety Concern - Walking	2023-09-11 21:39:54 UTC	0
DALY CITY	148125	Skyline Boulevard (Highway 35) is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:30:34 UTC	0
DALY CITY	148153	This stop-sign controlled four-way intersection is high risk for pedestrians. Cars often are competing with each other to go first and due to the width of the intersection it's hard for cars to track pedestrians and the other cars they are competing with	Safety Concern - Walking	2023-09-28 16:38:20 UTC	1
DALY CITY	148154	This portion of King was recently restriped for parking, bike lane, and one vehicle lane, which is awesome, but a lot of drivers think the bike lane striping is a second vehicle lane, creating an unsafe condition for bicyclists, parked cars and drivers.	Safety Concern - Bicycling	2023-09-28 16:41:53 UTC	0
DALY CITY	148155	This is a tough intersection for pedestrians because it's so wide and can be really foggy. Pedestrian lighting or better signage would be helpful.	Safety Concern - Walking	2023-09-28 16:46:19 UTC	0
DALY CITY	148156	This is Caltrans ROW and most likely on the high-injury network. Pavement quality is poor and there needs to be proper bike facilities (Class I or IV) and serious traffic calming, especially at pedestrian crossings.	Safety Concern - Bicycling	2023-09-28 17:05:54 UTC	0

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DALY CITY	148157	This is a terrible suggestion for a bike route due to street width, high traffic volumes, steep grade, and congestion. Please make Mission Street better and/or remove parking to create proper bike facilities (Class II or IV).	Safety Concern - Bicycling	2023-09-28 17:08:01 UTC	0
DALY CITY	148158	The recent streetscape project was a wasted opportunity to bring protected bike facilities (Class I or IV at the least) and improve intersections for people walking and biking heading east from Daly City BART. For the next round of improvements, please c	Safety Concern - Bicycling	2023-09-28 17:11:29 UTC	0
DALY CITY	148159	Because Mission and John Daly are high-volume and steep streets with sub-standard bike facilities, there needs to be a path to go south-north. Sharrows (and intersection improvements near BART) should be the minimum for facilitating bike traffic south fr	Safety Concern - Bicycling	2023-09-28 17:14:05 UTC	0
DALY CITY	148160	There's essentially no reliably safe way to get from Westlake to Daly City BART, two popular destinations, without a car or bus. This corridor needs to be redesign to accommodate for improved pedestrian facilities (wider and more pleasant sidewalks, espe	Safety Concern - Bicycling	2023-09-28 17:17:47 UTC	0
DALY CITY	148161	Westlake to Lake Merced/SFSU is a popular route and destination generator. SFMTA is already constructing improved bike facilities on Lake Merced Boulevard. Daly City should continue the improvements from the border to John Daly Boulevard at minimum, whic	Safety Concern - Bicycling	2023-09-28 17:19:50 UTC	2
DALY CITY	148163	There's too much road and not enough space for bikes and pedestrians to feel comfortable. A road diet, separated bike lanes, and wider sidewalks are needed.	Safety Concern - Bicycling	2023-09-28 17:24:25 UTC	0
DALY CITY	148164	This is on Daly City's Central Corridors plan, but there are only sharrows on this high-speed, high-volume road. There needs to be more protection to facilitate crucial north-south connections.	Safety Concern - Bicycling	2023-09-28 17:27:20 UTC	0
DALY CITY	148165	San Francisco was able to road diet and install bike lanes on their portion of San Jose Avenue. SM County's portion should also pursue this road diet and improved bike facilities from the county line to John Daly Boulevard.	Safety Concern - Bicycling	2023-09-28 17:29:14 UTC	0
DALY CITY	148166	Curb radii should be sharper to prevent rolling stops and high-speed turns. Particularly for the EBRT movement from King to Gellert.		2023-09-28 17:37:51 UTC	0
DEVONSHIRE	148085	Need a three way stop sign here. Cars speed up Windsor on their way up Torino to Heather Elementary/Crestview/Edgewood and turn right at the Windsor/Winding T intersection without looking left or pausing. Hard to see cars coming around trees, pedestrians	Safety Concern - Driving	2023-09-19 04:27:03 UTC	0
EAST PALO ALTO	147237	The lack of sidewalks makes it hard to walk; I like to walk and bike a lot with my child.	Safety Concern - Walking	2023-08-16 17:51:27 UTC	0
EAST PALO ALTO	147238	People do donuts in my neighborhood.	Safety Concern - Driving	2023-08-16 18:03:45 UTC	0
EAST PALO ALTO	147246	More bike lanes throughout east Pablo alto and to get to east pall alto from other areas to enjoy the bay	Safety Concern - Bicycling	2023-08-16 18:34:07 UTC	0
EAST PALO ALTO	147251	Pulgas Ave Lots of schools on this road - children don't know/follow the traffic safety precautions EPA Farmers Market		2023-08-16 19:00:30 UTC	1
EAST PALO ALTO	147490	Heavy congestion during peak hours, vehicles block intersections and drive fast during non-peak hours	Safety Concern - Walking	2023-08-30 21:00:42 UTC	0
EL GRANADA	147876	Impossible to safely cross Rt 1 on foot/ bike from Miramar neighborhood (near Medio) without walking far north or south to traffic lights. Waiting for pause in traffic risks drivers stopping to allow one to cross, only to have oncoming drivers behind the	Safety Concern - Walking	2023-09-10 19:22:28 UTC	5
EL GRANADA	148093	On El Granada Blvd, a very windy and steep road this is our only evacuation route, large vehicles consistently park on both sides of the road on sharp curves. Specifically near addresses 321 and 338. But anywhere on these curves, when large trucks park o	Safety Concern - Driving	2023-09-21 15:20:18 UTC	0
EL GRANADA	148198	ELG Blvd us not a highway. Good suggestion but probably not relevant to this survey.		2023-09-29 06:28:42 UTC	0
EL GRANADA	148227	We need a high-visibility crosswalk on Santiago Ave. at Francisco St. where many El Granada Elementary School students cross to get to school. I would also be helpful to have a loading zone along the west side of Santiago Ave. to provide a safe place for	Safety Concern - Walking	2023-09-29 15:28:20 UTC	1
EL GRANADA	148233	This intersection at Coronado and Avenue Alhambra/Santiago is confusing for drivers, pedestrians and bicyclists. Specifically, we need high-visibility crosswalks at the intersection since we have bus stops located here and 2 schools within a block. The s	Safety Concern - Walking	2023-09-29 16:12:27 UTC	1
EL GRANADA	148264	There's a very confusing "passing lane" here that's not really long enough. It's so short that the "lane ends, merge left" sign is placed before the lane even splits. The second lane ends right where traffic from Capistrano is trying to turn left ont	Safety Concern - Driving	2023-09-30 22:08:38 UTC	1
EL GRANADA	148285	This location pin is in the incorrect place		2023-10-01 04:44:26 UTC	0
EMERALD LAKE HILLS	147368	Edgewood road is heavily used by both cyclist and cars, there is a shoulder for bikes, but it is not marked as a bike lane (marking/green paint). The bike lane should be protected, especially at the top section where the road curves and cars veer into th	Safety Concern - Bicycling	2023-08-22 17:38:22 UTC	0
EMERALD LAKE HILLS	147385	I have watched a scary accident here where both drivers were in the wrong - a very slow moving construction vehicle was holding up commuter traffic (8 am weekday) and cars were going around the vehicle even though it is one lane in both directions. I wat	Safety Concern - Driving	2023-08-22 21:47:11 UTC	1
FOSTER CITY	147326	Gull Ave. near school should have a speed bump because people go way too fast and there's no guarantee they'll slow down for students.	Safety Concern - Walking	2023-08-21 17:28:59 UTC	1
FOSTER CITY	147334	The intersection and crosswalks here to get to the elementary school are unsafe for kids. It would be safer with the addition of a blinking light for cars.	Safety Concern - Walking	2023-08-21 17:42:06 UTC	0
FOSTER CITY	147341	Edgewater to 101 is too crowded, and another road should be introduced as an alternative to 101, especially for people commuting from Belmont and Foster City. If there was another option up to Seaport Blvd to avoid congestion, that would help traffic.	Safety Concern - Driving	2023-08-21 17:59:07 UTC	1

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FOSTER CITY	147342	The traffic lights at this intersection are timed poorly, and motorists have to wait a long time when there are no cars.	Safety Concern - Driving	2023-08-21 18:10:19 UTC	0
FOSTER CITY	148053	San Mateo Bridge needs a bike path.	Safety Concern - Bicycling	2023-09-17 00:53:08 UTC	0
HALF MOON BAY	147440	Widen the 92! San Carlos Pop-Up		2023-08-28 18:58:18 UTC	2
HALF MOON BAY	147780	This intersection is very dangerous, there have been lots of crashes here over the years, and it is next to a multi-use path that students use to get to the elementary school.	Safety Concern - Driving	2023-09-06 20:42:00 UTC	7
HALF MOON BAY	147781	Lots of pedestrian-involved accidents on this street. There are no continuous sidewalks, and many drivers are going very fast on their way to and from the beach.	Safety Concern - Walking	2023-09-06 20:46:21 UTC	5
HALF MOON BAY	147782	This intersection and much of Kelly Ave is hazardous for cyclists. Drivers come off the Hwy going too fast, multiple schools are along this street as well as two bike shops. this is a major corridor to downtown and the Beach. It can get crowded during sc	Safety Concern - Bicycling	2023-09-06 20:51:33 UTC	4
HALF MOON BAY	147783	There are many accidents on this part of 92 between Hwy 1 and Main Street. There is terrible pedestrian and biking infrastructure around here and no safe way to cross Hwy 92 along Hwy 1	Safety Concern - Driving	2023-09-06 20:56:01 UTC	2
HALF MOON BAY	147784	Lots of kids use this road to get to school, but there are not good sidewalks, so kids must walk/ ride on the road.	Safety Concern - Walking	2023-09-06 21:18:39 UTC	5
HALF MOON BAY	147789	Poplar/highway 1 needs to be upgraded to a protected intersection for increased safety for pedestrians and cyclists.	Safety Concern - Bicycling	2023-09-07 03:15:08 UTC	7
HALF MOON BAY	147790	Dangerous intersection to cross with kids on our way to school. Lots of cars & buses zooming down Poplar.	Safety Concern - Bicycling	2023-09-07 03:22:42 UTC	4
HALF MOON BAY	147791	This multi-use trail is designed poorly, as there are no zebra crossings to cross the streets coming off HW1, so cars turning off HW1 donâ€™t stop. The crossings are very wide, especially if you are with kids.	Safety Concern - Walking	2023-09-07 03:27:44 UTC	6
HALF MOON BAY	147804	Very dangerous intersection for pedestrians and bikes. Cars run red light regularly. The sidewalk disappears on the east side of route 1 after the cross walk making it very difficult to safely walk to and from town, to and from the beach. People also dri		2023-09-07 12:29:22 UTC	5
HALF MOON BAY	147805	Strongly agree, this is a problem. This area is not safely accessed by bike.		2023-09-07 12:31:38 UTC	1
HALF MOON BAY	147807	Agree. There have been multiple serious accidents on Kelly involving bikes and pedestrians. The sidewalk along Kelly stops part way down the street. Cars are racing toward limited beach parking or driving poorly from hours in traffic. They drive fast and		2023-09-07 12:39:03 UTC	3
HALF MOON BAY	147808	Agree with this comment. There is also no safe way for bikes and pedestrians to cross 1 here, even though it would be a major corridor into town and one of few streets thatâ€™s has sidewalks east of 1. Sidewalks are required on the west side of filbert a		2023-09-07 12:43:38 UTC	4
HALF MOON BAY	147809	Traffic calming needed. There are few stop signs so cars drove too fast on this road. Will be exacerbated once traffic calming on neighboring street poplar is put in place as, without similar measures here, will increase traffic, speeding. This street ha	Safety Concern - Walking	2023-09-07 12:56:08 UTC	2
HALF MOON BAY	147810	Agree. There is no safe space to walk. Really limits ability to get around town in a sustainable way. Cars, trucks, busses use this narrow road, which must be shared with peds and bikes and they all go too fast.		2023-09-07 12:58:00 UTC	2
HALF MOON BAY	147811	Agree 100%. Very difficult crossing here. There is a lot going on with cars coming on and off 1 as well as crossing it, going very fast, plus the trail, no sidewalks on west side. This is a major school commute route for elementary school kids.		2023-09-07 13:00:16 UTC	4
HALF MOON BAY	147817	Mirada Bridge	Safety Concern - Bicycling	2023-09-07 15:46:54 UTC	3
HALF MOON BAY	147820	Bridge closure approaching 4 years and bypass diversion of pedestrians and cyclists onto Highway 1 has eliminated the shoulder for cars and has mixed peds and cyclists on the other side barrier, which is stressful for many citizens. More auto accident		2023-09-07 15:55:02 UTC	3
HALF MOON BAY	147822	Mirada road erosion is rapidly increasing. New. roadway lines painted in April 2023 on pavement have already shown massive broken parts that have fallen into the beach below. 2023 Winter storms expedited the erosion and rock barriers were greatly reduce	Safety Concern - Driving	2023-09-07 16:01:22 UTC	1
HALF MOON BAY	147825	This intersection is dangerous for children who walk and ride to Hatch Elementary school. Suggested fix: street striping and school zone signage.	Safety Concern - Bicycling	2023-09-07 16:32:56 UTC	4
HALF MOON BAY	147845	Sidewalk at Surfer's Beach is 1/2 gone, damaged in the 2023 winter storms. This cuts the walking path used heavily by peds and cyclists in half.	Safety Concern - Walking	2023-09-07 23:24:08 UTC	5
HALF MOON BAY	147863	Multiple vehicle/cyclist collisions have happened here, one as recent as last weekend (9/1/23) in which a cyclist was taken away in an ambulance.		2023-09-08 18:20:26 UTC	3
HALF MOON BAY	147867	This is a busy intersection for pedestrians and cyclist, there should be crosswalks on both north and south sides. Also HMB has build the bike infra going east west, would be great if caltrans completed the intersection for cyclists		2023-09-08 20:48:14 UTC	2
HALF MOON BAY	147868	this is a main corridor for school children riding their bikes to hatch or to cunha and seacrest yet there is little to no bike infra going east/west. THere should also be a crosswalk on both north and south sides. Also, the island for pedestrians is		2023-09-08 20:51:16 UTC	3
HALF MOON BAY	147869	there is no cross walk for school kids to cross busy HWY 1, also accidents happen often as there is no turn our lane for cars and cars going north will turn both east and west at the same time		2023-09-08 20:53:22 UTC	2

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HALF MOON BAY	147870	There are no sidewalks no bike lanes, no stop signs. Children use this route to get to school, extremely dangerous		2023-09-08 20:54:51 UTC	1
HALF MOON BAY	147871	main route for children to get to school (Hatch) there are no cross walks, sidewalks, bike lanes or signage that you are in a school zone. Child was hit here last year with no corrective action taken		2023-09-08 20:56:21 UTC	1
HALF MOON BAY	147872	main corridor for beach traffic, pedestrians walk in the middle of the street (no sidewalks), no bike paths, NOT ADA compliant at all, hazard		2023-09-08 20:58:21 UTC	2
HALF MOON BAY	147889	Agree. Why has this not been repaired? It was damaged in the storm of Dec 2023/Jan 2023!!! We know that HMBay is broke, but this is â€œtheirâ€ side of Highway One!		2023-09-11 18:03:35 UTC	0
HALF MOON BAY	147890	Typo: Dec. 2022 Jan 2023 I repaired storm damage.		2023-09-11 18:05:45 UTC	0
HALF MOON BAY	147903	The intersection of Kelly Avenue and Hwy 1 is one of the most highly used intersections by Cabrillo Unified School District students. It is less than half a mile from 3 schools and a mile from Half Moon Bay High School. The crosswalks are long and the po		2023-09-11 22:13:00 UTC	2
HALF MOON BAY	147904	The intersection of Kelly Avenue and Hwy 1 is one of the most highly used intersections by Cabrillo Unified School District students. It is less than half a mile from 3 schools and a mile from Half Moon Bay High School. The crosswalks are long and the po	Safety Concern - Walking	2023-09-11 22:21:49 UTC	0
HALF MOON BAY	147906	There are currently no sidewalks between 92 and Kelly Ave. along Highway 1. Many people, including many schoolchildren, are forced to walk on the side of Highway 1. It is not safe. We need a sidewalk on the west side, and a separated multi-use pathway on	Safety Concern - Walking	2023-09-11 22:29:43 UTC	2
HALF MOON BAY	147910	Moonridge Apartment residents do not have a safe route into town or to schools. We need a separated bike/ped pathway on the east side of Hwy 1. It would be ideal to connect the trail to Cunha Intermediate School. Also need a bike/ped pathway along Miramo	Safety Concern - Bicycling	2023-09-11 22:37:19 UTC	2
HALF MOON BAY	147921	Curious about this as well. Why has there been no repair attempt here? There has been a construction crew shaping and reinforcing the jetty and paving the path for the new restroom with all of the necessary equipment sitting 50 yards away for the last ye		2023-09-12 00:23:57 UTC	1
HALF MOON BAY	147922	Yes what the heck is going on with the bridge? Open the darn thing already.		2023-09-12 00:25:41 UTC	1
HALF MOON BAY	147924	It is extremely dangerous to cross at this intersection at Terrace Ave and Hwy 1 in HMB. There is no light, and traffic is moving at high speed at all times. There is no sidewalk or other way to get into Half Moon Bay without endangering your life if on	Safety Concern - Bicycling	2023-09-12 00:44:53 UTC	4
HALF MOON BAY	147925	Cannot emphasize this enough. Crossing hwy 1 walking or biking east into downtown is so dangerous -no sidewalk- Especially vehicles taking right (on red) driving north on 1, they turn east so fast onto poplar and I've experienced numerous close calls		2023-09-12 02:43:07 UTC	1
HALF MOON BAY	147926	With the recent addition of the #15 bus, I've seen cars drive around the bus while it is stopped at poplar and 3rd. Need better stop signage, intersection more clearly marked, and sidewalk access heading west on poplar (and east towards downtown as we	Safety Concern - Walking	2023-09-12 02:46:53 UTC	1
HALF MOON BAY	147929	There should be a dedicated bike lane on the west side of highway 1 from the ritz to downtown half moon bay. Thereâ€™s a bike path that ends near Cameronâ€™s at wave crest Blvd. it needs to be extended for safety so the southern part of the community can	Safety Concern - Bicycling	2023-09-13 03:20:11 UTC	3
HALF MOON BAY	147930	This intersection is dangerous for cyclists traveling west on Kelly. There is no safe way to cross Kelly to get to the correct side of the street, so cyclists are forced to ride on the left side of the street on the sidewalk, into oncoming pedestrian tra		2023-09-13 09:25:10 UTC	2
HALF MOON BAY	148016	Can we get a retro-reflective green bike lane between Kelly and Main St on Hwy 1 on both NB and SB directions? Iâ€™ve seen many a cyclists riding on 1 getting almost run down by cars turning onto 92 and New Leaf shopping center.		2023-09-15 23:28:59 UTC	2
HALF MOON BAY	148017	Green lanes recently painted over on Main St in Half Moon Bay have little to no visibility at night. Were these not painted with retro-reflective paint? Also, they already look pretty beat up.		2023-09-15 23:31:59 UTC	1
HALF MOON BAY	148018	There have been 4 accidents here. This intersection needs stop signs on all corners. This is a main corridor for children to walk to and from school. With parking on all 4 corners, someone crossing the street has to go to the center of the street to s	Safety Concern - Driving	2023-09-16 03:13:55 UTC	1
HALF MOON BAY	148026	This sidewalk is narrow, crowded by bushes, and has huge streetlights posts in the middle, making it very difficult to walk or cycle to Safeway and other stores.	Safety Concern - Bicycling	2023-09-16 18:25:16 UTC	2
HALF MOON BAY	148027	No bike lane on the 1 between Kelly and 92, meaning no access to Strawflower and New Leaf shops for the big population south of 92. Pedestrians and bicycles are frequently walking on the hard shoulder, very dangerous. (The so-called alternative via Pilar	Safety Concern - Bicycling	2023-09-16 18:31:14 UTC	2
HALF MOON BAY	148028	This is path is not maintained, and unsuitable for walking and bicycling, but is a much safer way to get between the 1 and Arleta Park.	Safety Concern - Bicycling	2023-09-16 18:33:18 UTC	2
HALF MOON BAY	148029	This should be a bike path giving access the the bike path along the 1.	Safety Concern - Bicycling	2023-09-16 18:34:46 UTC	2
HALF MOON BAY	148030	This should be a paved path giving access to the 1 sidewalk. Currently dirty and dark - unsafe.	Safety Concern - Walking	2023-09-16 18:35:55 UTC	3
HALF MOON BAY	148032	This path is used by school kids - it is not clearly marked, and bikes come flying into the road and drivers are not expecting them.	Safety Concern - Bicycling	2023-09-16 18:37:22 UTC	1
HALF MOON BAY	148086	Very unsafe for pedestrians, no crosswalk and no sidewalks or bike paths to access the nearest crosswalk north or south. Cars travel at 50mph. When a car is traveling north and turning onto Spindrift, impatient motorists from behind the turning vehicle w	Safety Concern - Walking	2023-09-20 04:57:50 UTC	0
HALF MOON BAY	148099	Several commercial businesses with substantial employee (100+)and vendor traffic have to turn left onto Highway 1 from Frenchmans Creek Road. The speeds on Highway 1 at that location and the absence of a light either at Spindrift or Frenchmans Creek Rd	Safety Concern - Driving	2023-09-22 04:36:19 UTC	0
HALF MOON BAY	148104	Deep potholes on hi1 force people to dangerously swerve and causes tire damage we canâ€™t afford	Safety Concern - Driving	2023-09-23 05:50:57 UTC	2
HALF MOON BAY	148105	We need traffic enforcement to reduce speeds and maintain order.	Safety Concern - Driving	2023-09-23 05:56:40 UTC	4

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City/County Name	id	Comment	Comment Type	Created	Likes
HALF MOON BAY	148106	Place a barrier on hi1 between north and south lanes to prevent head on collisions.	Safety Concern - Driving	2023-09-23 05:58:55 UTC	0
HALF MOON BAY	148107	We mostly have zero law enforcement and many reckless drivers. We deserve law enforcement	Safety Concern - Driving	2023-09-23 06:03:07 UTC	3
HALF MOON BAY	148117	Hwy 1 and Hwy 84 are absolute raceways any day of the week. We need more patrol on both of these Hwy's. I drive these roads daily and I can't tell you how many near misses I have had with oncoming traffic in my lane on blind turns and people doing spee	Safety Concern - Driving	2023-09-26 12:01:18 UTC	2
HALF MOON BAY	148128	essential maybe but bicyclists need to adhere to the rules.Too many breeze through red light, utilize sidewalks and quite often are rude when anything is pointed out to them		2023-09-26 16:15:30 UTC	2
HALF MOON BAY	148142	We need traffic law enforcement (we have almost none), and each neighborhood needs a signal light to enter and exit their neighborhood safely. Safety and sanity is much more important than travel speeds on hi 1.		2023-09-27 17:45:00 UTC	2
HALF MOON BAY	148176	Agree, as a resident of Filbert I see many cars turning on to Filbert from HWY 1 and there are no safety lanes and no crosswalks to indicate pedestrians and bike crossings. This is a school route for children.		2023-09-29 01:01:28 UTC	2
HALF MOON BAY	148177	Very dangerous- pedestrians and bikes cross while cars are traveling at full speed. Why not a pedestrian bridge over the highway? AND- cars are taking lefts across the highway. In the 5 years since Iâ€™ve been here I have seen at least 10 collisions.		2023-09-29 01:09:16 UTC	2
HALF MOON BAY	148178	There is a "Slower traffic keep right" sign on Southbound Rte 1 just before a "Right lane turns right" sign. The first sign encourages drivers to use the right lane, which is about to end. This leads to many unsafe sudden land changes (into the left	Safety Concern - Driving	2023-09-29 01:12:06 UTC	1
HALF MOON BAY	148181	Straighten the curves on 92 between Main Street and Pilarcitos Creek. Add a k-rail to separate the westbound and eastbound lanes. Periodically add a roundabout so that traffic can reach the businesses and homes. This would reduce accidents and improve	Safety Concern - Driving	2023-09-29 03:31:15 UTC	0
HALF MOON BAY	148184	Improve pedestrian crossing between Spindrift Way and Beach Ave. Add an island or pedestrian safety zone on highway 1 at the north side of Spindrift, so that pedestrians have a safe place to stop while crossing the road. Create the same safety island		2023-09-29 03:42:59 UTC	0
HALF MOON BAY	148185	Add a receiving lane for cars going northbound onto Highway 1 from the Frontage Road.	Safety Concern - Driving	2023-09-29 03:45:11 UTC	0
HALF MOON BAY	148188	Between Hwy 1 and â€œSantaâ€™s Tree Farmâ€ there are many twists and tourist attractions or nurseries. I agree that they should widen the roadway there as well as straighten the curves and add K-Rail.		2023-09-29 05:40:08 UTC	1
HALF MOON BAY	148191	I might agree but the specifics of what part of HWY 1 is missing.		2023-09-29 05:48:01 UTC	0
HALF MOON BAY	148193	HMB has plans to widen HWY from Terrace Ave north to Sea Haven but â€œlo siento no dineroâ€ They are broke) If they would contract for better traffic enforcement then the citizens could safely get out of their neighborhoods. Or, better yet, create ro		2023-09-29 06:04:03 UTC	0
HALF MOON BAY	148195	HMB is â€œBrokeâ€so they only contract to pay the SMC Sheriffs a minimal amount. The CHP could be more present to enforce traffic laws on HWY One, but perhaps The City is resistant (in order to not p-off visitors). Or, the CHP sees the Coast as lo		2023-09-29 06:13:37 UTC	0
HALF MOON BAY	148196	Emergency Vehicles need the central roadway to get to the accidents! Some motorists donâ€™t even pull over when lights and sirens are used!		2023-09-29 06:16:51 UTC	0
HALF MOON BAY	148201	I would not use the Hwy One underpass near the Pilarcitos Creek because of the creek-dwellers that linger there. CalTrabs needs to keep that area safe, and cleared of the Bike-parts and other debris, they carty down there.		2023-09-29 06:45:59 UTC	1
HALF MOON BAY	148202	Plus, that is where the northbound traffic on Hwy One narrows from two lanes down to one. I have heard of plans for yet another traffic signal but this will simply cause more bunching of traffic which is why l already refuse to drive to shop in HMB.		2023-09-29 06:56:00 UTC	0
HALF MOON BAY	148209	MidPen Housing should contribute to bike pathways, since the City of HMB is â€œbrokeâ€and the County ignores the needs of the unincorporated residents.		2023-09-29 07:43:25 UTC	0
HALF MOON BAY	148213	That side of Highway One at â€œSurferâ€™s Beachâ€ west side) is under the control of the City of HMB while the east side is County. Maybe itâ€™s not repaired 10 Months after the storm damage us because HMB us broke or they have not pestered CalTran		2023-09-29 08:15:34 UTC	0
HALF MOON BAY	148214	Sadly, the County does not wish to spend money on the Coastside and HMB us broke, so the erosion is going to continue. The only hope will be the dredging that is planned for the Princeton Harbor Area.		2023-09-29 08:22:34 UTC	0
HALF MOON BAY	148215	Letâ€™s hope they remove the detour along the highway soon. I am tired of that orange K-Rail barrier. The stairs are probably going to be finished before Thanksgiving, fingers crossed before Halloween!		2023-09-29 08:26:00 UTC	0

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City/County Name	id	Comment	Comment Type	Created	Likes
HALF MOON BAY	148216	Enforcement on west Poplar in HMB should be provided by tge SMC Sheriffâ€™s Dept. But likely Is not due to minimal staffing. HMB needs to step up and pay for full staffing in their next contract with the SMC Sheriffsâ€™s Dept. going forward.		2023-09-29 08:30:33 UTC	0
HALF MOON BAY	148217	Half Moon Bay should address this as a Safe Streets to School program.		2023-09-29 08:34:11 UTC	0
HALF MOON BAY	148221	CalTrans Underpass feels creepy due to vagrants and lots of debris Uber the highway. CalTrans needs to keep this area free if debris from creek dwellers.		2023-09-29 09:29:49 UTC	0
HALF MOON BAY	148226	High-visibility crosswalks and continuous unobstructed sidewalks are needed in this area on 3rd Ave up to Central Ave. where many Hatch Elementary school children walk and bicycle to school.		2023-09-29 15:21:47 UTC	0
HALF MOON BAY	148254	Potholes are dangerous and everywhere. No way to drive into and out of my neighborhood safely. No highway patrol. This is a mess that will only get more dangerous as population increases.		2023-09-30 17:48:57 UTC	1
HALF MOON BAY	148259	Cars do not stop at intersection. Dangerous for pedestriand	Safety Concern - Walking	2023-09-30 20:59:26 UTC	0
HALF MOON BAY	148260	Dangerous intersection. Cars do not stop at stop sign which is in front of the school	Safety Concern - Walking	2023-09-30 21:02:37 UTC	0
HALF MOON BAY	148262	Lack of safe pedestrian crossings between El Granada and Frenchman's Creek is a serious hazard to pedestrians, and prevents connection between neighborhoods.	Safety Concern - Walking	2023-09-30 21:43:48 UTC	1
HALF MOON BAY	148263	There should be stepped-up law enforcement by the Highway Patrol on Route One. Speeding, not signaling, cutting drivers off, passing on the right with two lanes. Cars pulling on the highway in front of oncoming cars, drivers on cell phone. taligating..		2023-09-30 21:51:24 UTC	0
HALF MOON BAY	148271	I have watched more cars than I can count on both hands pass traffic waiting at the stoplight using the right hand turn lane into this neighborhood bypass traffic and running this red light. Police officers could sit here and write tickets all day long!	Safety Concern - Driving	2023-09-30 23:03:57 UTC	0
HALF MOON BAY	148272	There is no safe pedestrian area from the Naomi Partridge Trail into town to Main Street. When can we expect a safe route for foot and bike traffic along this corridor? The east side of our community from downtown Half Moon Bay to Montara has no safe ped	Safety Concern - Bicycling	2023-09-30 23:10:15 UTC	0
HALF MOON BAY	148273	There is no safe pedestrian area from the Naomi Partridge Trail into town to Main Street. When can we expect a safe route for foot and bike traffic along this corridor? The east side of our community from downtown Half Moon Bay to Montara has no safe ped	Safety Concern - Bicycling	2023-09-30 23:11:31 UTC	0
HALF MOON BAY	148274	Northbound traffic stopped on the highway to make an illegal left turn onto Frontage Rd is a constant traffic hazard. Police could write tickets here all day long.	Safety Concern - Driving	2023-09-30 23:15:01 UTC	0
HALF MOON BAY	148276	Northbound traffic stopped on the highway to make an illegal left turn into hotels and restaurants is a constant traffic hazard. Motor traffic rarely stops or slows down but rather drives along the highway to pass the stopped motorists making the illegal	Safety Concern - Driving	2023-09-30 23:19:14 UTC	0
HALF MOON BAY	148286	+1 this needs repairing and the sea wall needs to be re-inforced else we will loose highway one sooner rather than later!		2023-10-01 04:47:46 UTC	0
HILLSBOROUGH	147250	Lack of coordination between cities for road safety improvement EPA Farmers Market		2023-08-16 18:42:57 UTC	0
KENSINGTON SQUARE	147367	As someone who lives on this block of Alameda, cars travel far too quickly and more steps should be taken to reduce/police speed here.	Safety Concern - Driving	2023-08-22 17:34:24 UTC	1
LA HONDA	148256	The community needs safer pedestrian/bicycle crossings on La Honda Rd at Sears Ranch Rd and Entrada Way to enable community members to get to the elementary school, post office, and shops. This would include improving pathways to these locations.	Safety Concern - Walking	2023-09-30 18:48:24 UTC	0
MENLO PARK	147242	Scary to bike here -- a lot of people riding to work on this road	Safety Concern - Bicycling	2023-08-16 18:31:53 UTC	0
MENLO PARK	147244	Crossing 101 on a bike is scary	Safety Concern - Bicycling	2023-08-16 18:32:44 UTC	0
MENLO PARK	147245	More public transportation options would be good -- people want to take public transportation, but it's not really an option.	Safety Concern - Public Transit	2023-08-16 18:33:33 UTC	0
MENLO PARK	147248	Marsh RD - near Dumbarton bridge people speed like it's a freeway, but it's not EPA Farmers Market		2023-08-16 18:40:07 UTC	0
MENLO PARK	148051	This intersection needs a bike/ped over- or underpass to connect Bay Trail on the north side of Hwy 84 with the access to Dumbarton Bridge on the south side of 84, and with the bike trail on the east side of University Ave. The long wait times at the exi	Safety Concern - Bicycling	2023-09-17 00:50:12 UTC	0
MENLO PARK	148052	The Dumbarton Bridge bike trail needs major improvements. It is in very poor shape and too narrow.	Safety Concern - Bicycling	2023-09-17 00:52:18 UTC	0
MILLBRAE	147770	HAWK Crossings along El Camino. People still do not know what the protocol is when the HAWK is activated.	Safety Concern - Walking	2023-09-06 15:48:03 UTC	0
MILLBRAE	147771	Residents complain that there should be a left green arrow and for Eastbound Millbrae Avenue from Southbound Magnolia as people report that there are constant vehicle / pedestrian conflicts at this intersection.	Safety Concern - Walking	2023-09-06 15:51:55 UTC	1

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City/County Name	id	Comment	Comment Type	Created	Likes
MILLBRAE	147772	Potential conflict: Bicyclist vs. Vehicle coming off of 280 Offramp.	Safety Concern - Bicycling	2023-09-06 15:53:45 UTC	0
MILLBRAE	147815	On SB El Camino, in the left turn lane (turning from El Camino onto EB Milbrae Ave), for the first cars in line, the view of pedestrians crossing El Camino in a west-bound direction is obstructed by street signs. While the intersections is well managed	Safety Concern - Walking	2023-09-07 15:38:18 UTC	1
MILLBRAE	147818	The section of NB Rollins Road between Adrian Rd. and Millbrea Ave. is poorly signalized and poorly designed. 1. Traffic turning left from SB Rollins Rd. into the Fastfood/Car Wash/Gas Station shopping center routinely block NB Rollins Rd. traffic.	Safety Concern - Driving	2023-09-07 15:48:29 UTC	1
MILLBRAE	147843	Need better daylighting of corner, especially on Anita side. Cars park completely onto the corner, making it very difficult to see when driving.	Safety Concern - Driving	2023-09-07 23:22:01 UTC	0
MILLBRAE	147844	Cars drive very fast on this stretch of Helen. They treat most of this road as a freeway on ramp to and from downtown to 280. Traffic calming measures should be taken throughout Helen Drive. It is a residential street, not a multilane road.	Safety Concern - Driving	2023-09-07 23:23:57 UTC	0
MILLBRAE	147846	Cars use Bayshore Blvd. between Geneva and Sister Cities as a speedway at all times of the day and night. It is frightening to drive north or south on Bayshore Blvd in this stretch.	Safety Concern - Driving	2023-09-08 01:55:26 UTC	0
MILLBRAE	147847	Several problems at 101 South Exit at Millbrae Avenue: People don't heed the ""lane ending"" markers and speed ahead in the far right ""ending"" lane; once you make it to the exit - the 2 right turn lanes need better markers - people get confused and dr	Safety Concern - Driving	2023-09-08 02:00:08 UTC	0
MILLBRAE	148171	Monterey-Hemlock-Aviador is my preferred way of north-south connections to Millbrae BART/Caltrain. This route should be better signed and marked for those who want to avoid ECR.	Safety Concern - Bicycling	2023-09-28 18:34:27 UTC	0
MIRAMAR	147873	Very dangerous, school children are dropped off by samtrans with no cross walk to get home, they have to jaywalk against busy rush hour traffic going 50 MPH to get home. We have children coming from elementry, junior high and high school. The road is a		2023-09-08 21:01:02 UTC	6
MIRAMAR	147888	Medio area in Miramar would be an excellent location for a roundabout or a pedestrian under/over-pass.		2023-09-11 17:58:58 UTC	4
MIRAMAR	148211	Agree! Round-a-bouts keep traffic moving (as opposed to traffic signals). Pedestrians and cyclists benefit too, because car speeds are reduced at roundabouts!		2023-09-29 08:03:00 UTC	2
MIRAMAR	148258	Yes, roundabouts! And a catwalk at this location would be great! So many accident, near misses, even deaths at Highway One and Medio. Turning left to southbound 1 from Medio east is taking your life into your hands.		2023-09-30 20:57:55 UTC	1
MIRAMAR	148265	Nine times out of ten I have to turn right to turn left. Iâ€™ve had so many near misses trying to turn left on one.		2023-09-30 22:18:44 UTC	1
MIRAMAR	148266	Highway 1 and Medio is an incredibly dangerous area for all pedestrians. Iâ€™m not sure how many accidents and deaths need to happen before safety is put first for our community but I bet there will be more before avoidable tragedies here before anything		2023-09-30 22:45:13 UTC	0
MIRAMAR	148268	Multi million dollar county trail ends without connection to the city trail (Naomi Partridge Trail) thatâ€™s a stoneâ€™s through away. This trail to nowhere forces pedestrians onto the highway shoulder and oncoming traffic. How could such a massive and e	Safety Concern - Bicycling	2023-09-30 22:51:26 UTC	1
MONTARA	148228	We do not have a continuous safe route to Farallone View Elementary School. Recommend Main St. to 5th St., Left on Le Conte Ave. Some sidewalks would need to be installed, and STOP signs at intersections with NO stop control on 5th St. (5th and LeConte/5	Safety Concern - Walking	2023-09-29 15:36:04 UTC	0
MONTARA	148229	Franklin St. leads to an informal pathway used by Farallone View Elementary School students. There are two intersections with NO STOP control on Franklin St. We need STOP signs at Franklin and Birch and Franklin and Acacia St..	Safety Concern - Walking	2023-09-29 15:40:15 UTC	0
MONTARA	148230	5th and Le Conte Ave is an uncontrolled intersection. Stop or yield signs are needed (route to Farallone View Elementary School).	Safety Concern - Walking	2023-09-29 15:42:51 UTC	0
MONTARA	148231	We need STOP signs or yield signs at this uncontrolled intersection close to Farallone View Elementary School. This is an uncontrolled intersection (NO STOP Signs) and the community has been asking for STOP signs here for years (5th and East).	Safety Concern - Walking	2023-09-29 15:47:01 UTC	0
MONTARA	148232	We need and have requested STOP control at 7th and East Ave. This route is used by many to walk to the post office (In Montara we go to the post office to get our mail. It is not delivered to our homes). This is currently an uncontrolled intersection whe	Safety Concern - Walking	2023-09-29 15:56:56 UTC	0
MOSS BEACH	147836	it can be very difficult to make left turns onto highway 1 on this whole stretch, so drivers make risky maneuvers.	Safety Concern - Driving	2023-09-07 22:54:01 UTC	6
MOSS BEACH	147885	SMC promised a Roundabout here for residents of Seal Cove & Pillar Ridge plus SMC Parks attractions of the bluff trail & Fitzgerald Marine Reserve to be paid by Developer of the Big Wave Office Park but there have been two accidents at this intersection	Safety Concern - Driving	2023-09-11 17:43:57 UTC	3
MOSS BEACH	147886	I donâ€™t believe there is ample room to move the parking lot to tge westside, but I also donâ€™t think that is the highest and best use of money when the Moss Beach Corridor needs better highway lighting and at least one roundabout at Cypress and Highwa		2023-09-11 17:52:56 UTC	0
MOSS BEACH	147891	This reply was intended for Gray Whale Cove not Cypress/SR-1 intersection		2023-09-11 18:08:36 UTC	0
MOSS BEACH	147914	No paved or protected safe bike passage from Montara to Moss Beach. This is a dangerous corridor where cars speed well over posted limits at all hours of the day while local traffic attempts to make left turns across HWY 1. Very narrow shoulder where muc	Safety Concern - Bicycling	2023-09-12 00:00:03 UTC	2
MOSS BEACH	147920	Agreed. All talk and no action on the round abouts. The left turns on HWY 1 in Moss Beach need to be addressed. HWY 1 traffic here often moves at freeway speeds. Unsafe for vehicles, cyclists and pedestrians.		2023-09-12 00:19:31 UTC	1
MOSS BEACH	147940	With the awesome park nearby, moss beach is attracting more families, it would be nice if crossing the 1 was less hectic. If there were a traffic light, or walking path it'd be really nice. The flags put there by the community area great but cars do		2023-09-13 21:26:09 UTC	0
MOSS BEACH	148208	Since CalTrans closed their Coastside Corporation Yard (HMB) the January 2023 Storm debris has still never been cleared from the Gwy One Shoulders and there not even any place to pull over along Devilâ€™s Slide because of fallen branches, bark strips, ro		2023-09-29 07:28:50 UTC	0

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City/County Name	id	Comment	Comment Type	Created	Likes
MOSS BEACH	148212	Agree, and the way CalTrans is going, we wonâ€™t be seeing ANY major fix before 2030 according to a recent Hwy One Safety Workshop put on by tge County. In Montara there at least is a center â€œholding laneâ€ do cars can enter the Highway and wait to ge		2023-09-29 08:12:05 UTC	1
MOSS BEACH	148220	Left (northbound) turns from the West side of Cypress are difficult for some drivers when Hwy One traffic is heavy because there is no acceleration lane. The County has a street light on Cypress but there is no highway illumination for seeing this inters		2023-09-29 09:25:19 UTC	0
MOSS BEACH	148277	We could use that exact same interim fix for Miramar where you are risking your life to walk, bike, drive from one side of the road to the other.		2023-09-30 23:21:36 UTC	0
NORTH FAIR OAKS	147436	Bay & 9th (Redwood City) - Difficult to see on the left turn San Carlos Pop-Up		2023-08-28 18:53:41 UTC	0
NORTH FAIR OAKS	147450	Selby Ln & El Camino Real - dangerous crosswalk San Carlos Pop-Up		2023-08-28 19:29:56 UTC	0
NORTH FAIR OAKS	147463	North Fair Oaks have narrow streets. People double park and it is a very dense neighborhood. More crosswalks are necessary.		2023-08-28 22:03:05 UTC	0
PACIFICA	148118	Linda Mar Boulevard is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:22:05 UTC	0
PACIFICA	148119	Terra Nova Boulevard is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:23:51 UTC	0
PACIFICA	148120	Manor Drive is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:25:30 UTC	0
PACIFICA	148121	Sharp Park Road is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:26:31 UTC	1
PACIFICA	148122	Oceana Boulevard is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:27:35 UTC	0
PACIFICA	148123	Palmetto Avenue is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:28:35 UTC	0
PACIFICA	148124	Clarendon Road is on the City of Pacifica's High Injury Network.	Safety Concern - Driving	2023-09-26 15:29:34 UTC	0
PACIFICA	148126	Highway 1 (Westport Drive to Southern Limits) is on the City of Pacifica's High Injury Network. Westport in as unsignalized intersection connecting to Highway 1.	Safety Concern - Driving	2023-09-26 15:32:55 UTC	1
PACIFICA	148162	This is a terrible intersection. Poorly lit, zero visibility due to the fog, high-speed and high-volume traffic, and steep grades. One can feel how many collisions there just by looking at the amount of pole takedowns and replacements Caltrans had to mak	Safety Concern - Walking	2023-09-28 17:23:05 UTC	0
PACIFICA	148192	One can see the damaged trees on Sharp Park Road westbound after Gypsy Hill Road. A barrier needs to exist to keep cars on the roadway and save those trees from more accidents. Also the K-rail actually has Eucalyptus trees sprouts due so little maint		2023-09-29 05:59:37 UTC	0
PACIFICA	148194	Often this area is bumper-to-bumper due to end Freeway speed reduction and signals at Vallemar, and Fassler and back- ups from thru- traffic to the MidCoast.		2023-09-29 06:08:36 UTC	0
PACIFICA	148267	This is a dangerous intersection (Highway 1 and Fassler) for everyone including drivers, pedestrians and bicyclists.		2023-09-30 22:50:36 UTC	0
PACIFICA	148269	Reina Del Mar Ave. is heavily used during school hours and unfortunately, there is only one way in and one way out to Vallemar School and few options for alternative places to drop off students. Turning from Reichling Ave onto Reina Del Mar is difficult	Safety Concern - Walking	2023-09-30 22:56:36 UTC	0
PACIFICA	148270	Traffic moves at a high speed on Hickey Blvd. Traffic calming measures would help (road diet?).		2023-09-30 22:58:57 UTC	0
PACIFICA	148275	Crespi at Roberts can be a dangerous area. This is a well-used route for community members going to the post office, community center, and Cabrillo School. Consider traffic calming measures, high-visibility crosswalks, bicycle lanes...	Safety Concern - Walking	2023-09-30 23:17:54 UTC	0
PACIFICA	148278	Francisco Blvd. at Lakeside Ave is a dangerous intersection. I have seen many near-accidents here in this residential area. Lakeside Ave from Clarendon to Francisco is a safety concern.		2023-09-30 23:22:03 UTC	0
PACIFICA	148279	Sharp Park is great access road for coastsiders to the other side, but it is windy and cars often drive too fast, making it dangerous. Determine how to slow speeds and improve safety.		2023-09-30 23:26:36 UTC	1
PESCADERO	148255	Families would like a safe walking/biking route between Pescadero MS/HS and Pescadero Elementary Schools. This would likely include continuous sidewalks/bikeways on Stage Rd (downtown).		2023-09-30 18:43:53 UTC	0
PORTOLA VALLEY	148069	Alpine Inn accommodates more patrons than they have parking space for, so dozens of cars are illegally parked on Arastradero Rd. Alpine Inn needs to reduce its operations or have its permit pulled. Speeding rideshare drivers on Arastradero and the parked	Safety Concern - Bicycling	2023-09-17 02:09:07 UTC	0
REDWOOD CITY	147240	N bound potholes on 101 and southbound near wood side. Improvements on Middle field near schools. Lots of kids bike and there are no bike lanes	Safety Concern - Bicycling	2023-08-16 18:27:53 UTC	0

Web Comments - All Comments

City/County Name	id	Comment	Comment Type	Created	Likes
REDWOOD CITY	147352	This is a very dangerous part of alameda de las pulgas to ride. The shared bike line here is not appropriate due to cars going too quickly (well over posted 25MPH limit) down this slight downhill. There needs to be either speedbumbs, or a dedicated bike	Safety Concern - Bicycling	2023-08-22 16:26:59 UTC	2
REDWOOD CITY	147354	Jefferson Ave west of alameda de las pulgas is a heavily travelled street for both cars and bikes. There should be a dedicated bike lane, at least in the uphill lane, to protect cyclists from quickly moving cars.	Safety Concern - Bicycling	2023-08-22 16:29:37 UTC	1
REDWOOD CITY	147384	The intersection of Edgewood and Alameda de las Pulgas is really scary when there is a power outage in the area because drivers do not understand right of way in a four direction stop light with turn lanes. I have only been a driver here but I cannot ima	Safety Concern - Driving	2023-08-22 21:36:54 UTC	1
REDWOOD CITY	147389	Speeding is common in this residential stretch (Adams/Oak/Clinton/Redwood) and with drivers illegally parking on the corner (not just here but all over the neighborhood), poor visibility makes it really difficult to be able to turn out of streets as a dr	Safety Concern - Driving	2023-08-22 22:07:56 UTC	0
REDWOOD CITY	147410	This is a highly used area by walkers/runners and there are no crosswalks in some areas. Some of the odd angles of intersections in this area (this one is a good example) would make it a good idea to put crosswalks at some of these intersections.	Safety Concern - Walking	2023-08-23 16:27:07 UTC	0
REDWOOD CITY	147411	Flashing pedestrian lights at more of the entrances to Red Morton Park might be a good idea as lots of families, dog walkers, etc. cross Roosevelt to access or leave the park and drivers aren't always cautious enough when passing by. My suggestion would	Safety Concern - Walking	2023-08-23 16:32:58 UTC	0
REDWOOD CITY	147412	Please put a flashing light for this crosswalk - I have never walked across the street here (I would be terrified to) but as a driver there have definitely been times I have been caught off guard by pedestrians because I just did not see them with so man	Safety Concern - Walking	2023-08-23 16:38:42 UTC	0
REDWOOD CITY	147413	Please put a flashing pedestrian light at this intersection to draw attention to pedestrians / bicyclists - this is another spot where it is not easy for drivers to see pedestrians when people park on the corners.	Safety Concern - Walking	2023-08-23 16:41:49 UTC	0
REDWOOD CITY	147414	The intersections of Marshall/Jefferson and Broadway/Jefferson have high driver traffic volume, particularly during peak commuter hours. Particularly at the Marshall intersection, drivers frequently try to 'cut the line' by driving up into the left turn	Safety Concern - Driving	2023-08-23 16:52:06 UTC	0
REDWOOD CITY	147443	Massive bump on whipple - dangerous San Carlos Pop-Up		2023-08-28 19:01:54 UTC	0
REDWOOD CITY	147444	Rain near Sequoia Hospital on Alameda de las Pulgas - hit a bubble/pothole in the road and swerved; safety concern; need for road maintenance San carlos Pop-Up event		2023-08-28 19:21:06 UTC	0
REDWOOD CITY	147458	The East to West bike route from the sequoia track to downtown redwood city is not good	Safety Concern - Bicycling	2023-08-28 21:56:13 UTC	0
REDWOOD CITY	147586	Large oleander bushes impinge on the sidewalk, forcing pedestrians off the sidewalk and into the street.	Safety Concern - Walking	2023-09-01 19:13:01 UTC	0
REDWOOD CITY	147587	Removable posts across one half of the street cause drivers to swerve into the wrong half of the street when turning onto the street. As a result, driving speeds are not reduced, but safety for drivers, pedestrians, and bicyclists are all reduced.	Safety Concern - Driving	2023-09-01 19:18:47 UTC	0
REDWOOD CITY	147827	This intersection is dangerous for pedestrians. Specifically, one example is that there are bushes on the park and ride corner of Veterans/Whipple that prevents pedestrians who are crossing to the park and ride to get their company's shuttle from seeing	Safety Concern - Walking	2023-09-07 17:12:54 UTC	0
REDWOOD CITY	148008	84 needs safe pedestrian crossing from Cypress to Middlefield and Middlefield to Hess - cyclists and pedestrians, including school children, use this overpass and it's not safe.		2023-09-15 17:23:58 UTC	0
REDWOOD CITY	148041	Redwood City has committed willful reckless endangerment against cyclists with their design of speed humps going across the bike lanes. The humps in the bike lanes must be removed and there need to be barriers between the motor vehicle speed humps and th	Safety Concern - Bicycling	2023-09-16 23:25:05 UTC	0
REDWOOD CITY	148054	It would be great to have a bike bridge here, crossing 101 to connect 2nd Ave with E Bayshore Rd. Bridge should be a straight line or an "S", not a "U", with the ramp on Bayshore pointing to the east and the ramp on Rolison pointing the the west, or	Safety Concern - Bicycling	2023-09-17 01:00:36 UTC	0
REDWOOD CITY	148055	We need a bike tunnel alongside the train tracks that connects Chestnut St with Seaport Blvd.	Safety Concern - Bicycling	2023-09-17 01:03:09 UTC	0
REDWOOD CITY	148056	Several Redwood City Police officers need to be reminded that the vehicle code applies to them when they drive their personal vehicles (muscle cars). They often speed over the Maple Street bridge and put cyclists at risk. These individuals should be remo	Safety Concern - Bicycling	2023-09-17 01:07:00 UTC	1
REDWOOD CITY	148057	The Maple St bridge across Hwy 101 becomes narrow in its blind hill section, which is unsafe for biking. We need bike lanes here.	Safety Concern - Bicycling	2023-09-17 01:08:58 UTC	0
REDWOOD CITY	148058	This intersection needs priority timing for cyclists and pedestrians headed towards the Caltrain station. Eliminate both left turns off of El Camino onto Broadway so that the additional time can be used for more frequent green phases to cross El Camino.	Safety Concern - Bicycling	2023-09-17 01:14:52 UTC	0
REDWOOD CITY	148059	Install a modal filter here (forcing motor vehicles to turn, allow only bikes to continue straight) to reduce cut-through motor vehicle traffic and make this corridor more bike friendly.	Safety Concern - Bicycling	2023-09-17 01:18:51 UTC	1
REDWOOD CITY	148060	Block Valota Rd for motor vehicle through traffic using modal filters.	Safety Concern - Bicycling	2023-09-17 01:20:10 UTC	0
REDWOOD CITY	148065	Remove all street parking on Alameda de las Pulgas, use the space to create buffered bike lanes wide enough to take fast growing number of bike commuters.	Safety Concern - Bicycling	2023-09-17 01:46:19 UTC	2

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City/County Name	id	Comment	Comment Type	Created	Likes
REDWOOD CITY	148109	Cars take this merge at high speed, making it very dangerous for pedestrians and bikes on Holly. Recommend doing away with the merge and replacing it with a squared-off T intersection.	Safety Concern - Walking	2023-09-24 00:52:19 UTC	0
REDWOOD CITY	148257	Dangerous intersection for pedestrians	Safety Concern - Walking	2023-09-30 20:54:51 UTC	0
SAN BRUNO	147336	Bikers and scooters ride on sidewalks and are dangerous for pedestrians	Safety Concern - Walking	2023-08-21 17:46:02 UTC	0
SAN BRUNO	147338	Cars don't stop for the crosswalk from Cunningham to the senior center. The 280 on-ramps make this especially dangerous.	Safety Concern - Walking	2023-08-21 17:55:38 UTC	0
SAN BRUNO	147409	Cars routinely run this stop sign. I have almost been hit twice crossing Crystal Springs as a pedestrian.	Safety Concern - Walking	2023-08-23 14:00:26 UTC	0
SAN BRUNO	147485	Areas of the bike lane are worn out completely in either direction with cars frequently exceeding the speed limit on this curvy road on the downhill direction	Safety Concern - Bicycling	2023-08-29 17:39:49 UTC	1
SAN BRUNO	147486	There is no convenient way for cyclists to get from Sneath Lane to the Centennial Way Trail / S Maple Ave creating risky interactions between bikes and pedestrians, busses, & cars.	Safety Concern - Bicycling	2023-08-29 17:42:51 UTC	1
SAN BRUNO	147487	Additionally, it is very tumultuous to bike from west of 280 to commute to Oyster Point due to the lack of crossings to cross the railroad and freeways		2023-08-29 17:49:43 UTC	0
SAN BRUNO	147664	This is a blind hill with terrible visibility. And cars routinely park on the sidewalk on this whole street with no enforcement making it even more dangerous for pedestrians	Safety Concern - Driving	2023-09-02 06:07:39 UTC	1
SAN BRUNO	147707	Very difficult intersection to walk across and drive across. Need a signal or a 4 way stop. Have lived in the neighborhood for 25+ years and canâ€™t tell you how many close calls Iâ€™ve seen and been a part of.	Safety Concern - Driving	2023-09-04 00:20:33 UTC	2
SAN BRUNO	147833	Put a no U turn sign for people coming down the off-ramp. People make aggressive uturns to get back on 280 here, and this intersection has limited visibility and the maneuver is dangerous.	Safety Concern - Driving	2023-09-07 22:46:59 UTC	2
SAN BRUNO	147834	Better signage on light cycles for drivers on Jenevein -- some signage that would indicate that each cycle runs separately (ie, you can immediately start making turns). Because people unfamiliar with the area do not drive right away, this ends up delayin	Safety Concern - Driving	2023-09-07 22:50:05 UTC	2
SAN BRUNO	147837	There needs to be more daylighting around the crosswalks on Oak near the school. Specifically at Oak and Niles theres a very large vehicle that typically parks that makes it impossible to see if pedestrians are waiting to cross. Extra daylighting around	Safety Concern - Walking	2023-09-07 22:56:07 UTC	0
SAN BRUNO	147838	Many of the intersections on Jenevein are difficult for seeing pedestrians because they are blocked by parked cars (especially turning). There should be more daylighting around the corners than exists currently.	Safety Concern - Walking	2023-09-07 22:57:51 UTC	0
SAN BRUNO	147840	It can be difficult to see the stop sign at this intersection (heading East on Jenevein toward downtown). There's a very pretty tree that obscures the sign partially. Please do *not* cut down the whole tree under any circumstances, but if there's a way o	Safety Concern - Driving	2023-09-07 23:14:17 UTC	0
SAN BRUNO	147841	Increasing double parking without any enforcement along this whole stretch of San Mateo Ave, leads cars to make aggressive and unsafe maneuvers to get around double parked cars. This could be exacerbated by the new parking meters that are supposedly goin	Safety Concern - Driving	2023-09-07 23:16:48 UTC	0
SAN BRUNO	147859	Why are the streets east of 1st Ave not also a C/CAG Equity Focus Area? The income levels, demographics, and housing prices are similar to the area just west of 1st Ave.		2023-09-08 16:45:41 UTC	0
SAN BRUNO	148170	The Huntington-San Antonio connection should be improved for people on bikes who want to go north-south but not use ECR. This can be in the form of improved wayfinding, sharrows (or bike lanes if possible), and traffic calming to slow vehicle speeds.	Safety Concern - Bicycling	2023-09-28 18:32:31 UTC	0
SAN BRUNO	148243	As a resident of Crestwood Drive, I observe that roughly half of the vehicles traveling on Crestwood Drive between Fleetwood Drive and Valleywood Drive are greatly exceeding the 25 MPH speed limit and 5-10% are traveling up to 45 MPH or more. I believe t	Safety Concern - Driving	2023-09-29 20:45:43 UTC	1
SAN BRUNO	148245	Intersection of San Bruno Ave and Glenview Dr. The south side of Glenview has the Lunardi's supermarket and a gas station - lots of foot traffic from the surrounding neighborhood to the supermarket and vehicular traffic to the gas station. The Skyline Dr		2023-09-29 21:22:06 UTC	0
SAN BRUNO	148246	Intersection of Glenview Dr and Earl Ave. No stop signs for North-South traffic on Glenview Dr at the intersection. The intersection lies at the lowest point of the street for traffic coming either from the North or South on Glenview and cars speed up to	Safety Concern - Walking	2023-09-29 21:30:55 UTC	0
SAN BRUNO	148247	Portola Highlands needs stop signs on the streets that intersect with Monterey Drive.	Safety Concern - Driving	2023-09-29 23:56:27 UTC	0
SAN BRUNO	148248	When turning right from Kains on to El Camino, the cars parked on El Camino (to the left) completely blocks the view of the oncoming (El Camino) traffic.	Safety Concern - Driving	2023-09-30 00:26:06 UTC	0
SAN BRUNO	148249	Need a sidewalk going up San Bruno Avenue.	Safety Concern - Walking	2023-09-30 00:29:57 UTC	0
SAN BRUNO	148250	El Camino is not shown as a high Bicycle Injury corridor, which it should be. The current lack of bike lanes on El Camino makes this road really dangerous,		2023-09-30 00:33:21 UTC	0
SAN BRUNO	148253	Put a flashing red or yellow light or a stop sign just before the uphill portion of the bend on Cunningham Way. There is limited visibility for people exiting 280 who want to turn left onto Cunningham and vehicles approaching that intersection from Cryst	Safety Concern - Driving	2023-09-30 17:11:59 UTC	0
SAN BRUNO MTN PARK	147764	Mountain Bikes should be allowed on the ridge trail. It has ranger trucks and PGE trucks all the time. Mountain bikes are dramatically less impactful than either. Arguably less impactful than hikers on foot.	Safety Concern - Bicycling	2023-09-06 02:23:34 UTC	0
SAN BRUNO MTN PARK	148095	No! Mountain bikes travel too fast to be able to fully assess their impact. Wildlife can too easily be disrupted by a fast-moving bike.		2023-09-21 19:52:01 UTC	2
SAN CARLOS	147362	Brittan from ADLP to Crestview has no bike lanes, is identified on our Bike/Ped Masterplan as high stress.	Safety Concern - Bicycling	2023-08-22 16:54:39 UTC	0

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City/County Name	id	Comment	Comment Type	Created	Likes
SAN CARLOS	147363	There have been two minor injury ped crashes at this intersection.	Safety Concern - Walking	2023-08-22 16:59:17 UTC	0
SAN CARLOS	147364	Crestview is also stress level 4 from Brittan to city limits in the south and level 3 from Brittan north to Belmont City limits. Several minor injury crashes annually on Crestview north and south of Brittan.	Safety Concern - Driving	2023-08-22 17:03:01 UTC	0
SAN CARLOS	147438	Would like protected bike paths in San Carlos San Carlos Pop-Up		2023-08-28 18:56:51 UTC	0
SAN CARLOS	147439	Elm & Magnolia - to Elm --> Holly stop sign is confusing and there is speeding. People don't stop for pedestrians and this is a dangerous intersection for kids		2023-08-28 18:57:48 UTC	0
SAN CARLOS	147441	Pedestrian & Bicylce safety concerns identified on Brittan Ave & Laurel St +1 from another community member. Connect bike lane across Laurel on Brittan Ave San Carlos Pop-Up		2023-08-28 18:59:40 UTC	0
SAN CARLOS	147442	San Carlos - mobility access --> time to cross the street is not sufficient for mobility-impaired/elderly San Carlos Pop-Up		2023-08-28 19:00:52 UTC	0
SAN CARLOS	147445	Speeding on Alameda de las Pulgas & Hilltop Drive San carlos Pop-Up		2023-08-28 19:22:00 UTC	0
SAN CARLOS	147446	People go into a blindspot between Brittan and Whipple San Carlos Pop-Up		2023-08-28 19:22:51 UTC	0
SAN CARLOS	147447	San Carlos & Upland Ave - Intersection Timing Left or Right especially during peak hours traffic San Carlos Pop-Up		2023-08-28 19:23:44 UTC	0
SAN CARLOS	147449	Dartmouth Ave next to park - street has not reopened San Carlos Pop-Up		2023-08-28 19:25:31 UTC	0
SAN CARLOS	147452	Elm & Magnolia - apartment complex here that causes lots of people to park on/block sidewalk with their cars San Carlos Pop-Up		2023-08-28 19:50:07 UTC	0
SAN CARLOS	147453	Exit on Holly St towards downtown 2 lane road; cars parked on the right are dangerous. There is no available parking otherwise. San Carlos Pop-Up		2023-08-28 19:51:10 UTC	0
SAN CARLOS	147454	Cedar & Cherry St - lots of speeding; dangerous crosswalk here. Would be great to have a button to press so sidewalk flashes when people cross San Carlos Pop-Up		2023-08-28 19:52:15 UTC	0
SAN CARLOS	147455	Drivers running red lights and speeding San carlos pop-up		2023-08-28 19:52:56 UTC	0
SAN CARLOS	147456	Would like protected bike lanes in San Carlos! San Carlos Pop-Up		2023-08-28 19:53:35 UTC	0
SAN CARLOS	147460	Brittan Avenue there are a lot of cars speeding and not stopping at stop signs	Safety Concern - Driving	2023-08-28 21:58:08 UTC	0
SAN CARLOS	147461	There is a ton of speeding along Phelps Rd.	Safety Concern - Driving	2023-08-28 21:59:27 UTC	0
SAN CARLOS	147462	Burton Park on Brittan Avenue during the morning school rush. The crosswalk with sign slows down traffic. need to figure out better flow of traffic. People speed along the side neighborhoods and rushing. Streamline Brittan Avenue better during rush hour	Safety Concern - Driving	2023-08-28 22:01:34 UTC	1
SAN CARLOS	147464	Keep Laurel Street 600 Block off to cars always		2023-08-28 22:03:54 UTC	1
SAN CARLOS	147465	San Carlos Avenue. The signals into the hills people are trying to hit all the greens and speeding and running red lights. Aggressive driving.		2023-08-28 22:05:15 UTC	0
SAN CARLOS	147466	People speed and do not stop at crosswalks at Cedar and Brittan Avenue.		2023-08-28 22:06:06 UTC	1
SAN CARLOS	147467	Cherry and Laurel St in San Carlos is a dangerous intersection.		2023-08-28 22:07:10 UTC	1

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City/County Name	id	Comment	Comment Type	Created	Likes
SAN CARLOS	147468	People drive down the wrong way between Laurel and Walnut. Place more signs there		2023-08-28 22:08:21 UTC	0
SAN CARLOS	147469	People not respecting the stop sign at Cedar and Howard intersection		2023-08-28 22:09:01 UTC	1
SAN CARLOS	147470	People park on side of road and sidewalk		2023-08-28 22:10:19 UTC	0
SAN CARLOS	147471	Bike lane from cvs to wellington drive but then it stops; would be great to have a bike lane beyond this		2023-08-28 22:11:29 UTC	3
SAN CARLOS	147472	unclear whop has the right of way at this intersection. Make it a 4-way stop sign		2023-08-28 22:12:10 UTC	1
SAN CARLOS	147473	Speeding; friend was hit here		2023-08-28 22:12:44 UTC	0
SAN CARLOS	147785	Very unsafe route for bicycles. Traffic moves at high speed on this route which is the only passable route between these parts of San Carlos and Belmont. Itâ€™s also the only route to several schools in the area. The road is also very narrow. Traffic cal	Safety Concern - Bicycling	2023-09-06 22:13:12 UTC	1
SAN CARLOS	147786	There's a pedestrian right-of-way here that has long been closed and should be reopened. Very safe, shorter walking route for Cental & Arroyo schools and for access to the senior center and downtown.	Safety Concern - Walking	2023-09-06 23:13:13 UTC	4
SAN CARLOS	147787	There are cars constantly driving in the bike lanes here. Consider putting the bike lanes on one side and the cars on the other. With one bike lane of both sides the cars drift into them.	Safety Concern - Bicycling	2023-09-06 23:15:54 UTC	1
SAN CARLOS	147788	Cars park on the sidewalk. Why is there a soft curb here? The street is one way so there is no need to encourage sidewalk parking.		2023-09-06 23:19:34 UTC	0
SAN CARLOS	147792	Lack of sidewalk on steep curved section of road makes this very dangerous area for high volume pedestrian school traffic. Impossible to safely bike.	Safety Concern - Walking	2023-09-07 04:09:33 UTC	0
SAN CARLOS	147793	Very wide intersection on steep hill/blind curve with no controlled crosswalk (no crosswalk at all) with high volume school pedestrian and driver traffic. Needs controlled intersection to control speed, assure visability. Needs sidewalks throughout for p	Safety Concern - Walking	2023-09-07 04:12:17 UTC	0
SAN CARLOS	147794	Very narrow street with steep slope and curve, with uncontrolled intersection with low visibility adjacent to playground for young children. Needs to be one way, with sidewalk for pedestrian access to park and nearby schools.	Safety Concern - Driving	2023-09-07 04:14:41 UTC	0
SAN CARLOS	147795	Speed needs to be reduced around this blind turn. Very dangerous for drivers, bikers, and pedestrians, including kids attempting to cross the street to get to school and people trying to exit driveways.	Safety Concern - Driving	2023-09-07 04:17:30 UTC	0
SAN CARLOS	147796	What is being done about the speeding on Howard Ave.?!?!	Safety Concern - Driving	2023-09-07 04:18:58 UTC	0
SAN CARLOS	147797	Impossible to safely turn off of Geneva onto Howard.	Safety Concern - Driving	2023-09-07 04:20:35 UTC	0
SAN CARLOS	147798	Very dangerous for bikers to get across El Camino on Howard.	Safety Concern - Bicycling	2023-09-07 04:21:48 UTC	0
SAN CARLOS	147799	Cars speed too fast on Howard for it to be bike boulevard as currently setup.	Safety Concern - Bicycling	2023-09-07 04:22:50 UTC	0
SAN CARLOS	147800	Dangerous intersection based on parked cars and speed of traffic on Alameda.		2023-09-07 04:25:41 UTC	0
SAN CARLOS	147803	Holly is a residential street that is used as a feeder road to 101. The road is congested with traffic zooming way past the speed limit of 25. Trucks ply on the road despite being disallowed. There are many young families on the street that have raised c	Safety Concern - Driving	2023-09-07 06:26:13 UTC	0
SAN CARLOS	147828	Cars turning from Morse to El Camino southbound frequently ignore the stop sign. As a pedestrian, I've almost been hit here multiple times.	Safety Concern - Walking	2023-09-07 17:27:28 UTC	1
SAN CARLOS	147858	The map shows the entire Holly St in orange which indicates it is already known to be a motor vehicle high injury network. The difference between this street and many streets with the same color is that the street is also fully residential on both sides.	Safety Concern - Bicycling	2023-09-08 16:38:50 UTC	1
SAN CARLOS	147862	A three-way stop at Crestview and Melendy is really needed. It is almost impossible to see the speeding traffic coming both ways on Crestview when trying to make a left turn from Melendy. Pedestrians, including children catching the bus to school also	Safety Concern - Driving	2023-09-08 18:10:25 UTC	1
SAN CARLOS	147932	Bicyclist safety is impaired crossing hwy 101 on Holly St. Cars entering and exiting the hwy put cyclists in danger.	Safety Concern - Bicycling	2023-09-13 12:45:43 UTC	3
SAN CARLOS	147933	curb cutouts insufficient for wheelchair or other mobility challenges. witnessed a wheelchair user tip over at the SE corner (Starbucks). Needs improvement.	Safety Concern - Walking	2023-09-13 12:50:24 UTC	0
SAN CARLOS	147937	Side Walk is missing on Beverly Dr between Club Dr & Bay View Drive. It's risky to walk on the street especially if it's dark. Also, to make a left on Beverly Dr. from Bay View Dr. is tricky.	Safety Concern - Walking	2023-09-13 16:13:51 UTC	1
SAN CARLOS	148025	Large cracks in the asphalt on this section of old county make it very difficult to ride on a bicycle. Old county/Pacific Blvd are an invaluable route for north south travel for cyclists, giving a low traffic alternative to El Camino with fewer interacti	Safety Concern - Bicycling	2023-09-16 17:36:21 UTC	1
SAN CARLOS	148034	Westbound bike lane is too narrow. Half of the bike lane is the gutter, it is not safe to ride in the gutter and close to the curb. On Fridays, residents put their trash and recycling bins into the bike lane, forcing bikes to swerve in and out of motor v		2023-09-16 22:51:25 UTC	0
SAN CARLOS	148035	This is the only school route to Mariposa/TL/Carlmont, and its dangerous condition prevents hundreds of students from riding their bikes to school every day. We need a quick-build project here that removes all on-street parking and installs protected or	Safety Concern - Bicycling	2023-09-16 22:56:50 UTC	0
SAN CARLOS	148036	There is absolutely no reason to wait for the Belmont traffic circle project, which is not going to improve anything anyway. We need bike lanes here in San Carlos in this section of San Carlos Avenue right now. We cannot sacrifice the safety of students	Safety Concern - Bicycling	2023-09-16 23:01:28 UTC	0
SAN CARLOS	148037	All schools need to close their drive-through drop-off circles. These driveways are a huge waste of precious space that could be used to build better school yards or maybe housing for teachers, and it creates traffic congestion and puts students who walk	Safety Concern - Walking	2023-09-16 23:04:52 UTC	0

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City/County Name	id	Comment	Comment Type	Created	Likes
SAN CARLOS	148038	The bike lanes on both sides are too narrow. Drivers keep drifting into the bike lanes because they do things on their phone screens (or they just don't know how to drive).	Safety Concern - Bicycling	2023-09-16 23:07:35 UTC	0
SAN CARLOS	148039	Drivers keep swerving into the bike lanes. This road is wide enough to build protected bike lanes, it just needs to have on-street parking removed. In the mean time, we need zero-tolerance enforcement against motor vehicles entering bike lanes and agains	Safety Concern - Bicycling	2023-09-16 23:11:35 UTC	1
SAN CARLOS	148040	I share your frustration with these inept drivers (which is almost every driver on this road), but I'm against a two-way bike lane on one side of the road. In my experience, this creates too many conflicts at driveways and intersections where drivers wil		2023-09-16 23:18:10 UTC	0
SAN CARLOS	148042	The wait times for pedestrians and bikes waiting to cross El Camino are unacceptable. People need to be able to cross without a long wait since most of them are trying to catch a train.	Safety Concern - Walking	2023-09-16 23:27:55 UTC	0
SAN CARLOS	148043	Close this section of San Carlos Ave to motor vehicle traffic going westbound. Direct one-way traffic to El Camino onto one side of the median, and divide the other side into a two-way bike street plus additional space for pedestrians and outdoor restaur	Safety Concern - Bicycling	2023-09-16 23:33:43 UTC	0
SAN CARLOS	148044	This intersection needs to give better priority to pedestrians and cyclists such that they can access Caltrain without needing to wait several minutes to cross El Camino. To do so, eliminate westbound motor vehicle traffic on San Carlos Avenue between El	Safety Concern - Walking	2023-09-16 23:37:05 UTC	0
SAN CARLOS	148045	There should be a bike/ped over- or underpass here, connecting E San Carlos Ave with Skyway. Stop wasting decades on fancy design/feasability "studies", just give us something that works!	Safety Concern - Bicycling	2023-09-16 23:41:13 UTC	1
SAN CARLOS	148046	Holly St needs a road diet and protected bike lanes.	Safety Concern - Bicycling	2023-09-16 23:42:52 UTC	2
SAN CARLOS	148047	San Carlos Ave needs a road diet and protected bike lanes from El Camino to Prospect St.	Safety Concern - Bicycling	2023-09-16 23:46:09 UTC	0
SAN CARLOS	148048	Turn the San Carlos/Redwood City city limit at Old County Rd, or the Cordilleras Creek bridge, into a modal filter so only bikes and pedestrians can go through. There are enough lanes on El Camino for motor vehicles going north/south already.	Safety Concern - Bicycling	2023-09-16 23:54:23 UTC	0
SAN CARLOS	148066	Make Laurel St a pedestrian mall.	Safety Concern - Walking	2023-09-17 01:47:47 UTC	1
SAN CARLOS	148074	This section of Phelps between San Carlos Ave and Palm Ave intersections that leads to Arundel elementary school is lacking a sidewalk. Many little kids and their parents walk on this section dodging cars. Could we plan for a sidewalk please?	Safety Concern - Walking	2023-09-17 16:36:58 UTC	0
SAN CARLOS	148076	This crosswalk is ignored by hurried vehicles turning blind corner. 2x near accident of car hitting child pedestrian in crosswalk. 8/25 @ 7:50am and 9/8 @8:00am	Safety Concern - Walking	2023-09-18 14:54:42 UTC	0
SAN CARLOS	148078	The Holly EL Camino intersection is super hostile to pedestrians. The timing to cross Holly on the northbound side is too short to safely cross. Northbound el Camino has double turn lanes to Holly, so going north as a pedestrian the first lane usually st	Safety Concern - Walking	2023-09-18 15:48:51 UTC	1
SAN CARLOS	148079	Almost been run over trying to cross eastbound on the north side of the El Camino San Carlos ave intersection. Southbound El Camino cars have right turn on red, so they often blow through the pedestrian cycle and nearly run us over. Pedestrians don't get	Safety Concern - Walking	2023-09-18 15:56:45 UTC	0
SAN CARLOS	148080	Crosswalk is a deathtrap. No signal, not daylighted (parked cars near by), multiple lanes to cross in both directions, no physical vehicle slowdown mechanisms, no safely islands, 30 to 40 mph car speeds. Literally seen people run over here. Seen elderly	Safety Concern - Walking	2023-09-18 16:03:54 UTC	1
SAN CARLOS	148082	This crossing is a deathtrap on a bicycle. High-speed freeway traffic (entering or exiting) is put in conflict with bicyclists, with poor visibility due to the tight spiral turns. I would never bike this. And walking it wouldn't be much better. I bike al	Safety Concern - Bicycling	2023-09-18 23:18:31 UTC	2
SAN CARLOS	148083	Biking along here is super dangerous. Two lanes per direction barely fit cars, and parked cars force unexpected lane changes. Where are you supposed to bike here? This area needs protected bike lanes to make biking safe. It's so bad this is where you wal	Safety Concern - Bicycling	2023-09-18 23:26:09 UTC	2
SAN CARLOS	148084	There are not continuous sidewalks nor crosswalks for pedestrians. No bike lanes either. Traffic often moving at dangerous speeds even though homes are close to the road, kids and pedestrians often present and SamTrans buses regularly use this route.		2023-09-19 00:59:08 UTC	0
SAN CARLOS	148098	protected bike lane would be very nice. I don't feel safe riding bike in this section		2023-09-21 20:22:55 UTC	0
SAN CARLOS	148110	Cars turning right on red from Old County southbound onto Holly westbound cannot see pedestrians until it's too late. There is a large concrete retaining wall that holds up the train tracks and surrounding landscaping. This wall blocks the driver's view.	Safety Concern - Walking	2023-09-24 00:59:15 UTC	0
SAN CARLOS	148111	This pedestrian tunnel exit is unsafe for pedestrians. The pedestrian emerges onto a high-speed road, and drivers cannot see the pedestrian until the pedestrian is in the road. Please place a raised crosswalk and a stop sign here. Belmont has stop signs	Safety Concern - Walking	2023-09-24 01:02:28 UTC	1
SAN FRANCISCO INTL AIRPORT	147397	The lanes need to be more clearly labeled that one is turning onto San Bruno Ave and the other is continuing on N McDonnell. There are often people who choose the wrong lane and are trying to go straight from the left turn lane or vice versa, cutting peo	Safety Concern - Driving	2023-08-22 22:26:19 UTC	0
SAN MATEO	147229	Highly unsafe for pedestrians.	Safety Concern - Walking	2023-08-15 21:11:56 UTC	0
SAN MATEO	147236	The bike lanes along Peninsula Ave do not make it to the intersection of Humboldt St.	Safety Concern - Bicycling	2023-08-16 17:41:27 UTC	2
SAN MATEO	147327	When biking across the bridge, you have to cross two on-ramps: there should be a blinking light here to warn cars of bikers. The two-lane on-ramp is dangerous as well, because cars in the second lane from the shoulder might not see bikers.	Safety Concern - Bicycling	2023-08-21 17:31:34 UTC	1
SAN MATEO	147328	The railing on this bridge cuts off so when bicyclists come down they go into incoming traffic and it's very dangerous. The railing needs to be extended a few feet.	Safety Concern - Bicycling	2023-08-21 17:33:09 UTC	0
SAN MATEO	147329	Going into this overpass you can't see the cars lined up at the light: there's low visibility before the intersection. There are too many cars and there should be blinking lights to warn about incoming light.	Safety Concern - Driving	2023-08-21 17:34:25 UTC	0

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SAN MATEO	147330	This overpass/intersection should be made safer for bikers so they can get to San Mateo station easily.	Safety Concern - Bicycling	2023-08-21 17:35:10 UTC	1
SAN MATEO	147331	There's always slowdown at this exit on 101 but there's no light or cause.	Safety Concern - Driving	2023-08-21 17:37:17 UTC	0
SAN MATEO	147332	This exit is always very jammed, and there should be clear signage to get to 92.	Safety Concern - Driving	2023-08-21 17:39:02 UTC	0
SAN MATEO	147333	This overpass is really not good for bikers. Going towards Hillsdale Station on bike is an important route for commuters and bikers can be unsafe near the overpass entrance to 101.	Safety Concern - Bicycling	2023-08-21 17:40:18 UTC	1
SAN MATEO	147335	Motorists are running red lights on this overpass; almost got T-boned driving across the intersection.	Safety Concern - Driving	2023-08-21 17:43:15 UTC	0
SAN MATEO	147339	This overpass should have raised barriers for bikers.	Safety Concern - Bicycling	2023-08-21 17:56:14 UTC	0
SAN MATEO	147340	Cars run red lights and go too fast through intersections here all the time, which is very dangerous.	Safety Concern - Driving	2023-08-21 17:57:34 UTC	0
SAN MATEO	147380	When coming off the freeway on the Kehoe exit freeway offramp, the city has placed double wide stripe to prevent a left hand turn right off of the freeway onto Norton St. There should be a barrier there to prevent left hand turns.	Safety Concern - Driving	2023-08-22 19:28:28 UTC	0
SAN MATEO	147399	Switching to left turn lane to go toward Coyote Point Dr direction is not safe here for bicycling	Safety Concern - Bicycling	2023-08-22 22:35:59 UTC	0
SAN MATEO	147400	Sorry I was referring to a different location		2023-08-22 22:38:28 UTC	0
SAN MATEO	147448	Alameda de las pulgas - to many cars, cannot see well San Carlos Pop-Up		2023-08-28 19:24:29 UTC	0
SAN MATEO	147532	This is a stressful merge as the two right most lanes collapse together very quickly after going through the Hillsdale mall intersection heading north.	Safety Concern - Driving	2023-08-31 05:19:14 UTC	1
SAN MATEO	148009	The current Peninsula Ave overpass of Hwy 101 is dangerous and uncomfortable for walking or biking, so I must drive my family the one mile to Coyote Point and the regional amenities that are walled off from active transportation. The City should do a qui	Safety Concern - Bicycling	2023-09-15 17:39:57 UTC	0
SAN MATEO	148011	Along ECR in downtown San Mateo from Tilton Ave to 9th Ave: 1. Automatic ped (bike) crosswalk recall 2. Minimize ped/bike conflict with turning (L & R) vehicles thru separate signals 3. Longer leading pedestrian intervals 4. Longer pedestrian cycle	Safety Concern - Walking	2023-09-15 20:45:03 UTC	0
SAN MATEO	148012	Thereâ€™s no reliable bus route to get to the park or senior center here.	Safety Concern - Public Transit	2023-09-15 20:46:28 UTC	0
SAN MATEO	148013	Thereâ€™s no convenient or reliable bus route to get to this park.	Safety Concern - Public Transit	2023-09-15 20:48:13 UTC	0
SAN MATEO	148014	Thereâ€™s no convenient or reliable bus route to get to Coyote Point or the Bay Trail.	Safety Concern - Public Transit	2023-09-15 20:49:00 UTC	0
SAN MATEO	148015	Pedestrians should be able to cross on both sides of the street here. Other safety measures should be put in place to protect pedestrians. The street design here is such that the City of San Mateoâ€™s new rules for reduced speeds near schools wonâ€™t app	Safety Concern - Walking	2023-09-15 20:51:55 UTC	0
SAN MATEO	148172	I don't know how the development that removed what little was left of the bikeway on Delaware got approved. This location and all of Delaware needs a continuous bikeway, especially on a high-injury corridor.	Safety Concern - Bicycling	2023-09-28 18:39:03 UTC	0
SKY LONDA	148050	Skyline Blvd needs zero-tolerance enforcement of speed limits. There needs to be a level of patrolling at which every one of the recreational (or Australian professional) race car drivers is guaranteed to lose their driver's license if they speed here.	Safety Concern - Bicycling	2023-09-17 00:09:54 UTC	0
SOUTH SAN FRANCISCO	147337	There are no buttons for the crosswalk to signal pedestrian crossing to the Caltrain station.	Safety Concern - Walking	2023-08-21 17:48:01 UTC	2
SOUTH SAN FRANCISCO	147347	Pedestrian access from the east to the west side of 101 between Sister Cities Blvd and Oyster Point Blvd is treacherous. Sidewalk's are absent from sections of this crossing	Safety Concern - Walking	2023-08-22 04:46:22 UTC	4
SOUTH SAN FRANCISCO	147349	Agreed - there is also a large number of people illegally turning from Airport onto Oyster Point, making that crossing dangerous		2023-08-22 15:48:29 UTC	2
SOUTH SAN FRANCISCO	147350	Visibility as drivers come out of the cove is challenging due to the landscaping lining the median to the Gateway turnaround loop. This coupled with people rarely looking both ways before turning makes it dangerous to cross here because you may or may no	Safety Concern - Walking	2023-08-22 15:59:31 UTC	2
SOUTH SAN FRANCISCO	147351	If you activate the crosswalk signal to cross Airport as cars are coming down Sister Cities, the signal does not activate when the light cycles around. You must press the signal again at another part of the light cycle (when cars are coming down airport	Safety Concern - Walking	2023-08-22 16:05:39 UTC	2
SOUTH SAN FRANCISCO	147356	This intersection is the closest I have actually come to being hit by a car as drivers are turning onto 101N and not looking for pedestrians who are crossing towards or away from Dubuque. Again, this road is sloped such that if you are walking away from	Safety Concern - Walking	2023-08-22 16:31:55 UTC	2

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SOUTH SAN FRANCISCO	147357	No crosswalk on the west side of this intersection. forces the many pedestrians that cross the intersection each day to walk out of their way to get back and forth. More and more people are riding the commuter buses into the area and then walk to their o	Safety Concern - Walking	2023-08-22 16:33:29 UTC	3
SOUTH SAN FRANCISCO	147359	Many Genentech and other bio tech company employees live in SSF, west of the 101 and would bike or walk into work if it weren't for the dangerous conditions. Crossing the 101 is a major barrier for biking to work in E101.	Safety Concern - Bicycling	2023-08-22 16:35:41 UTC	8
SOUTH SAN FRANCISCO	147361	Cars turning right to go towards Costco / 101S often do not look for pedestrians, particularly if they are on the side that is heading towards gateway. However, even crossing from the other direction cars will turn until the last possible second rather t	Safety Concern - Walking	2023-08-22 16:47:40 UTC	2
SOUTH SAN FRANCISCO	147366	Bike utilization of this route is still relatively low because it still feels unsafe. There have been great infrastructure to help bikes feel safer, but still more could be done. I'd look to the model of how the Palo Alto Caltrain station connects to the	Safety Concern - Bicycling	2023-08-22 17:28:21 UTC	6
SOUTH SAN FRANCISCO	147370	The disappearing bike lane (uphill, westbound) forces cyclists to merge with a traffic lane or take a distressingly small section of "shoulder" adjacent to fast-moving commute traffic. The solution is to provide a continuous bike lane on uphill grades	Safety Concern - Bicycling	2023-08-22 18:31:53 UTC	3
SOUTH SAN FRANCISCO	147371	This section of Sister Cities has no bike lane and instead there are only ""sharrows"". The speed differential here where you are biking up hill while two lanes of car traffic goes by at 40+ mph is significant. This creates a very dangerous section wher	Safety Concern - Bicycling	2023-08-22 18:34:37 UTC	4
SOUTH SAN FRANCISCO	147372	Chestnut is an appealing bike route towards E101, to avoid the heavy traffic on Three Sisters. However, the lack of a bike lane causes bike/car conflicts, particularly on the northbound uphill side, and especially where the road narrows north of Sunset A	Safety Concern - Bicycling	2023-08-22 18:36:48 UTC	2
SOUTH SAN FRANCISCO	147376	Cars usually drive really far into the bike lane when they turn right into the Costco parking lot (Coming from south). They also usually don't really look when they come out of there which makes it quite dangerous for bikers.	Safety Concern - Bicycling	2023-08-22 18:59:55 UTC	6
SOUTH SAN FRANCISCO	147378	This is a little scary as a cyclist as cars try to park in the long-term SFO parking and push bikers to the narrow shoulder. There is no bike lane in this section as a few car lanes merge/split coming off of the 380/101 offramp.	Safety Concern - Bicycling	2023-08-22 19:15:03 UTC	6
SOUTH SAN FRANCISCO	147381	To the last point, I would call out that there are often nails, screws, and other sharp objects in the bike lane - making for costly repairs to inner tubes and tires if/when they get punctured.		2023-08-22 21:12:45 UTC	4
SOUTH SAN FRANCISCO	147382	Pedestrian access to Genentech south campus (buildings 40-48) is pretty poor. There are low hanging trees over the sidewalk at this point that force pedestrians to enter the street without clear view of oncoming traffic. The most convenient way to access	Safety Concern - Walking	2023-08-22 21:17:53 UTC	1
SOUTH SAN FRANCISCO	147383	This intersection should also have a stop sign on Randolph instead of just on Gardiner. This is not a great intersection because people park illegally too close to the corner, making it difficult for you to see if someone is coming on Gardiner before mak	Safety Concern - Driving	2023-08-22 21:30:06 UTC	0
SOUTH SAN FRANCISCO	147386	Areas of the sidewalk are in poor condition in certain places (or non-existent on some of stretches of East Grand), along with construction blocking off walking paths frequently Routes are especially not good for electric scooters/skateboards/flywheel	Safety Concern - Walking	2023-08-22 21:56:06 UTC	3
SOUTH SAN FRANCISCO	147387	Traffic light for the right turn from Airport onto East Grand, under the 101, is very dim and not visible at all. Many drivers do not pay attention to the "No Right Turn on Red" signage or notice the light is currently red because the light itself i	Safety Concern - Walking	2023-08-22 22:00:04 UTC	3
SOUTH SAN FRANCISCO	147388	This merger is very dangerous for bikers and drivers. The drivers exit the offramp at a high rate of speed and bikers are supposed to merge across.	Safety Concern - Bicycling	2023-08-22 22:07:03 UTC	5
SOUTH SAN FRANCISCO	147391	Definitely. I commute this way everyday, and having a dedicated space for bikes separated from cars is important. This whole stretch, in both directions, that is between roads leading to freeways can be nerve wracking.		2023-08-22 22:13:48 UTC	1
SOUTH SAN FRANCISCO	147392	Lack of road markings cause many drivers to consistently turn left from the right lane in front of other cars. There are near hits every hour particularly during the morning rush hours.	Safety Concern - Driving	2023-08-22 22:13:58 UTC	4
SOUTH SAN FRANCISCO	147393	Southbound on S Airport Blvd through this stretch leading to the freeway onramps needs better bike safety, especially continuing on to N McDonnell road. Most cars are focused on getting on to the freeway, and not necessarily focused on cyclists.	Safety Concern - Bicycling	2023-08-22 22:17:53 UTC	2
SOUTH SAN FRANCISCO	147394	Since the addition of the median on E Grand that blocks Kimball, cars coming out of Kimball turn right and make a U turn around this median to exit towards 101. I don't know what the intended exit path was for these cars, but the high volume of traffic c	Safety Concern - Driving	2023-08-22 22:18:18 UTC	0
SOUTH SAN FRANCISCO	147396	Littlefield desperately needs to be repaved, the potholes are a major hazard for drivers.		2023-08-22 22:21:22 UTC	3
SOUTH SAN FRANCISCO	147401	I third this		2023-08-22 22:39:32 UTC	1
SOUTH SAN FRANCISCO	147407	The debris field in this intersection (westbound, left lane) is a regular puncture threat for bike tires, and it's difficult to avoid when on a bike.		2023-08-23 00:07:55 UTC	1
SOUTH SAN FRANCISCO	147415	Genentech bus that serves BART/ Caltrain - allows all area employees to ride - stops in this area. Because there is no mid block crossing or enough lights to cross, people are walking across the street, through the medium, across traffic to cross the str	Safety Concern - Walking	2023-08-23 20:23:56 UTC	3
SOUTH SAN FRANCISCO	147416	Lot's of potholes and pavement issues on OP blvd, lead to cars swerving to miss and driving in bike lane. Bike lane conditions are rough too, up against lanes of traffic going 40 mph.	Safety Concern - Bicycling	2023-08-23 20:26:11 UTC	1
SOUTH SAN FRANCISCO	147417	Could be used as a secondary thoroughfare for bikes (the bike lanes are on OP Blvd and E. Grand where speeds are high and traffic volumes very high)		2023-08-23 20:31:06 UTC	0
SOUTH SAN FRANCISCO	147418	Would be great to have high occupancy vehicles lanes on E. Grand and OP Blvd during peak commuter hours. This would really increase the people througput.	Safety Concern - Driving	2023-08-23 20:33:01 UTC	0
SOUTH SAN FRANCISCO	147451	Chestnut & Commercial Intersection in South San Francisco - unclear who has right of way at this intersection. Consider a stop sign/4-way intersection San Carlos Pop-Up		2023-08-28 19:31:00 UTC	0

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SOUTH SAN FRANCISCO	147474	relatively narrow road with heavy traffic and a large amount of big rig traffic during commute hours. Despite having a bike lane it's not very safe for cyclists	Safety Concern - Bicycling	2023-08-29 03:43:36 UTC	1
SOUTH SAN FRANCISCO	147475	cant poletti way be extended to Veterans blvd? As a bike / ped path it could go adjacent to the caltrain right of way and create a traffic free, interesection free safe path between SSF caltrain & the cove & connect to the bay trail / Sierra Point	Safety Concern - Walking	2023-08-29 03:47:57 UTC	0
SOUTH SAN FRANCISCO	147520	A lot of the turn lane traffic lights in this stretch of Gateway are older and very dim - it is quite difficult to see when you get the green arrow to turn		2023-08-31 04:25:11 UTC	1
SOUTH SAN FRANCISCO	147521	The timing of this light for cars turning left from Oyster Point onto Airport is not adequate. If you are the third or fourth car to reach the line and the light is green, by the time youâ€™ve turned the corner the light has already turned red. This need		2023-08-31 04:30:37 UTC	0
SOUTH SAN FRANCISCO	147522	Add signage heading towards 101 - either (or both) physical signs or writing on the ground to indicate what lanes go to 101 N, 101 S, or continue straight. Drivers often donâ€™t realize until theyâ€™re going through the Gateway and Oyster Point intersect	Safety Concern - Driving	2023-08-31 04:37:40 UTC	0
SOUTH SAN FRANCISCO	147523	A couple really bad potholes over here on East Grand. Timing of this light could also be looked at especially during peak traffic times - this should be a demand light for every direction except going straight down East Grand where it switches only when	Safety Concern - Driving	2023-08-31 04:43:42 UTC	0
SOUTH SAN FRANCISCO	147524	Left turn lane to go from East Grand to Littlefield needs to be longer. Cars waiting to turn left are often blocking the left lane of traffic going straight on East Grand.	Safety Concern - Driving	2023-08-31 04:45:40 UTC	0
SOUTH SAN FRANCISCO	147525	Drivers turning right out of verily from this intersection often do not look for pedestrians.	Safety Concern - Walking	2023-08-31 04:47:19 UTC	0
SOUTH SAN FRANCISCO	147527	I donâ€™t know where all of them are, but each crosswalk not at an intersection on the downtown stretch of Grand should have flashing lights. Itâ€™s challenging as a driver to see pedestrians enter the street due to a combination of parked cars and trees	Safety Concern - Walking	2023-08-31 04:53:51 UTC	1
SOUTH SAN FRANCISCO	147553	Please take a look at the timing of the lights on Gateway. They will turn red for no reason and with no cars visible on side streets and these are VERY LONG lights.	Safety Concern - Driving	2023-08-31 21:14:15 UTC	2
SOUTH SAN FRANCISCO	147554	Please examine ways to get the traffic through the north and southbound lanes of Airport Blvd. during peak hours. The timing of the lights is not working and cars merging from the freeway or side streets just back it up further. One can sit thru three li	Safety Concern - Driving	2023-08-31 21:17:46 UTC	1
SOUTH SAN FRANCISCO	147753	There is a lot of debris (including things like nails, metal, broken class) in the bike lane along Grand from the Caltrain station to the end (Genentech campus). I would expect there to be debris given there is an industrial use of this route for trucks,	Safety Concern - Bicycling	2023-09-05 16:28:09 UTC	1
SOUTH SAN FRANCISCO	147814	The merging of the 101 NB Bayshore Exit, Bayshore Blvd and Bike Route at this location is very dangerous for cyclists. Cars exit at high speed, vehicles already on Bayshore are at high speed and the markings, warnings and location off the Bike Path are	Safety Concern - Bicycling	2023-09-07 15:33:02 UTC	2
SOUTH SAN FRANCISCO	147816	There should not be right turn on red from Allerton onto E Grand, though some drivers still try. It is too difficult to see oncoming traffic coming around the curve.	Safety Concern - Driving	2023-09-07 15:43:27 UTC	0
SOUTH SAN FRANCISCO	147819	A lot of the lights on Gateway are old and very dim, particularly the left turns - it is quite difficult to see when these lights change, especially when the sun is rising and setting.		2023-09-07 15:50:22 UTC	1
SOUTH SAN FRANCISCO	147821	This merge is extremely dangerous for bicyclists who intend to continue going straight down E Grand while drivers simultaneously are turning right on Haskins. I wish I could say that the addition of bike lane paint had helped here, but I just watched a n	Safety Concern - Bicycling	2023-09-07 15:55:59 UTC	0
SOUTH SAN FRANCISCO	147829	I fourth this! The bike lane suddenlyy disappears in this section?		2023-09-07 21:53:33 UTC	0
SOUTH SAN FRANCISCO	147832	I second this.		2023-09-07 22:00:33 UTC	0
SOUTH SAN FRANCISCO	147839	The lights here for South Airport Boulevard going northbound are quite close together, and I have on multiple occasions seen drivers run the first red light because they see a green at the second red light. I'm not sure how to solve this problem, but wan	Safety Concern - Driving	2023-09-07 23:11:34 UTC	0
SOUTH SAN FRANCISCO	147860	Blind entry of bikeway to street. There is a beg button, but both pedestrians and cyclists are obscured by shrubbery.	Safety Concern - Bicycling	2023-09-08 18:00:02 UTC	0
SOUTH SAN FRANCISCO	147861	Blind connection of bike path to street. In order to yield the path to pedestrians, many cyclists use this point to shift from path to street. However - even with the beg button in use, I have nearly been hit a few times because the shrubbery obscures	Safety Concern - Bicycling	2023-09-08 18:05:48 UTC	1
SOUTH SAN FRANCISCO	147900	There is no crosswalk on the north part of this intersection, even though most people arriving on transit shuttles walk on the northern part of the sidewalk to reach businesses on the other side of Veterans Blvd.	Safety Concern - Walking	2023-09-11 21:41:23 UTC	0
SOUTH SAN FRANCISCO	147901	Agreed! Please consider a pedestrian overpass here. Or no turn on red sign perhaps. Anything to make what's basically a highway crossing safer.		2023-09-11 21:44:15 UTC	0
SOUTH SAN FRANCISCO	147913	Lots of potholes on OP Blvd and the switch of the bike lane into traffic, crossing the right-turn-only lane at this specific crossroad is very dangerous! Cars (and buses!!!) speed on this stretch of road and don't slow down to turn right.	Safety Concern - Bicycling	2023-09-11 23:27:01 UTC	1
SOUTH SAN FRANCISCO	148088	Crosswalk signal and traffic light here is very confusing. Cars run red light coming off 101 ramp.	Safety Concern - Walking	2023-09-20 16:31:26 UTC	0
SOUTH SAN FRANCISCO	148089	Cars in slip lane don't stop for pedestrians in crosswalk	Safety Concern - Walking	2023-09-20 16:32:39 UTC	0
SOUTH SAN FRANCISCO	148090	Any cycling in this intersection is dangerous, but especially the left turns from southbound Airport Blvd. on to eastbound Oyster Point Blvd. I am anxiously alert as a driver when I see cyclists making this turn. Most drivers seem so determined to preve	Safety Concern - Bicycling	2023-09-20 23:41:52 UTC	0
SOUTH SAN FRANCISCO	148094	Westbound E. Grand Ave bike lane disappears here.	Safety Concern - Bicycling	2023-09-21 19:48:51 UTC	0
SOUTH SAN FRANCISCO	148096	East of 101 access to the SSF Caltrain station is very dangerous for cyclists and pedestrians. Dubuque Ave is difficult for bikes and pedestrians and Poletti Way is only slightly better.	Safety Concern - Bicycling	2023-09-21 20:10:29 UTC	0

Web Comments - All Comments

City/County Name	id	Comment	Comment Type	Created	Likes
SOUTH SAN FRANCISCO	148097	East of 101 access to the SSF Caltrain station is very dangerous for cyclists and pedestrians. Dubuque Ave is difficult for bikes and pedestrians and Poletti Way is only slightly better.	Safety Concern - Walking	2023-09-21 20:12:08 UTC	0
SOUTH SAN FRANCISCO	148167	There should be better bike wayfinding through signs and sharrows (or lanes, even better) to get from King Drive to SSF BART and ECR.	Safety Concern - Bicycling	2023-09-28 17:39:11 UTC	0
SOUTH SAN FRANCISCO	148168	There needs to be protected bike lanes connecting the Centennial Way Trailheads, especially with the new developments happening there.	Safety Concern - Bicycling	2023-09-28 17:43:00 UTC	0
SOUTH SAN FRANCISCO	148169	Very narrow street that is used as a main throughfare to get from old-town SSF to upper SSF and the schools. Cars are parked on both sides of the street and the parked cars are hit by moving cars. Often these cars are driving recklessly and speeding. Spe	Safety Concern - Driving	2023-09-28 17:58:12 UTC	0
SOUTH SAN FRANCISCO	148222	From So. Airport Blvd to El Camino Real on the segment of 380 the Light bulbs are out on multiple highway light poles and never seem to get replaced. This creates a very dark driving experience for older drivers (or even younger drivers with poor eyes ri		2023-09-29 09:35:23 UTC	1
SOUTH SAN FRANCISCO	148223	CalTrabs Light poles at 280 southbound on Westborough (west) off-ramp need bulbs replaced. They have been burned out for years.		2023-09-29 09:38:39 UTC	0
SOUTH SAN FRANCISCO	148236	For traffic east bound on Westboroutgh to Chestnut at El Camino, the close proximity of traffic lights at Chestnut & El Camino and Chestnut & Antoinette and the fact that they are not synchronized results in traffic backing-up onto El Camino and blocking	Safety Concern - Driving	2023-09-29 17:32:38 UTC	1
UNINCORPORATED	147379	Highway 92 from Highway 280 to the coastal Highway 1 is too narrow for the types of traffic that travel out to the coast. It is a single lane highway most of the way and no barriers to separate the east bound and west bound traffic. Accidents are very ba	Safety Concern - Driving	2023-08-22 19:24:59 UTC	7
UNINCORPORATED	147457	Please make a bike lane the full length of the Canada road / 92 / Skyline route - very dangerous at 92!!!!!! San Carlos Pop-up		2023-08-28 19:54:57 UTC	0
UNINCORPORATED	147769	Potential conflict with Bicyclists riding to the San Andreas Trail and vehicles coming off of SB 280.	Safety Concern - Bicycling	2023-09-06 15:45:48 UTC	0
UNINCORPORATED	147835	Please put a street name sign on the mast arm of the stoplight across Skyline Ave. The existing signs are very small and hard to read. This lack of clarity can lead drivers to make unsafe maneuvers.	Safety Concern - Driving	2023-09-07 22:52:28 UTC	1
UNINCORPORATED	147866	You see many cyclist and pedestrians on this road with no where to walk or ride. You have bus stops that drop people off with no where to walk to. proper paths for pedestrians would help on 84 they have pop-out lanes for cyclist which may help a		2023-09-08 20:45:57 UTC	4
UNINCORPORATED	147874	Pedestrains block the sidewalks (waiting for restaurants)pushing other pedestrians into the street, cyclist are forced to use a narrow street where cars are going 25 MPH and trying to squeeze past pedestrians spilling into the street and cyclists stuck		2023-09-08 21:03:45 UTC	3
UNINCORPORATED	147877	In the 30+ years that I have lived on the Coastside and driven Hwy 1 between Montara and Pacifica frequently, I have witnessed many close calls where a car stopped for pedestrians at Gray Whale Cove or pedestrians darted out across the hwy, forcing drive	Safety Concern - Driving	2023-09-11 04:07:19 UTC	3
UNINCORPORATED	147887	The roadway through Princeton Harbor Area (Capistrano) has no bicycle lane and the cyclists ride on the sidewalks. There was a stabbing in front of Barbaraâ€™s Fishtrap when a cyclist politely asked a restaurant patron out front waiting for a table to le		2023-09-11 17:57:10 UTC	1
UNINCORPORATED	147911	As a Montara resident that regularly drives this route on busy weekends, I am very concerned about the pedestrians trying to cross from the parking lot to Grey Whale Cove beach. At times there are cars parked along the roadway and many pedestrians trying	Safety Concern - Walking	2023-09-11 22:50:54 UTC	1
UNINCORPORATED	147912	On Highway 1 heading south, between Linda Mar Blvd and the Tom Lantos Tunnel, there is almost no shoulder space for bicyclists and the road is winding. Many weekend tourists drive this stretch of HWY 1 and are not expecting to find bicyclists in the vehi	Safety Concern - Bicycling	2023-09-11 23:02:18 UTC	1
UNINCORPORATED	147915	Agreed. There should be some sort of speed decreasing measure here or the state needs to build a pedestrian tunnel under the roadway. No residential area here, install rumble strips at a minimum.		2023-09-12 00:02:04 UTC	1
UNINCORPORATED	147916	No bike lane on Hwy 1 connecting Montara to HMB coastal bike route starting in El Grenada.	Safety Concern - Bicycling	2023-09-12 00:04:40 UTC	3
UNINCORPORATED	147917	Airport street needs a protected bike path. Many people (mostly service workers and residents who live in the trailer park) commute via bicycle on this road often at night with no lights to their jobs in Moss Beach. There are no street lights and this r	Safety Concern - Bicycling	2023-09-12 00:08:56 UTC	3
UNINCORPORATED	147918	There needs to be a better parking solution for Montara state beach. The parking lot was paved and striped to hold less cars than when it was dirt. This lot needs to be bigger and parking on HWY 1 needs to be restricted and enforced. Busy weekends here c	Safety Concern - Driving	2023-09-12 00:12:34 UTC	2
UNINCORPORATED	147919	Enforcement of traffic violations inside the tunnel needs to be done. People often use the shoulder lane or the approach shoulder to pass inside the tunnel at unsafe speeds.	Safety Concern - Driving	2023-09-12 00:16:13 UTC	2
UNINCORPORATED	147923	Road is collapsing here. Temporary road closure signs for months. If the road looks this bad I can help but wonder what the sewage and gas lines conditions are under here. Seems like a neigborhood disaster waiting to happen	Safety Concern - Driving	2023-09-12 00:28:29 UTC	2
UNINCORPORATED	148020	All traffic bottlenecks at the Lemos Farm / Landfill turnoffs and the risky / illegal left turns people make over the double yellows out of these generate most of the accidents on 92. I would favor continuing the downhill cement median even further. Or	Safety Concern - Driving	2023-09-16 05:37:23 UTC	4
UNINCORPORATED	148061	The Hwy 1 bridge crossing Tunitas Creek is dangerous for cyclists because the shoulder suddenly ends and drivers do not pay attention to bikes in the traffic lane. The bridge needs to be widened to accommodate shoulders. In the interim it would help to p	Safety Concern - Bicycling	2023-09-17 01:30:01 UTC	1
UNINCORPORATED	148062	Close Canada Rd to all motor vehicle traffic between Palm Circle Rd and Hwy 92. Issue special single-use permits for vehicle access to Filoli and the Water Temple.	Safety Concern - Bicycling	2023-09-17 01:37:04 UTC	0

Web Comments - All Comments

City/County Name	id	Comment	Comment Type	Created	Likes
UNINCORPORATED	148063	Close Canada Rd to all motor vehicle traffic between Hwy 92 and Palm Circle Rd in Woodside.	Safety Concern - Bicycling	2023-09-17 01:38:40 UTC	0
UNINCORPORATED	148064	Close all freeway ramps connecting Hwy 280 with the section of Skyline Blvd between Hwy 92 and Black Mountain Rd, to reduce speeding and cut-through traffic that puts cyclists on Skyline in danger.	Safety Concern - Bicycling	2023-09-17 01:42:56 UTC	0
UNINCORPORATED	148087	Widen 92. This road cannot handle the population of the coastside and the traffic we get from visitors. Accidents regularly close what should be an evacuation route. Forget the NIMBYism this is a matter of public safety.	Safety Concern - Driving	2023-09-20 05:02:24 UTC	3
UNINCORPORATED	148101	92 between 280 and hi 1 is a blood alley due to head on collisions. Weekly, access is cutoff or greatly delayed. Add an overhead freeway. And complete the barrier between east and west lanes so no more need die or be maimed.	Safety Concern - Driving	2023-09-23 05:43:39 UTC	3
UNINCORPORATED	148102	Deep potholes and poorly patched potholes on 92 cause accidents as people must swerve. We also sustain tire damage.	Safety Concern - Driving	2023-09-23 05:46:19 UTC	2
UNINCORPORATED	148103	Huge trucks are allowed to drive too fast on 92 and they frequently cross over the center line.	Safety Concern - Driving	2023-09-23 05:48:46 UTC	1
UNINCORPORATED	148179	Driving on Hi 92 from 280 to the coast is exceptionally dangerous. The frequent collisions must be reduced. Bypass or alter 92 physically to prevent crashes. Begin law enforcement. Fire whoever is currently sending out traffic notifications and begin rel	Safety Concern - Driving	2023-09-29 03:07:51 UTC	1
UNINCORPORATED	148180	A barrier is needed on all parts of 92 from 280 to HMB to prevent head onâ€™s. Cal Trans wrote me a couple years ago that not enough people have died or been injured to warrant a center divide barrier. Many more have been injured and at least one more	Safety Concern - Driving	2023-09-29 03:15:08 UTC	2
UNINCORPORATED	148182	Straighten the curves on 92 between Main Street and Pilarcitos Creek. Add a k-rail to separate the westbound and eastbound lanes. Periodically add a roundabout so that traffic can reach the businesses and homes. This would reduce accidents and improve	Safety Concern - Driving	2023-09-29 03:32:20 UTC	2
UNINCORPORATED	148183	Tunnel under the Highway 1 for pedestrians to go between Gray Whale Cove and the parking lot east of highway 1. The existing slope of the terrain from the parking lot going west towards the Gray Whale Cove access road is downhill. The tunnel can go under	Safety Concern - Walking	2023-09-29 03:37:20 UTC	1
UNINCORPORATED	148186	Donâ€™t spend a penny on Gray Whale Cove until after the improvements to the Safety of the Moss Beach Corridor are funded and completed! I agree that an underpass is needed but do not agree that it needs to be a priority.		2023-09-29 05:34:29 UTC	0
UNINCORPORATED	148187	Hwy 92 accidents are weekly so something needs to be done. Especially if they could create an uphill passing lane on Westbound 92 between the Reservoir and Skyline (Hwy 35).		2023-09-29 05:37:39 UTC	0
UNINCORPORATED	148189	They need to crunch the 92 numbers again. Hwy 92 is a Nightmare between HMB & Crystal Sorings! I avoid it whenever I can because it is so unpredictable.		2023-09-29 05:42:38 UTC	1
UNINCORPORATED	148190	CalTrans could let motorists know of incidents on Hwy 92 if they installed VMS* between HMB and Anza in San Mateo plus on 280 before the 92 westbound exits!!! (*Variable Message Signs)		2023-09-29 05:46:10 UTC	0
UNINCORPORATED	148197	The HMB City Council is not in favor of widening Hwy 92, but someday it may come to pass, as they kept building hotels and more low income housing, and holding events like Pumpkin Festival, Dream Machines or Maverickâ€™s plus all the visiting beach goers		2023-09-29 06:27:34 UTC	1
UNINCORPORATED	148200	Yes to a roundabout!		2023-09-29 06:42:23 UTC	1
UNINCORPORATED	148203	Since the SMC DPW closed the road with some ugly sawhorses there has been Absolutely NO COMMUNICATION with neighbors as to the proposed repaired or fix. The County Planning Department keeps issuing building permits, but wonâ€™t spend a dime To repair		2023-09-29 07:00:05 UTC	0
UNINCORPORATED	148204	Agree! The tunnel is a blessing, but there are often out-of-the-area, impatient drivers in a hurry to get somewhere while they endanger others. The non-driving lane needs yellow striping to denote that it is NOT a passing lane!		2023-09-29 07:03:36 UTC	0
UNINCORPORATED	148205	Airport Street in Moss Beach needs Street Lighting. (Big Wave LLC should pay for it as it will benefit their trips generated by the Office Park that is now going in. There have been several fatalities on this roadway since the Mid-1980â€™s to present.		2023-09-29 07:09:14 UTC	0
UNINCORPORATED	148206	Many years back the SM County â€œstudiedâ€ completing the CA Coastal Trail, But put the plan away in a drawer and never funded it. Now, they want to shoe-horn in a 71 Unit Cypress Point affordable housing project in Moss Beach, but the safety improv		2023-09-29 07:16:07 UTC	1
UNINCORPORATED	148207	The Highway One roadway will be a choke-point between Linda Mar and the tunnel in an Emergency Evacuation like we have seen in Paradise Ca and Lahaina, on Maui. Residents fleeing the MidCoast will be trapped with no breakdown lanes, or even a sufficient		2023-09-29 07:24:04 UTC	0
UNINCORPORATED	148210	It us difficult to see what part of HWY 92 this comment refers to, but more would walk or bike to school if there was a safe way to do so. Unfortunately HMB us broke and never addresses ANY traffic issues.		2023-09-29 08:00:45 UTC	0
UNINCORPORATED	148218	The fly-over ramp from NB 280 to Westbound Hwy 92 has several street lights burned out and this is very dangerous on a Foggy night with no lights on a curve high above 280!		2023-09-29 08:58:38 UTC	1

Web Comments - All Comments

City/County Name	id	Comment	Comment Type	Created	Likes
UNINCORPORATED	148219	Roadside debris from January Storms has never been cleared along the shoulders of Hwy One from Moss Beach to Linda Mar in a Pacifica. Mudflows, tree parts & loose rocks are left where they landed and obstruct shoulders that are too narrow already for cyc	Safety Concern - Bicycling	2023-09-29 09:20:34 UTC	0
UNINCORPORATED	148234	We need a high-visibility crosswalk across Obispo at Coronado along with complete sidewalks on both sides of Coronado from Hwy 1 to Avenue Alhambra/Santiago.	Safety Concern - Walking	2023-09-29 16:17:15 UTC	1
UNINCORPORATED	148235	Implement traffic calming measures in this school zone.		2023-09-29 16:19:35 UTC	1
UNINCORPORATED	148237	It is difficult and dangerous for vehicles to exit Lifemark onto east bound Highway 92.	Safety Concern - Driving	2023-09-29 17:35:11 UTC	1
UNINCORPORATED	148242	Why isn't there isn't a wider paved road shoulder from the edge of Pacifica through the Tom Lantos tunnel to Montara? I'm talking maybe a foot extra on some areas or even half that. There are loads of steep curves, so visibility isnâ€™t good for drivers	Safety Concern - Bicycling	2023-09-29 20:37:23 UTC	1
UNINCORPORATED	148251	In the 1980â€™s a barrier was placed between the lanes on highway 101 turning what was then called Blood Alley into a safe section of highway. Please do the same for 92 which will eliminate our constant accidents, injuries, never ending delays. Coastsid	Safety Concern - Driving	2023-09-30 15:37:55 UTC	1
UNINCORPORATED	148252	Then they made a second road to bypass it which is our current 101		2023-09-30 16:48:01 UTC	0
UNINCORPORATED	148261	The HWY1 corridor between El Granada and Moss Beach is dangerous for bicyclists and pedestrians. Providing a direct and safe path for bike and foot traffic between El Granada would allow everyone without a car to move between these communities (children,		2023-09-30 21:40:19 UTC	0
UNINCORPORATED	148280	Current conditions at the Red Barn location include excessive speeding and passing. Midpen's La Honda Feasibility Study to evaluate potential expanded public access are evaluating potential improvements that could include a median to prevent passing an	Safety Concern - Driving	2023-10-01 00:54:22 UTC	0
UNINCORPORATED	148281	Current conditions include excessive speeds. Midpen's La Honda Feasibility Study to evaluate potential expanded public access recommend considering potential improvements to improve line of sight.	Safety Concern - Driving	2023-10-01 01:10:19 UTC	0
UNINCORPORATED	148282	San Mateo County's Trails Master Plan and Midpen's Purisima-to-the-Sea Trails Feasibility Study call for trail crossings of Verde Road and Highway 1 to connect the Bay Area Ridge Trail and California Coastal Trail. Pedestrian improvements could include s	Safety Concern - Walking	2023-10-01 01:14:59 UTC	0
UNINCORPORATED	148283	San Mateo County's Trails Master Plan and Midpen's Purisima-to-the-Sea Trails Feasibility Study call for trail crossings of Verde Road and Highway 1 to connect the Bay Area Ridge Trail and California Coastal Trail. Pedestrian improvements could include s		2023-10-01 01:15:48 UTC	0
UNINCORPORATED	148284	Turning left onto the highway at Etheldore & Highway 1 and at Marine & Highway 1 is terrifying. It is a problem of volume already and will get much, much worse if the development at Sierra adds traffic to the already scary flow.	Safety Concern - Driving	2023-10-01 04:29:14 UTC	0
UNINCORPORATED	148302	All the curves in 92 need new right shoulder striping. Itâ€™s dangerous at night & impossible in the rain at night to visually find the edge of the road. What about using an irradescent in the paint as well?		2023-10-02 15:51:09 UTC	0
UNINCORPORATED	148303	Potholes all along 92 to the coast, including highway 1, cause drivers to swerve into traffic or tire damage. Potholes arenâ€™t being filled and when they are the fix isnâ€™t done properly so they donâ€™t last.	Safety Concern - Driving	2023-10-02 16:27:03 UTC	0
WOODSIDE	147459	People treat woodside rd. like a freeway. Speeding from freeway to freeway	Safety Concern - Driving	2023-08-28 21:57:09 UTC	0
WOODSIDE	147489	Children cannot safely get home from school because there is no crosswalk at Miramontes and Woodside Rd. This effects many families and young children in our town. The north side of the street has a ditch and so children would have to walk in the bike la	Safety Concern - Walking	2023-08-30 20:49:22 UTC	1
WOODSIDE	147761	La Honda Road aand Old La Honda Road need major renovation to be safe for the 7500/day traffic that floes over the roadway. Kings Mountain Road has somilar safety issues.	Safety Concern - Driving	2023-09-05 23:35:48 UTC	0
WOODSIDE	148023	Bicycles are dangerous.they speed, pass cars causing potentially fatal situations , follow no rules for driving on the road and say itâ€™s not their fault because they are a little bicycle. I was passed at a stop sign when I stopped with an oncoming ca		2023-09-16 15:02:50 UTC	2
WOODSIDE	148199	Too many testosterone-fueled cyclists with self-centered attitudes need to be ticketed!		2023-09-29 06:40:51 UTC	0

Appendix B

Phase 2 Engagement Comments

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
Belmont Farmers' Market, 12/17/23	Belmont	Highway Priority Intersection	Bicycle	El Camino Real	El Camino Real is sometimes the only direct path through the peninsula and there is no safe way to bike it; need separate bike lanes
	Belmont	Highway Priority Intersection	Pedestrian	El Camino Real	El Camino Real has too short crosswalk times, need longer times to cross the street
	Belmont	Highway Priority Intersection	Motor Vehicle	El Camino Real	El Camino Real has poorly timed stop-lights
	Belmont	Highway Priority Intersection	Bicycle	El Camino Real	El Camino is pretty wide for bikers, maybe need better marking of bike lanes
	Belmont	Highway Priority Intersection	Motor Vehicle	El Camino Real/Old County Rd. and Ralston Ave.	The area where Ralston Ave. intersects El Camino Real and Old County Rd. is problematic and unsafe
	Belmont	Highway Priority Intersection	Pedestrian	El Camino Real and Harbour Blvd.	People run the light at this intersection and it is dangerous for pedestrians
	Belmont	General Comment	General Comment		All the priority locations are good/accurate
	Belmont	Non-Highway Priority Intersection	Motor Vehicle	Davey Glen Rd.	Tree blocking turn sign on Davey Glen Rd.
	Belmont	Non-Highway Priority Intersection	Pedestrian	Wessex Way	Wessex Way is difficult for pedestrians because cars whip around curves
	Belmont	General Comment	Pedestrian		Pedestrians don't have enough time to cross the road for older folks. Increase pedestrian walk times everywhere.
	Belmont	Non-Highway Priority Intersection	Bicycle		Bike lanes in the middle of the road are very dangerous for cyclists; need raised barriers for those lanes
	San Carlos	Highway Priority Intersection	Motor Vehicle	Highway 101 and Ralston Ave.	People make illegal u-turns at the same time as cars have a green light to turn onto 101 from Holly St. There have been accidents where people run into each other and this intersection is a known issue in the community.
	Belmont	Highway Priority Intersection	Motor Vehicle	Highway 101 and Ralston Ave.	Get rid of metering lights to get onto 101 from Ralston Ave. There is not enough space to accelerate safely.
	Belmont	Non-Highway Priority Intersection	Motor Vehicle	Chula Vista Dr. between Ralston Ave. and Alameda de las Pulgas	Very congested when the three schools get out at the same time
	Belmont	Non-Highway Priority Intersection	Pedestrian	Ralston Ave. between Alameda de las Pulgas intersection and Ralston Middle School	Need more stop signs (larger signs and stop lights), because there are unlighted crosswalks without stop signs and not safe for children walking to school
	Belmont	Non-Highway Priority Intersection	Bicycle	Ralston Ave. north of Alameda de las Pulgas	Need bike path or some marking improvements for cyclists on Ralston Ave. from Alameda de las Pulgas to Canada Rd.
	Belmont	Non-Highway Priority Intersection	Bicycle	Alameda de las Puglas north of Ralston Ave.	Prioritize bike improvements on Alameda north of Ralston Ave. South of Ralston Ave., bike lanes are not bad
	Belmont	Non-Highway Priority Intersection	Motor Vehicle	Ralston Rd. east of Alameda de las Pulgas	The driving on Ralston Rd. east of Alameda de las Pulgas before El Camino Real is not bad
	Redwood City	Non-Highway Priority Intersection	Motor Vehicle	Alameda de las Pulgas between Jefferson and Whipple	On Alameda de las Pulgas between Jefferson and Whipple, cars go too fast (60-70 mph); need speed bumps or stop signs
	Belmont	General Comment	General Comment		Reduce the speed limits
	Belmont	General Comment	Pedestrian		Problem with electric bikes riding on sidewalks; dangerous for pedestrians
	Belmont	General Comment	General Comment		Speed bumps need better lighting and signage

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
	Belmont	General Comment	General Comment		Carlmont School and Ralston Middle have the same start times which causes huge traffic and buses are late. Having start times 20 minutes apart would make a big difference.
	Belmont	Non-Highway Priority Intersection	Motor Vehicle	Old County Rd. and Ralston Ave.	Need signal improvements on this intersection
	Belmont	General Comment	General Comment	Old County Rd.	Parking is needed on Old County Rd. around the 900 addresses; new apartment complex there only has one parking spot. Could be traffic problem.
	Belmont	Non-Highway Priority Intersection	Bicycle	Old County Rd.	Should have separated bike lanes on Old County Rd.
	Redwood City	General Comment	General Comment		Redwood City has too many speed bumps and needs more lighting. Speed bumps are pollutants because of constant accelerating/decelerating; dips are better than speed bumps at slowing cars down and are less noisy
	San Carlos	Non-Highway Priority Intersection	General Comment		Some 3 and 4 way stop sign intersections are confusing
	San Carlos	Non-Highway Priority Intersection	Motor Vehicle	Windsor Dr.	Way too congested and too much traffic because Windsor Dr. is one of only routes to 280/101; there are no sidewalks, stop signs, or lights
	San Carlos	Non-Highway Priority Intersection	General Comment	Torino Dr.	Street is too narrow
	San Carlos	Non-Highway Priority Intersection	Motor Vehicle	Industrial Rd. and San Carlos Ave.	Cars go 50+ mph on Industrial, dangerous especially at the Industrial Rd. and San Carlos Ave. intersection
	San Carlos	Non-Highway Priority Intersection	Bicycle	Brittan Ave. west of Alameda de las Pulgas	Hills in this area make car/bike relationship dangerous. The cars crest the hill and may not see cyclists; need a better marked bike lane
	San Mateo	Non-Highway Priority Intersection	Motor Vehicle	Hacienda Ave. and 24th	This is a four-way intersection with a 2-way stop sign and is very dangerous; needs some attention/improvement
	Half Moon Bay	Highway Priority Intersection	Motor Vehicle	Intersections between Highway 1 and Main Street	People drive too fast on the intersections between Highway 1 and Main Street; need improvements in this area (stop signs, lights, bumps, etc.)

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
Woodside Library, 12/20/23	Woodside	General Comment	General Comment		Priority locations in Woodside are pretty representative of where there are safety issues
	Woodside	General Comment	Bicycle		Main roads in San Mateo County don't need separated bike lanes -- add wide bike lanes instead
	Woodside	General Comment	General Comment		The suggested countermeasures are very urban-centered. Rural areas have different requirements
	Woodside	General Comment	General Comment		Would like bus service in Woodside; i.e. from Redwood City to church in Woodside. The existing service is very intermittent
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Old La Honda Rd.	Very windy road and very scary. Need more focus on signage/speed deterrents here.
	Woodside	Non-Highway Priority Intersection	Bicycle	La Honda Rd.	On La Honda, there isn't enough space for bikes and cars. Same on Kings Mountain Rd.
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Kings Mountain Rd.	Windy and steep
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Kings Mountain Rd.	Get the bicycles off Kings Mountain Rd. They are disrespectful to the cars
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Mountain Home Rd.	Narrow without enough room for 3ft between cyclists and cars. Lots of horses also create congestion on this street
	Woodside	General Comment	General Comment		We need something in the road to slow people down; i.e. speed bumps with holes for the wheels so cars slow down but don't have to go over the bump/create noise
	Woodside	Non-Highway Priority Intersection	Bicycle	Whiskey Hill Rd.	Currently have bike lanes on this big street but bikes don't go there. A lot of streets don't have room for bike lanes but are used by bikes
	Woodside	Non-Highway Priority Intersection	Bicycle	Whiskey Hill Rd.	Whiskey Hill Rd. is good. They painted interior lines separating bike lane and traffic lane, and added bike buffer. This should be implemented on other roads
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd. and Albion Ave. Intersection	Crosswalks around this intersection from Woodside Elementary need autosensors instead of manual buttons for flashing lights because sometimes the children don't push them. Cars pause at this intersection to drive into the school and cars behind them go around them using the bike lane, which is dangerous for cyclists/pedestrians.
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd. and Albion Ave. Intersection	Crosswalk from school to library needs brighter flashing lights, it's dangerous for kids crossing
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd. between Tripp Rd. and Kings Mountain Rd.	This section of Woodside Rd. needs better pedestrian access
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Woodside Rd. between Tripp Rd. and Kings Mountain Rd.	Twisty roads with not enough shoulder space and too many blind corners
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd. between Tripp Rd. and Kings Mountain Rd.	Very narrow road, hard for runners and cyclists
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	La Honda Rd. and Skyline Blvd./Highway 35	The intersection at Alice's restaurant is a large angle; approach to Highway 35/Skyline should be perpendicular, which will increase visibility of oncoming traffic and be a lot safer
	Woodside	General Comment	Bicycle		Should have bike trails on dirt like the equestrian trails
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd. along Wunderlich County Park	This section of Woodside Rd. needs better pedestrian access for runners/pedestrians walking around the park and into town. It also needs bike lanes
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd. along Wunderlich County Park	Need sidewalks here, especially for pedestrians and runners
	Woodside	Non-Highway Priority Intersection	Bicycle	Woodside Rd. next to Wunderlicht County Park	People come out of Wunderlicht and the trail goes too close to the main road
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Portola Rd. and Woodside Rd.	No signal at this intersection and Woodside Rd. has right of way. Maybe four-way stop? There are really sharp turns into Portola Rd.

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Portola Rd. and Woodside Rd.	At this intersection the road dips and there's low visibility. Need reflectors/lighting/signage here to alert cars/bikes
	Woodside	General Comment	General Comment		Pelotons ride in the middle of the road because there's no bike lane and hold up traffic
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Canada Rd. and Woodside Rd.	This intersection is terrible; people back out of parking spaces outside of Roberts into the road, interrupting traffic. The right turn from Canada onto Woodside is also too fast and it's dangerous for pedestrians
	Woodside	Non-Highway Priority Intersection	Pedestrian	Canada Rd. and Woodside Rd.	Replace stop signs at this intersection with lights. In general, need more places to cross Woodside Rd. safely
	Woodside	Non-Highway Priority Intersection	Pedestrian	Canada Rd. and Woodside Rd.	Need safer crosswalk at Roberts intersection
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Canada Rd. and Woodside Rd.	Parking at Roberts impedes traffic at this intersection, very troublesome
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Canada Rd. and Woodside Rd.	At this crosswalk, hard to see the South side of the intersection, especially with parked cars at Roberts
	Woodside	General Comment	Motor Vehicle		Woodside has incredibly wide lanes and cars go too fast on them; on all roads under 35 mph speed limit, lanes should be 10 feet wide or less
	Woodside	General Comment	General Comment		Make intersections sharper/more acute angles; this makes the crosswalk shorter and cars will slow down more
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd.	Need sidewalks on Woodside Rd. There's currently conflict between pedestrians and cyclists using the same narrow strip of road
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd.	Need sidewalks on Woodside Rd.
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd.	Need sidewalks on Woodside Rd.
	Woodside	Non-Highway Priority Intersection	Pedestrian	Woodside Rd.	Want sidewalks on Woodside Rd.
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Grandview Dr. at top of 84	People use Skyline as race course and need better policing of it
	Woodside	General Comment	General Comment		Need more space between bikes and cars
	Woodside	Non-Highway Priority Intersection	Bicycle	Canada Rd. along 280	Don't define bike lanes vs. shoulder on Canada. Need just a shoulder definition line so cars know where to park
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Canada Rd.	Improve signals at crosswalks on Canada Rd. I.e. flashing lights
	Woodside	General Comment	General Comment	Canada Rd.	There are no issues on Canada Rd. because there's different lanes for different things
	Woodside	Non-Highway Priority Intersection	Bicycle	Canada Rd.	All lanes should be 10 feet and the speed limit should be 35 mph, with separated bike lanes
	Woodside	Non-Highway Priority Intersection	Motor Vehicle	Canada Rd. and Edgewood Rd.	Should add rumblestrips on rural roads so you know you're cocming up to a stop, well ahead of the stoplight. Should also get rid of pork chops like when you're turning right from Edgewood Rd. to Canada. It lengthens the crosswalk and cars go too fast.
	Portola Valley	General Comment	General Comment		Do not want any bike lanes in Portola Valley, but want shoulder to be kept clean
	Portola Valley	Non-Highway Priority Intersection	Bicycle	Corte Madera Rd.	Add dirt bicycle trail on Corte Madera
	Portola Valley	Non-Highway Priority Intersection	Bicycle	Alpine Rd. down the hill	People drive way too fast down Alpine Rd. and make it dangerous for cyclists/pedestrians/other motorists
	Portola Valley	Non-Highway Priority Intersection	Bicycle	Alpine Rd.	Don't want shoulder on Alpine to be a green bike lane, just clean it up for bikes to use
	Portola Valley	Non-Highway Priority Intersection	Bicycle	Alpine Rd.	Need clear bike lane on Alpine. Class 1 bike lane. Would also love to have Class 1 bike lane from town center to the school. Maybe on the other side there could be an equestrian trail.
	Portola Valley	Non-Highway Priority Intersection	Bicycle	Alpine Rd.	Part of Alpine needs an extra evacuation lane, or a wider bike lane that can be used as an evacuation lane
	Portola Valley	Non-Highway Priority Intersection	Motor Vehicle	Alpine Rd.	Add flat roundabouts on key intersections on Alpine Rd. to curb speeding, i.e. Golden Oak intersection

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
Colma BART Station, 1/9/24	Colma	Non-Highway Priority Intersection	Motor Vehicle	Hillside Rd.	People drive way too fast, especially southbound. There should be speed bumps every 1/4 mile and flashing lights to show that speed limits are radar enforced
	Colma	Non-Highway Priority Intersection	Motor Vehicle	Lawndale Blvd.	There should be speed bumps and speed limit signs along Lawndale between Mission Rd. and Hillside Blvd. And the fees for speeding infractions should be higher
	Colma	Highway Priority Intersection	Motor Vehicle	El Camino Real	People drive too fast down El Camino Real; need more speed bumps or lights
	Colma	General Comment	General Comment	Junipero Serra Blvd. and Collins Ave.	Concern with general safety and shoplifting at this intersection.
	Colma	General Comment	General Comment		Local road safety in Colma is generally pretty good.
	Colma	General Comment	Motor Vehicle		A couple streets (could not remember which) are narrow and hard to drive in a car.
	Colma	General Comment	Pedestrian		In general, feels pretty safe as a pedestrian, although the sidewalk abruptly ends in a few areas.

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
Atherton Library, 1/16/24	Atherton	General Comment	Motor Vehicle		Streets in Atherton are very dark and need better lighting.
	Atherton	General Comment	Motor Vehicle		Traffic and congestion are bigger issues in Atherton than safety.
	Atherton	Highway Priority Intersection	Bicycle	El Camino Real	El Camino Real doesn't have enough space between cars and cyclists. Bike lanes aren't paved well so they encroach on drivers, and distracted drivers drift into the bike lane.
	Atherton	Highway Priority Intersection	Bicycle	El Camino Real	On El Camino, cyclists bike against traffic, which is dangerous for pedestrians and motorists.
	Atherton	Highway Priority Intersection	Bicycle	El Camino Real	Bike lanes on El Camino are too close to the cars.
	Atherton	Highway Priority Intersection	Motor Vehicle	El Camino Real	Should make El Camino 2 lanes instead of 3
	Atherton	Highway Priority Intersection	Bicycle	El Camino Real	Biking on El Camino is too difficult. There are too many fast cars, parked cars, cars pulling out, poor bike visibility. The bike signal on the intersection of El Camino and Atherton Ave. is very helpful.
	Atherton	Highway Priority Intersection	Pedestrian	El Camino Real	There are flashing lights that pedestrians can push to cross El Camino, but cars often drive through them. Perhaps a more permanent stop sign, or light, would be safer.
	Atherton	Highway Priority Intersection	Bicycle	El Camino Real south of Atherton Ave.	The biggest problem for cyclists is El Camino Real, especially south of Atherton Ave. There is no shoulder for biking and to turn at intersections
	Atherton	Highway Priority Intersection	Pedestrian	El Camino Real and Fair Oaks Lane	People run stoplights at this intersection. It would also be nice to have a four-way crosswalk at this intersection, and directional paint on the streets to make it clearer how to navigate the intersection.
	Atherton	Highway Priority Intersection	Motor Vehicle	El Camino Real and Alejandra Ave.	It's hard to make a left turn from Alejandra Ave. onto El Camino Real to the point where it's easier to turn right and make a U-turn.
	Atherton	Highway Priority Intersection	Motor Vehicle	El Camino Real and Watkins	Do not put a stoplight at this intersection.
	Atherton	Highway Priority Intersection	Motor Vehicle	El Camino Real and Maple Ave.	There are blind corners that need signage or mirrors to make visibility better, like at the intersection of El Camino and Maple Ave.
	Atherton	Highway Priority Intersection	Motor Vehicle	El Camino Real and Maple Ave.	This intersection is blind, especially turning right. There need to be mirrors so those turning can see oncoming traffic. Often drivers sit here for a very long time waiting for the turn to be safe, and at night it's very hard to see incoming motorists. It would be beneficial to have lights or stoplights here.
	Atherton	General Comment	Pedestrian		Need better crosswalks for strollers, especially getting on and off curbs.
	Atherton	Non-Highway Priority Intersection	Motor Vehicle	Maple Ave. and Dinkelspiel Station Lane	Cars go too fast on this intersection, there should be a pedestrian flashing lights sign here.
	Atherton	Non-Highway Priority Intersection	Pedestrian	Maple Ave. and Dinkelspiel Station Lane	This intersection needs to be made safer for pedestrians, especially at night.
	Atherton	Non-Highway Priority Intersection	Pedestrian	Fair Oaks Ln. intersection with Caltrain tracks	This road between Atherton Library and Caltrain tracks needs a crosswalk.
	Atherton	Non-Highway Priority Intersection	Motor Vehicle	Fair Oaks Lane and Dinkelspiel Station Lane	There is a blind intersection here that could be improved. Residents often complain about it.
	Atherton	Non-Highway Priority Intersection	Motor Vehicle	Fair Oaks Lane and Dinkelspiel Station Lane	This intersection is very dangerous; cars need better signage or paint to direct them.
	Atherton	Non-Highway Priority Intersection	Motor Vehicle	Fair Oaks Lane and Dinkelspiel Station Lane	There is no stop sign turning left onto Dinkelspiel Station Lane from Fair Oaks Lane. There should be an incoming traffic sign here.
	Atherton	General Comment	Bicycle		It's safer when cars aren't allowed to park on the corners of busy roads. This gives more visibility for cyclists at intersections.
	Atherton	Non-Highway Priority Intersection	Bicycle	Valparaiso Ave. at Menlo School	
	Atherton	General Comment	Bicycle		Motorists have a lot of close calls with bikes because there's not enough light at night to reflect off the bike reflectors.
	Atherton	Non-Highway Priority Intersection	Bicycle	Middlefield Rd. north of 9th Ave.	This section of Middlefield is not safe for cyclists, roads are narrow and cars backing out of parking spots.
	Atherton	Non-Highway Priority Intersection	Bicycle	Alameda de las Pulgas	There are a lot of bicycle priority green dots on the map, but biking here is pretty safe because there is a bike lane and there are shoulders.
	Atherton	Non-Highway Priority Intersection	Pedestrian	Isabella Ave. between El Camino Real and Elena Ave.	Cars speed very fast down Isabella and the curve of the road creates blind turns and makes it very dangerous. We need mirrors to see around blind turns and to see approaching vehicles, as cyclists and pedestrians.
	Atherton	General Comment	Pedestrian	Neighborhood east of Middlefield Rd.	There should be better pedestrian support in this area, including better sidewalks
	Atherton	Non-Highway Priority Intersection	Bicycle	Atherton Ave immediately West of El Camino Real	There is a curve on Atherton Ave. here that has a curb in the middle of the road. This makes it hard for cars to pass cyclists.
	Atherton	Non-Highway Priority Intersection	Motor Vehicle	Selby Lane and Stockbridge Ave.	Turning left onto Stockbridge from Selby Lane is very dangerous.

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Bayshore Blvd. and Tunnel Ave. and Old County Road	This intersection is dangers; fatalities happen here every year
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Bayshore Blvd. and San Bruno Ave.	You can only make a right turn at this intersection. The block on left turns from Bayshore onto San Bruno should only be in effect during commuting hours. Otherwise it makes it so much longer to access the neighborhoods on San Bruno Ave.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Tunnel Ave. near Bayshore Blvd. and Tunnel Ave. and Old County Road intersection	There is no railing along the railroad tracks to protect pedestrians.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	San Benito Rd.	Cars speed on this road and the cars parked along the windy road make it very dangerous. This is also near a school and there is no sidewalks for children.
	Brisbane	General Comment	Pedestrian		Need to even out the sidewalks all over Brisbane
	Brisbane	General Comment	Bicycle		In general, it would be nice to have clearer bike lanes throughout Brisbane. Right now it's not clear where it's safe to bike.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Valley Dr.	Valley Dr. needs better street lighting, it's really dark at night.
	Brisbane	Highway Priority Intersection	Motor Vehicle	101 Exit to Bayshore Blvd.	The right side of this exit is fenced off and cars go too fast, it's not safe
	Brisbane	Non-Highway Priority Intersection	Pedestrian	San Bruno Ave. and Mendocino St.	People run through stop signs at this intersection frequently, and San Bruno Ave. is the walkway kids use to get to Brisbane Elementary School. Larger pedestrian walking signs are needed on San Bruno.
	Brisbane	Non-Highway Priority Intersection	Bicycle	Bayshore Blvd.	Would like separated bike lanes on Bayshore to make it safer to cycle.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Glen Park Way between San Bruno Ave. and Humboldt Rd.	Cars speed over 45 mph on this road going up the hill. Speed bumps and stop signs are needed along this road to curb speeding.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Mariposa St.	Going up Mariposa towards Brisbane Elementary there are cars parked along the road and there's low visibility. Cars park in the sidewalk and kids can't use the sidewalk to safely walk to school. This is very dangerous
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Alvarado St. between Visitacion Ave. and San Bruno Ave.	Cars go too fast down Alvarado and there is a preschool and elementary school on Alvarado. Need speed bumps on this street
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	5-way intersection (Old County Rd., San Francisco Ave., Visitacion Ave., San Bruno Ave.)	This intersection is very poorly lit at night and visibility of the other cars needs to be improved.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	San Benito Rd.	Cars speed down San Benito and there are no sidewalks for kids to walk down the super narrow street every morning to the elementary school. Need stop signs because this is a super curvey road with little visibility.
	Brisbane	Non-Highway Priority Intersection	Bicycle	Valley Dr.	Should take out a lane on each side, i.e. lane narrowing, to put in a safer bike lane. There isn't much traffic on this road so it won't be a problem to take out the lanes.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	5-way intersection (Old County Rd., San Francisco Ave., Visitacion Ave., San Bruno Ave.)	Coming down Visitacion towards this intersection, cars and trucks park outside of the hardware store and you can't see the oncoming traffic on San Bruno Ave. Shouldn't allow parking there, it's dangerous.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	San Bruno Ave.	Near Brisbane Elementary, it is so dangerous when cars speed and kids are walking to school.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Bayshore Blvd. to Thomas Ave.	Route from Bayshore to Thomas is very badly lit and there's low visibility. Need street lighting
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	West of San Bruno Ave.	These roads are too curvy and there's low visibility
	Brisbane	General Comment	Bicycle		It would be great to have a bike path or walkway to make it safe walking South on Bayshore to get to the Bayfront. It's a beautiful walk but dangerous to even attempt now.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	5-way intersection (Old County Rd., San Francisco Ave., Visitacion Ave., San Bruno Ave.)	No one stops at stop signs at this intersection. Should limit speed on Visitacion.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	San Bruno Ave. and Santa Clara St.	Need to enforce stop sign at this intersection

Event/ Date	City	Highway or Non-Highway Priority Intersection?	Pedestrian, Bicycle Priority, or Motor Vehicle concern?	Specific Road/Intersection?	Feedback
Brisbane Farmers Mark	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	5-way intersection (Old County Rd., San Francisco Ave., Visitacion Ave., San Bruno Ave.)	Add a signal at this intersection; people almost get hit all the time and cars run through the stop sign. This is the most dangerous intersection in the city.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	San Benito Rd.	Cars drive too fast on this road and it's dangerous for other cars, pedestrians.
	Brisbane	Highway Priority Intersection	Bicycle	Bayshore Blvd. at 101 Exit	The bike crossing at this exit is very dangerous
	Brisbane	Non-Highway Priority Intersection	Bicycle	Bayshore Blvd.	There is no separated bike lane on Bayshore and it's easy to be hit by cars. Need a separate bike path here and physical barrier between bikes and the road.
	Brisbane	Highway Priority Intersection	Motor Vehicle	On stretch of 101 near Brisbane	Trees cover signage along 101 near Brisbane and makes them hard/impossible to read.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	San Bruno Ave. near Brisbane Elementary	The new drainage infrastructure on San Bruno around the elementary school is a tripping hazard, especially as it's in the way of kids walking to and from school.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Sierra Point East	There needs to be more signage on Sierra Point East.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Sierra Point Rd.	The sidewalks on Sierra Point are really dangerous for pedestrians, especially East of Glen Park Way
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	5-way intersection (Old County Rd., San Francisco Ave., Visitacion Ave., San Bruno Ave.)	There should be a roundabout at this intersection to make it safer
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Sierra Point Rd.	The road is very bumpy, needs resurfacing
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Bayshore Blvd. and Old County Rd.	As you make a left from Bayshore onto Old County, there are very uneven road surfaces that need improvement
	Brisbane	Non-Highway Priority Intersection	Bicycle	Tunnel Rd. underpass	The underpass on Tunnel Rd. needs a bike lane
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	5-way intersection (Old County Rd., San Francisco Ave., Visitacion Ave., San Bruno Ave.)	People don't stop at this intersection and it is so dangerous, especially for pedestrians. Need a camera here to capture those who don't stop and have flashing lights for pedestrians.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	5-way intersection (Old County Rd., San Francisco Ave., Visitacion Ave., San Bruno Ave.)	This intersection is confusing and dangerous
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	San Bruno Ave. near Brisbane Elementary	We need a stoplight on San Bruno near Brisbane Elementary
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Tunnel Rd. underpass	When crossing Tunnel Rd. at the bottom of the bridge underpass going towards South City, people blow past the stop sign and the stop sign gets covered by trees.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Kings Rd.	People drive too fast through the curvy, narrow road, especially in the morning. There are no sidewalks to safely walk as pedestrians.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Humboldt Rd. and Placer Way	This intersection is so dangerous because it's curved and a blind corner. People don't stop at the stop sign and it's dangerouos for pedestrians.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Visitacion Ave. and Monterey St.	At this intersection people don't stop at stop signs and many pedestrians are nearly hit here.
	Brisbane	General Comment	General Comment		Should lower speed limit on narrow roads, especially in the hills.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Bayshore Blvd.	People drive too fast here, there are no crosswalks and it is not pedestrian friendly.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Visitacion Ave. and Mariposa St.	This is not an easily visible intersection for pedestrians crossing. Should have a 4-way stop here.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Tunnel Ave., Lagoon Rd.	These roads are too narrow and very bouncy. There is a lot of traffic and a lot of biking.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Visitacion Ave. and Mariposa St.	Curbs in the middle of the road make turning very hard; should remove these.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	Visitacion Ave. and Klamath St.	There should be a diagonal intersection here for people to easily cross to the coffeeshop.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	Sierra Point Rd. and San Benito Rd.	Very dark at both intersections of San Benito and Sierra Point. The biggest problem is the western intersection.
	Brisbane	Non-Highway Priority Intersection	Motor Vehicle	San Bruno Ave.	All stoplights need to be more visible along San Bruno, they are covered by trees.
	Brisbane	Non-Highway Priority Intersection	Pedestrian	San Bruno Ave. near Brisbane Elementary	Dangerous when people fly down San Bruno by the elementary school. We need crosswalks with buttom to turn on flashing lights and more signage.
	Brisbane	Highway Priority Intersection	Bicycle	101 exit, Bayshore Blvd. and Oyster Point	Navigating this intersection is super dangerous for bikers because cars are rushing to get onto the freeway and the bike lane totally disappears. There is no sidewalk or bikelane for this very high traffic area.

Appendix C

Crash Analysis Memo

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155 Grand Avenue, Suite 505
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P 510.839.1742

Technical Memorandum

February 5, 2024 Project# 28717

To: Jeff Lacap and Eva Gaye, C/CAG

From: Kittelson & Associates, Inc. and Safe Streets Research & Consulting, LLC

RE: C/CAG LRSP – Final Task 3 Existing Conditions Analysis Memo

INTRODUCTION

This memo summarizes the methodology and key findings for hot spot and systemic crash analysis in San Mateo County as part of the C/CAG LRSP. Except where noted, the analysis was conducted countywide. The memo is organized as follows:

- **Key Findings:** Provides a high-level snapshot of systemic findings that can be used to identify priority locations countywide and within jurisdictions.
- **Summary of Findings:** Provides a more thorough description of findings, organized by travel mode (pedestrians, bicyclists, motor vehicles).
- **Methodology:** Describes how analysis data were obtained, processed, and analyzed
- **Hot Spot Analysis:** Uses crash data to develop mode-specific high injury networks
- **Descriptive Systemic Analysis:** Analyzes countywide crashes to assess crash risk associations among environmental, location, roadway geometry, behavioral, and demographic variables in available data.
- **Jurisdiction-Specific Analysis:** Supplements the countywide analysis by providing a per-jurisdiction breakdown for the nine county jurisdictions without plans of top crash factors, roadway locations along the identified HINs, and intersections with the most frequent and severe crash history.
- **Next Steps:** Provides a summary of next steps for the project in relation to the findings in this memo.

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KEY FINDINGS

Hot Spot Analysis

The analysis identified high injury networks were developed for each travel mode, and top intersections were identified based on crash frequency and severity. These locations include state highways and local streets and will be used in subsequent project phases to identify project locations. Additionally, the characteristics of the HIN and crashes along them indicate risk factors that can be used to screen and identify priority locations.

All HINs, and the resulting combined HIN, can be viewed dynamically at this link. Static maps are contained in the body and appendix of this memo.

- The pedestrian HIN is represented by 98 miles of the street network that had the highest concentration of weighted crashes on a per mile basis. The minimum weighted crash threshold was substantially higher along state routes (i.e., Caltrans roadways) compared to local roads. This differential scoring was used to keep state routes from dominating the HIN and precluding insights about locally-controlled roadways. The Pedestrian HIN covers just 3.4 percent of the street network for the county but accounts for half of all pedestrian crashes and 69 percent of F/SI pedestrian crashes from 2018-2022. Roughly 12 percent of the pedestrian HIN is along a state route and 10 percent of the pedestrian HIN is along El Camino Real (SR 82).
- The bicyclist HIN was produced using the same approach as the pedestrian HIN (i.e., evaluating state routes separately from local streets and using the same relative scoring). The bicyclist HIN represents 96 miles of the street network and accounts for 3.3 percent of the street network. Twenty-seven percent of the network is along a state route, with El Camino Real comprising nearly 10 percent of the bicyclist HIN mileage. Most crashes along the bicyclist HIN involved both a bicyclist and a motorist (82 percent of total crashes; 67 percent of F/SI crashes), while the remaining crashes were solo bicyclist crashes.
- The Motor Vehicle HIN was developed using the same sliding window analysis as the pedestrian and bicyclist HIN but used the same crash threshold for state highways and local roadways. The motor vehicle HIN represents 283 miles of the street network and accounts for about 10 percent of the street network, 63 percent of fatal/injury motor vehicle crashes, and 44 percent of F/SI motor vehicle crashes. Forty-two (42) percent of the network is along a state route.

Systemic Analysis

Similarities in Modal Findings

The following findings generally held true across modes:

- **Crashes by year:** Crashes reduced at the start of the pandemic (2020-21) but increased in severity during that time. Crash frequencies rebounded somewhat in 2022, consistent with traffic volumes picking back up and activities reopening.

- **Lighting:** Lighting conditions have a strong correlation with crash severity across modes. Although most crashes occur in daylight, crashes occurring in dark conditions are more severe—especially in dark, unlit conditions.
- **Crash Severity by Location:** Across modes, segment and unsignalized intersection pedestrian crashes tended to be more severe than signalized intersections. This is likely explained by speed – for example, no intersection control along a major roadway unsignalized intersection. Higher speeds result in higher kinetic energy and limited reaction time, both of which may contribute to greater injury severity from these crashes. The per-intersection crash rate was higher for signalized intersections across all modes, which makes sense given that signalized intersections are typically installed at locations that serve higher traffic volumes and that the vast majority of intersections in the County are unsignalized.
- **Functional Classification:** Primary and secondary roadways are overrepresented in crashes across modes although they only make up 3 and 7 percent of the roadway network by mileage. Residential streets account for relatively high shares of overall crashes but lower shares of F/SI crashes and markedly lower shares per roadway mile.
- **Intersection Functional Classification:** Crashes for all modes most frequently occurred at the intersection of higher order and lower order roadways. Four combinations dominate crash and F/SI crash frequency, shown below. Across all modes, intersections with primary roadways as the highest functional class have the highest rate of F/SI crashes per 100 intersections.

Table 1: Most Common Intersection Functional Classes, All Modes (2018-2022)

Intersection Functional Classes	% Share of Intersection Crashes (% Share of F/SI Crashes)		
	Pedestrians	Bicyclists	Motor Vehicles
Secondary-residential	23 (25)	28 (24)	21 (18)
Primary-residential	20 (23)	17 (16)	24 (23)
Residential-residential	19 (13)	18 (13)	14 (!6)
Tertiary-residential	16 (13)	16 (18)	11 (12)

Source: TIMS, C/CAG, OSM 2023

- **Speed:** For all modes, roadways with 25 mph speed limits show relatively high shares of overall crashes but lower F/SI shares. Both shares are low compared to the proportion of the network they comprise (80 percent 25 mph and below). Higher speed roadways (45 mph and above) showed some of the highest shares of F/SI crashes and average equivalent property damage only (EPDO) scores (for more information on EPDO scores, see page 34).
- **Age:** Across all modes, victims between the ages of 15 and 34 are more likely to be injured including F/SI as result of traffic safety issues on average than other groups. Victims between the ages of 50 to 69 and 75 to 84 are more likely to be severely injured as a result of traffic

safety issues on average than other groups. Research has found that an injury to a 65-year-old is approximately the same the injury a 30-year old would experience at *11 mph higher*[1].

- **Sex:** Males are more likely to be crash victims and are more likely to be injured than females. They are killed or severely injured at a rate about 1.3 times higher than their share of the population.
- **Race:** Black and Hispanic travelers are victims in crashes at rates 2.2 time and 1.2 times their share of the population, respectively.

Differences in Modal Findings or Unique Modal Findings

- **Proximity to Transit Stop:** Intersections within 250 feet of a transit stop had much higher crash frequencies and rates per intersection than those farther away from transit stops, regardless of functional classification.
- **Roadway Conditions:** A low proportion of crashes (for all modes) occurred with any type of non-typical roadway condition, but 13 of the 17 such bicyclist e solo bicyclist crashes. This underscoring the vulnerability of bicyclists, the need for well-maintained roads, and perhaps the low likelihood of bicyclist crash reporting at lower severity levels.
- **Location type:** The most frequent locations vary by mode: pedestrian and bicyclist crashes most frequently occur at unsignalized intersections, but for motor vehicles the most frequent location is along roadway segments—which is where more F/SI bicyclist crashes occur than any other locations. To target trends systemically, agencies may consider different location types by mode.
- **Intersection Number of Legs:** Most pedestrian crashes and F/SI crashes occurred at four-legged intersections, even though four-legged intersections represent only one-quarter of the network. However, most bicyclist crashes and bicyclist F/SI crashes occurred at three-legged intersections (though the per-intersection rate is lower than four-leg intersections). For pedestrians the four-leg intersections may simply introduce more motor vehicle throughput, larger intersection size, and greater overall complexity. For bicyclists, there may be network/bicycle route reasons why three-leg intersections are the majority. A more robust roadway and intersection spatial data inventory could allow further insight into these trends to inform potential solutions.
- **Crash types and pre-crash movements:** The dynamics of crash types and pre-crash movements are meaningfully different across modes, both in terms of the data features that best describe trends and the most frequent movement patterns. High-level mode-specific findings are discussed in the Summary of Findings, and more detail is provided in relevant memo sections.
- **Alcohol Usage:** A smaller proportion of pedestrian and bicyclist crashes included a party under the influence of alcohol compared to motor vehicle crashes: four percent of pedestrian crashes, less than two percent of bicyclist crashes, and 10 percent of motor vehicles crashes. F/SI proportions were higher across the board, indicating that such crashes are more severe, but the numbers still differed by mode: six percent of F/SI pedestrian crashes, just under five percent of F/SI bicyclist crashes, and 19 percent of F/SI motor vehicle crashes.
- **Sex:** A higher share of males killed or severely injured in crashes are bicyclists (144 or 666, or 22 percent) than females (33 of 319, or9 percent), and a much higher share of bicyclists are male (144 or 177, or81 percent) than female (33 of 177, or19 percent).

[1] Tefft, Brian C. 2013. Impact speed and a pedestrian's risk of severe injury or death. Accident Analysis & Prevention, 50: 871-878. https://doi.org/10.1016/j.aap.2012.07.022.

- **Race:** Over half of bicyclist F/SI victims are white, higher than their 38 percent share of the population and commensurate 37 percent share of drivers fatally or severely injured. Thirty (30) percent of pedestrians fatally or severely injured were Hispanic, which is 1.25 times higher than their 24 percent share of the population.

Data Recommendations

The degree of systemic analysis findings possible is limited by data availability. In some cases, available findings point toward likely or possible causal factors, but without more detailed spatial data inventory we cannot draw conclusions more definitively. Some examples for potential future spatial data collection efforts include lane numbers, sidewalk inventory, presence and type of pedestrian crossing treatments, systemwide vehicle/pedestrian/bicycle volumes, and bicycle facility type/year constructed. This is by no means an exhaustive list but is indicative of the types of data that would enable further explanation of potential causal relationships indicated by this analysis. The Countywide LRSP may make data collection and inventory recommendations along these lines to further improve understanding of safety countywide.

SUMMARY OF FINDINGS BY MODE

This section provides a brief overview of findings, listed by travel mode and by topic area. Some findings refer to overall EPDO score, which is a measure that combines crash frequency and severity by assigning weighted values to crashes and presenting a weighted total score. The measure is described in more detail in the Motor Vehicle High Injury Network section on page 34.

Pedestrians

Crashes by Year

- There was a sharp reduction in crashes at the start of the pandemic; however, crashes appear to have slightly increased in severity during the core pandemic years, from 18-20 percent of total EPDO scores in 2018-2019 to 22-23 percent of total EPDO scores in 2020-2021.
- Pedestrian crash frequencies increased in 2022 as pandemic-related restrictions ease and travel/activities begin to increase, although the overall share of severe and fatal crashes dropped back to about 16 percent.

Lighting Conditions

- Lighting condition has a strong correlation with F/SI outcomes crashes that occurred in darkness or low-light (i.e., dusk or dawn) conditions were much more likely to result in a F/SI outcome (27 percent) compared to those that occurred during daylight (15 percent), and this disproportionality was even stronger in dark, unlit conditions (32 percent F/SI).

Proximity to Transit Stop

- Intersections within 250 feet of a transit stop had a crash rate of 20 crashes per 100 intersections, compared to just four crashes per 100 intersections for those intersections further away.

Crash Locations

- Most crashes occurred at an intersection (76 percent of all crashes; 68 percent of F/SI crashes), with the remainder coded to segment locations (24 percent of all crashes; 32 percent of F/SI crashes).
- Segment and unsignalized intersection pedestrian crashes tended to be more severe, with an average EPDO score of 51 and 40.5, respectively, compared to crashes at signalized intersections (average EPDO score of 30.5). Motorist speeds may be higher midblock than at intersections, resulting in higher kinetic energy and limited reaction time, both of which may contribute to greater injury severity from segment crashes.

Functional Classification

- Primary streets had the highest rate of crashes per 100 miles (340 crashes per 100 miles) and F/SI crashes (81 F/SI crashes per 100 miles), followed by secondary streets (137 crashes per 100 miles; 29 F/SI crashes per 100 miles). This finding supports research showing consistent pedestrian crash risk along major arterials, which generally have higher vehicle speeds, higher vehicle volumes, and greater crossing widths[2].

[2] Schneider, R.J., Sanders, R.L., Proulx, F.R., & Moayyed, H. (2021). United States Pedestrian Crash Hot Spot Locations and Characteristics. *Journal of Transport & Land Use*, 14:1, 1-23. DOI: 10.5198/jtlu.2021.1825

Functional Classification - Intersection Locations

- Crashes occurred most frequently at
  - secondary and residential streets (23 percent of all crashes; 28 percent of F/SI crashes),
  - primary and residential streets (20 percent of all crashes; 23 percent of F/SI crashes), and
  - residential and residential streets (19 percent of all crashes; 13 percent of F/SI crashes).
- Intersections between a primary and either another primary, a secondary, or a tertiary street had some of the highest rates of F/SI crashes and EPDO scores per 100 intersections.

Intersection Control

- Most intersection crashes (63 percent) and F/SI crashes (61 percent) occurred at unsignalized intersections.
- Crashes were concentrated at signalized intersections (51 crashes per 100 intersections; 9 F/SI crashes per 100 intersections).
- Crashes at signalized intersections most frequently involved:
  - A pedestrian crossing in a crosswalk was struck by a left turning motorist (38 percent of all crashes; 29 percent of F/SI crashes).
  - A pedestrian crossing in a crosswalk who was struck by a right turning motorist (23 percent of all crashes; 9 percent of F/SI crashes).
- Crashes that involved a pedestrian crossing in a crosswalk at a signalized intersection with a motorist going straight accounted for the second largest share of F/SI crashes (23 percent); these crashes were also disproportionately severe when they occurred, with 42 percent resulting in a F/SI outcome.

Number of Legs at Intersection

- Most pedestrian crashes (59 percent) and F/SI crashes (61 percent) occurred at four-legged intersections, even though four-legged intersections represent only one-quarter of the network. This finding likely reflects motor vehicle throughput, intersection size, and greater overall complexity.

Posted Speed Limit

- Roadways with 25-mph speed limits are underrepresented in F/SI crashes even though they accounted for the largest share of pedestrian crashes. They accounted for 38 percent of pedestrian crashes and 34 percent of F/SI crashes, but 80 percent of the street network has a speed limit of 25mph or less.
- Streets with a posted speed limit of 45 mph had the second largest share of crashes (27 percent) and F/SI crashes (29 percent), followed by 35-mph streets (23 percent of all crashes; 27 percent of F/SI crashes. These higher speed streets had some of the highest percentages of crashes resulting in an F/SI outcome, average EPDO scores, and EPDO scores per 100 miles. These findings support the current understanding that higher speed roads have serious safety implications for vulnerable road users.

Pre-Crash Movements

- Most pedestrian crashes involved:
  - A pedestrian crossing at an intersection with a motorist turning left (24 percent). These crashes most frequently occurred at a signalized intersection (45 percent), but most of the F/SI crashes with this crash type occurred at unsignalized intersections.

  - A pedestrian crossing at an intersection with a motorist proceeding straight (15 percent). These crashes most frequently occurred at unsignalized intersections for overall crashes (77 percent) and F/SI crashes (59 percent).
  - A pedestrian crossing not in a crosswalk with a motorist proceeding straight (13 percent). These crashes most often occurred at segment locations (46 percent of all crashes; 53 percent of F/SI crashes), followed by unsignalized intersections (39 percent of all crashes; 31 percent of F/SI crashes).
- Of those three crash types, those that involved a motorist proceeding straight had a higher share of crashes that resulted in a F/SI outcome and a higher average EPDO score.

Violation Types

The most common violations Included:

- *pedestrian right of way*[3] (50 percent of all crashes; 37 percent of F/SI crashes)
- *pedestrian violation* (19 percent of all crashes; 30 percent of F/SI crashes)
- *unknown* (5 percent of all crashes; 10 percent of F/SI crashes)

Alcohol Usage

- The vast majority of crashes did not have any road user found to be under the influence of alcohol (96 percent of all crashes; 94 percent of F/SI crashes).
- Despite the small sample size, crashes in which a pedestrian was reported to be under the influence of alcohol were much more likely to result in a F/SI .

Bicyclists

Crashes by Year

- Bicyclist crash frequencies were highest during the first two years of the five-year study period and lowest during the core period of the COVID-19 pandemic (2020-2021).
- Crash severity appears to be getting worse. Bicyclist injury trends showed that 20-23 percent of crashes resulted in a F/SI outcome in 2021-2022, compared to 11-15 percent of crashes in 2018-2020.

Lighting Conditions

- The vast majority of bicyclist crashes occurred during daylight conditions (84 percent), which fits with when most bicyclist trips occur.
- Bicyclist crashes were more likely to result in a fatal or severe injury outcome during dark lighting conditions (21 percent) compared to daylight conditions (16 percent).

Weather Conditions

- More than 90 percent of total crashes and F/SI bicyclist crashes occurred during clear weather conditions.

Roadway Conditions

- Most crashes occurred at locations with no unusual conditions (95 percent of crashes).
- Though a comparatively small sample, the majority of F/SI bicyclist crashes that occurred with any type of non-typical roadway condition (n=17) were solo bicyclist crashes (n=13), underscoring the vulnerability of bicyclists and the need for well-maintained roads.

[3] See Appendix F for a definition of violation types.

Crash Locations

- Most bicyclist crashes (43 percent) occurred at unsignalized intersections, but most F/SI crashes occurred at segment locations (43 percent). Roughly one-third of the F/SI crashes at unsignalized intersections were solo bicyclist crashes.
- Among the crashes at unsignalized intersections, and excluding solo bicyclist crashes, it was most common for both parties to be traveling in the same direction (e.g., an overtaking or dooring crash) for both overall crashes (45 percent) and F/SI crashes (58 percent).
- Among the unsignalized same-direction crashes, most involved both the bicyclist and motorist going straight (17 percent).
- Most F/SI crashes at unsignalized intersections involved both parties traveling in perpendicular directions, either both going straight (n=7) or the bicyclist going straight and the motorist making a left turn (n=4).

Functional Classification

- Most bicyclist crashes occurred along:
  - secondary streets (39 percent),
  - residential streets (20 percent), and
  - primary streets (20 percent).
- Residential streets accounted for the second largest share of crashes and third largest share of F/SI crashes but had the lowest rates of crashes per 100 miles (11) and F/SI crashes per 100 miles (7) compared to primary streets (260 crashes per 100 miles; 224 F/SI crashes per 100 miles) and secondary streets (177 crashes per 100 miles; 128 F/SI crashes per 100 miles).

Functional Classification - Intersection Locations

- Crashes occurred most frequently at
  - secondary-residential intersections (28 percent of all crashes; 24 percent of F/SI crashes),
  - residential-residential intersections (18 percent of all crashes; 13 percent of F/SI crashes),
  - primary-residential intersections (17 percent of all crashes; 16 percent of F/SI crashes), and
  - tertiary-residential intersections (16 percent of all crashes; 18 percent of F/SI crashes).
- Crashes at intersections with only non-residential streets had a substantially higher rate of crashes and F/SI crashes per 100 intersections.

Intersection Control

- Most crashes occurred at unsignalized intersections, accounting for 67 percent of all crashes and 70 percent of F/SI crashes. When looking at crashes per 100 intersections, crashes were concentrated at signalized intersections (38 crashes per 100 intersections; 5 F/SI crashes per 100 intersections). The percentage of crashes that resulted in a F/SI outcome was comparable between location types, with 15 percent of crashes resulting in a F/SI outcome at unsignalized intersections compared to 13 percent at signalized intersections.

Number of Legs at Intersection

- Unlike pedestrian crashes, most bicyclist crashes (52 percent) and bicyclist F/SI crashes (55 percent) occurred at three-legged intersections. However, the three-legged locations still had a lower rate of crashes and F/SI crashes per 100 intersections compared to four-legged intersections.

Posted Speed Limit

- Higher-speed streets tend to have very high EPDO scores per 100 miles. Most crashes and F/SI crashes occurred along 45-mph roadways (32 percent of all crashes; 31 percent of F/SI crashes), while only 8 percent of the network is made up of 45-mph streets.
- Streets with a posted speed limit of 40 mph had the largest rate of crashes per 100 miles (n=166) and F/SI crashes per 100 miles (n=138). Given that these streets comprise less than one percent of the network, these statistics indicate that a disproportionate share of overall crashes and F/SI crashes occur on these roads.

Pre-Crash Movements

- Most bicyclist crashes involved:
  - Both roadway users proceeding straight at the time of the crash (21 percent of all crashes; 18 percent of F/SI crashes). These crashes occurred most frequently at unsignalized intersections (53 percent), whereas F/SI crashes occurred most frequently at signalized intersections (43 percent).
  - A bicyclist proceeding straight and a motorist turning left (12 percent of all crashes; 9 percent of F/SI crashes). Most of these crashes occurred at unsignalized intersections (25 percent of all crashes; 46 percent of F/SI crashes).
  - A bicyclist proceeding straight and a motorist turning right (11 percent of all crashes; 6 percent of F/SI crashes). Most of these crashes occurred at unsignalized intersections (43 percent of all crashes; 29 percent of F/SI crashes) and signalized intersections (32 percent of crashes; 53 percent of F/SI crashes).

Violation Types

The most frequent violation types included:

- *automobile right of way* (19 percent of crashes; 15 percent of F/SI crashes)
- *unsafe speed* (18 percent of crashes; 28 percent of F/SI crashes)
- *improper turning* (17 percent of crashes; 12 percent of F/SI crashes)

Alcohol Usage

- Few reported crashes identified either the motorist or bicyclist as being under the influence of alcohol (less than two percent of all crashes; less than five percent of F/SI crashes).

Motor Vehicles

Crashes by Year

- Motor Vehicle crash frequencies were highest during the first two years of the five-year period and lowest during the core period of the COVID-19 pandemic (2020-2021).
- Crash severity has decreased, with the highest crash severity observed in 2018 which then decreased during the pandemic years (2020-2021).

Lighting Conditions

- About 26 percent of motor vehicle crashes were observed to have occurred in the dark. Crashes with no streetlights had nearly double the per-crash EPDO score of daylight crashes.

Crash Locations

- About 39 percent of motor vehicle crashes and 52 of F/SI motor vehicle crashes occurred at a segment or mid-block location. Unsignalized intersection and roadway segment crashes are both more severe on average than signalized intersection crashes.

Functional Classifications

- Secondary roadways are overrepresented in in F/SI share (36 percent) compared to total share (29 percent).
- Intersection crashes along primary and secondary roads account for the majority of intersection crashes (36 and 29 percent each) and similarly large shares of F/SI crashes (35 and 29 percent). The highest average EPDO scores were at intersections along the trunk and primary roadway system where they intersect with lower-order intersections. When looking at the signalized versus unsignalized breakdown of these combinations, the unsignalized intersections all have higher average EPDO scores—indicating that unsignalized minor-street intersections along arterial roadways have a disproportionate severity burden in the county.

Intersection Control

- The majority of motor vehicle crashes occurred at unsignalized intersections, but signalized intersections have a much higher crash rate per 100 intersections.

Posted Speed Limit

- Higher-speed streets tend to have very high EPDO scores. Most crashes and F/SI crashes occurred along roadways with speed greater than 40-mph roadways (56 percent of all crashes; 70 percent of F/SI crashes).
- Notably, almost 47 percent of the 40mph+ unsignalized intersection crashes occurred along secondary roadways A majority of crashes at 45 mph or higher intersections were at unsignalized intersections (56 percent)
- Roadways with posted speed limits of 40 mph or higher consist of 12 percent of County roadways but make up 44 percent total crashes and the majority (55 percent) of total F/SI crashes. Crashes that occurred on roadways with a posted speed limit of 40 mph or higher had an average EPDO per mile that was more than thirteen times that of crashes occurring on roadways with a posted speed limit of 25 mph or less.

Crash Types

- At intersections, the most frequent and severe motor vehicle crashes were the following types and locations:
  - Broadside 61 percent occurred unsignalized intersections (66 percent of EPDO score)
  - Rear end 55 percent at occurred at signalized intersections (51 percent of EPDO score)
  - Head-on 51 percent at occurred at signalized intersections (59 percent of EPDO score)
- On roadway segments, the predominant crash types are rear end (29 percent), hit object (21 percent), and broadside (18 percent). Hit object crashes account for disproportionately large 35 percent of F/SI crashes and 30 percent of EPDO score, compared to 21 percent overall.

Violation Types

The most frequent violation types included:

- *Unsafe Speed (27 percent of all crashes, 23 percent of F/SI crashes)*
- *Automobile right of way* (19 percent of crashes; 12 percent of F/SI crashes)
- *Improper turning* (18 percent of crashes; 19 percent of F/SI crashes)

Alcohol Usage

About 10 percent of the motor vehicle crashes included a driver under the influence, but those accounted for 19 percent of F/SI crashes and had an average EPDO about 1.5 times as high as other motor vehicle crashes.

METHODOLOGY

This section outlines the elements related to two analyses that have been conducted: a **hot spot analysis** and a **systemic crash analysis**. The elements described in this section listed below are produced for the county as a whole and for the selected jurisdictions that do not have an existing safety plan.

Hot Spot Analysis

The hot spot analysis leveraged a sliding window approach to identify countywide HINs. Both are described in more detail below.

Sliding Window Analysis

Sliding Window Analysis is a segment-based approach that calculates crash frequency along a stretch of roadway (often weighted by injury severity). The sliding windows analysis consists of a virtual window of a predetermined length that is moved along the street network at predetermined step lengths and aggregates crashes that are within each window. One-mile window lengths and 1/10th-mile step increments were used in this analysis. Additionally, only fatal, severe injury, and minor injury crashes were included in the sliding window analysis and HIN development process. This decision was made to prioritize locations that have a history and high concentration of crashes that resulted in injury.

Figure 1 provides a graphical representation of the methodology. The figure shows segmentation (in purple) of a two-mile road using an analysis length of one-mile, with an analysis interval of a half-mile. Three segments are created. The crashes, shown in blue, are then associated with each segment, double-counting crashes as they overlap with one or more segments. Note that as the analysis interval decreases, the number of overlapping windows will increase if the analysis length remains constant, and vice-versa.

Figure 1: Example of Sliding Window, Count of Crashes for Mile Segments

High Injury Networks

High injury networks are constructed by identifying a subset of the sliding window outputs. To produce an HIN, a minimum crash frequency or weighted aggregate value threshold is identified by reviewing the distribution of crashes for each mode along the HIN and the percentage of the network that is along the HIN.

HINs are a blend of art and science, needing to be large enough to be meaningful, but not so large as to be meaningless. This balance is even more pronounced for larger HINs, e.g., at the county level, that cover vastly different land use patterns and city sizes. To strike this balance, each mode-specific HIN is produced by an initial determination of a minimum threshold for the weighted crash value of segments to be included in the HIN, followed by review of the distribution of crashes for each mode along the relevant HIN and the percentage of the network that is along that HIN. If necessary, the threshold is adjusted to achieve the sought-after balance described above.

HINs can make for a useful communication tool because the data are reduced to a simple binary: streets on and off the HIN. At the same time, this data reduction masks variation, so the underlying granular sliding windows data may be more useful for internal prioritization procedures. Unlike intersection hot spot analysis, sliding windows analysis and HINs can identify entire corridors that have experienced patterns of crashes, leading to the possibility of systemic treatments.

Systemic Descriptive Analysis

A **systemic descriptive analysis** was conducted to identify patterns, trends, and potential risk factors based on five-year County crash data. The descriptive analysis identifies environmental, design, and user characteristics most associated with F/SI outcomes. The analysis includes the development of mode-specific crash types, which will further help develop a better understanding of the contributing factors which can lead to a more targeted and effective countermeasure selection process.

These findings will be used to define a set of Safe System-aligned recommendations, to target roadway or behavioral factors for those recommendations, and to provide prioritization and network screening inputs. Analyzing crashes at the countywide level provides sufficient number of observations to identify trends and allows for identification of issues that occur frequently across the network in similar locations but have may not occurred repeatedly at the *same* locations.

The list below includes common elements that have been included in a descriptive crash analysis. For each element, the frequency of overall crashes and fatal/severe injury (F/SI) crashes are analyzed to help identify factors that contribute to crashes for each mode.

- Crashes by Year
- Environmental/land use variables:
  - Lighting condition

  - Weather conditions
  - Roadway conditions
  - Proximity to transit stop
- Crash locations and roadway characteristics:
  - Intersections versus roadway segment
  - Intersection functional classification, control, number of legs, and speed limits
  - Roadway functional classification and speed limits
- Roadway variables, mid-block crashes:
  - Functional classification
  - Posted speed limit
- Crash dynamics/behaviors:
  - Crash type analysis using the Location Movement Classification Method
  - Crash types and pre-crash movements for first two primary parties
  - Primary collision factors and violation types
  - Alcohol/Drug usage
- Demographic, vehicle, and victim variables:
  - Victims by age (compared to county population)
  - Victims by sex (compared to county population)
  - Victims by race (compared to county population)

Other variable relationships were explored but omitting from findings in cases where findings were not novel, unexpected, or relevant to future phases of the project. These analysis results are the basis for identifying countywide risk factors and emphasis areas.

Crash Data Overview

This section provides an overview of the five years of crash data used for this analysis. The data were downloaded from the Transportation Injury Mapping System[4] (TIMS) Crash database representing the full years 2018 through 2022.

The crash, party and victim data tables were pulled from TIMS and processed for analysis. These tables have a relational structure, which is common for storing crash data. For every reported crash, there is one crash record. For every crash, the associated party table contains one entry for each primary actor in a crash: drivers, pedestrians, bicyclists, and parked vehicles involved. For every party, an associated victim table includes one entry for each "victim"—which includes all people involved in the crash. For example, a car with a driver and two passengers would account for one party (the driver) but three victims (the driver plus the two passengers).

As described in the Task 2 methodology memo, this analysis includes only crashes for which some level of injury is reported and excludes property damage only (PDO) crashes. For motor vehicle-only crashes, PDO crashes are not predictive or descriptive of fatal or severe injury risk, so using injury crashes is sufficient and preferable. For pedestrian and bicyclist crashes, PDO crashes

[4] Transportation Injury Mapping System, http://tims.berkeley.edu

are rare and so infrequently reported as to add limited value to the analysis. Overall, PDO reporting practices vary from agency to agency and within agencies over time, so including PDOs may result in inconsistent frequencies or may bias findings based on reporting practices rather than true crash outcomes.

We removed crashes along grade-separated freeway were removed from the dataset, but we retained crashes that occur along at-grade State Highway facilities and those that occurred within the influence area of freeway ramp terminal intersections. The resulting dataset gave 8,468 injury and fatal crashes countywide.

Table 2 summarizes the total number of crashes that were observed Countywide, and Table 3 lists crashes that have occurred in each jurisdiction of the County along with the state highway versus local share of those crashes.

Countywide, 57 percent of reported crashes were on the state highway system. The following jurisdictions showed the highest variation from that share:

- Brisbane (contains no at-grade state highways): 100 percent local
- Portola Valley (SR 35 defines the southwestern boundary but otherwise contains no at-grade state highways): 100 percent local
- Hillsborough: 87 percent local
- Half Moon Bay: 23 percent local
- Unincorporated: 37 percent local
- Woodside: 39 percent local

Table 2: Crash data overview, All Modes Aggregated (2018-2022)

Year	Total Count	Crashes on non-freeway roadways	Crash Breakdown			
			State Highway Crashes	State Highway Share (%)	Local Roadway Crashes	Local Roadway Share (%)
2018-2022	12,526	8,468	2,712	43%	5,756	57%

Source: TIMS 2023

Table 3: Crashes by Jurisdiction, All Modes Aggregated (2018-2022)

Jurisdiction	Count	State Highway Crashes	% State Highway Crashes	Local Roadway Crashes	% Local Roadway Crashes
Atherton	121	36	30%	85	70%
Belmont	244	66	29%	178	71%
Brisbane	69	-	0%	69	100%
Burlingame	267	90	30%	177	70%
Colma	11	3	59%	8	41%
Daly City	863	143	29%	720	71%
East Palo Alto	458	150	33%	308	67%
Foster City	150	7	29%	143	71%
Half Moon Bay	145	116	77%	29	23%
Hillsborough	38	5	13%	33	87%
Menlo Park	542	188	33%	354	67%
Millbrae	230	94	38%	136	62%
Pacifica	394	141	56%	253	44%
Portola Valley	39	-	0%	39	100%
Redwood City	1,137	295	26%	842	74%
San Bruno	412	171	36%	241	64%
San Carlos	281	48	18%	233	82%
San Mateo	869	176	29%	693	71%
South San Francisco	866	168	17%	698	83%
Unincorporated	1,147	704	61%	443	39%
Woodside	185	111	61%	74	39%
Total	**8,468**	**2,712**	**43%**	**5,756**	**57%**

Source: TIMS 2023

Roadway Data

The analysis was conducted using the county-provided roadway centerline spatial data obtained from the San Mateo County open data website.[5] After careful review, we found that file to be the most complete available dataset. Even so, that dataset included the following limitations:

- Centerline data are missing in some locations, including for example along local roads where the data makes the roadway appear to be discontinuous even though in reality the route is continuous. However, this limitation did not prevent such roadways from being appropriately evaluated in the hot spot analysis or crashes being associated with the roadway along which they occurred.
- Some "paper streets" are present in the roadway file: roads that exist in data but do not exist as true roads in the network. We removed these where possible but may not have completely eliminated them given budgetary limitations on the ability to perform quality control reviews on the entire county's roadway network. As a result, there are some intersections created from this roadway file that may not be "true" intersections. The results do not affect the HIN development but may result in some non-intersection crashes being coded as occurring at an intersection with a minor side street.

Quantifying Crash Severity

The analysis throughout this memo uses crash frequency and severity to identify findings. To include severity, we use the EPDO performance measure, which assigns weighting factors to crashes by severity relative to property damage only (PDO) crashes. The measure, referred to as "EPDO score," assigns weight to individual crashes based on the crash severity and location of the crash. Weights may vary depending on agency data and priorities; in this analysis we use weights presented in the 2022 Caltrans' Local Roadway Safety Manual and shown in Table 4. These weights are based on California crash cost data assembled by Caltrans.

Table 4: Crash Weights by Severity and Location Type

Location Type	Crash Weighting by Severity			
	Fatal	Severe Injury	Minor Injury	Possible Injury
Signalized Intersection		120		
Unsignalized Intersection		191	11	6
Roadway		165		

Source: Caltrans, Local Roadway Safety: A manual for California's Local Road Owners (Version 1.6), 2022.

The weights prioritize fatal and severe injury crashes equally to recognize that a death versus a severe injury is often a function of the individual involved or of emergency response time.

[5] https://data-smcmaps.opendata.arcgis.com/. Accessed May 1, 2023.

Therefore, both outcomes represent locations where the region may want to prioritize improvements. Crash weights vary by location due to the relative costs associated with the crash severity at the location types. Specifically, unsignalized intersections have a higher cost for fatal and severe crashes because fatal and severe crashes at these locations tend to result in more severely injured persons on average. The EPDO score is calculated by multiplying each crash severity total by its associated weight and summing the results, using the following formula:

EPDO Score = Fatal weight * # of fatal crashes + severe injury weight * # of severe injury crashes + minor injury weight * # of minor injury crashes + possible in
jury weight * # of possible injury weight crashes

The EPDO score is annualized by dividing the score by the number of years of crash data used in the analysis.

Data Preparation

To prepare the data for analysis, we proceeded with the following preprocessing steps.

Roadway Functional Classification

We associated crashes with the functional classification of the roadways on which they occurred or, for crashes at intersections, the combination thereof. Functional classification is a hierarchical understanding of the types of roads on a street network. Generally, higher functional classes have higher traffic volumes and speeds than lower functional class roads. Functional classifications were taken from Open Street Map (OSM). These classifications in OSM are based on user-contributed data and may vary.

This analysis presents crash findings in relation to OSM-defined functional classifications because they provided more granularity than the county-provided roadway file. The following definitions and descriptions can be used to relate the values presented here back to the locally defined functional classifications:

- Trunk Roads: Trunk roads represent high speed arterials that can be partially separated. These will typically be the state highway network and principal arterials.
- Primary Roads: Primary roads are smaller than trunk roads and represent interstate business routes and state routes in dense urban areas. These will be state highways that have a given street name as well as intracity arterial roadways.
- Secondary Roads: Secondary roads are generally smaller than primary roads and represent major urban streets. These will typically be collector roadways.
- Tertiary Roads: Tertiary roads are generally smaller than secondary roads and represent minor roads that connect local communities.
- Residential Roads: Residential roads similarly represent the local street network.

Coding Intersection versus Segment Crashes

To facilitate analysis by location and the hot spot analysis, the team established variable intersection buffer definitions and coded all crashes to an intersection or, if not within any of the buffers described below, as a roadway segment (i.e., non-intersection) crash.

- A 250-foot buffer was used to define the influence area for the following intersections:
  - trunk-trunk
  - primary-primary
- A 150-foot buffer was used to define the influence area for the following intersections:
  - trunk-secondary
  - trunk-tertiary
  - trunk-residential
  - primary-secondary
  - primary-tertiary
  - primary-residential
- A 100-foot buffer was used to define the influence area for the following intersections:
  - secondary-secondary
  - secondary-tertiary
  - secondary-residential
- A 75-foot buffer was used to define the influence area for the following intersections:
  - tertiary-residential
  - residential-residential

Injury Description

The officer-reported injury severity levels used in this analysis are specific to the most severely injured (MSI) party. Where the analysis reports all-modes crashes combined, the crash is coded by the highest level of severity for any party involved. However, the analysis primarily separates motor vehicle-only crashes, pedestrian-involved crashes, and bicyclist crashes. The San Francisco Department of Public Health (DPH) has documented reporting errors related to mis-coded injury severities, particularly for severe injuries, suggesting a need for some fluidity when discussing minor and severe injuries.

For reference, the injury severities recorded in the crash data and summarized in this analysis are defined in the California Highway Patrol *Collision Investigation Manual*[6]:

- **Fatal**: A fatal injury is any injury that results in death within 30 days after the crash in which the injury occurred.
- **Severe Injury:** An injury, other than a fatal injury, that includes the following:
  - Broken or fractured bones
  - Dislocated or distorted limbs

[6] *HMP 110.5: Collision Investigation Manual.* California Highway Patrol, February 2003, Pages 2-10 to 2-11

  - Severe lacerations
  - Skull, spinal, chest or abdominal injuries that go beyond "other visible injuries"
  - Unconsciousness when taken from the crash scene
  - Severe burns
- **Minor Injury:** A minor injury is any injury that is evident at the scene of the crash (also referred to as "other visible injuries"). Examples include:
  - Bruises, discoloration, or swelling
  - Minor lacerations or abrasions
  - Minor burns
- **Possible Injury**: A possible injury is any injury reported or claimed which is not a fatal, suspected severe, or suspected minor injury (also referred to as "complaint of pain"). Examples include people who:
  - Seem dazed, confused, or incoherent.
  - Are limping or complaining of pain or nausea
  - May have been unconscious but appear to have recovered.
  - Exhibit momentary loss of consciousness, claim of injury, limping, or complaint of pain or nausea. Say they want to be listed as injured but do not appear to be so.

HOT SPOT ANALYSIS RESULTS

The hot spot analysis consists of analyzing historic crash data for the county and within each local jurisdiction. Hot spot analysis is a valuable method to visualize locations with historic crash issues, but it does not prospectively identify locations with higher crash risk. To identify the modal High-Injury Networks (HINs) for pedestrians, bicyclists, and motor vehicles; a sliding window analysis was conducted as described in the Methodology section on page 18.

Pedestrian High Injury Network

The pedestrian HIN is displayed in Figure 2 and can be viewed dynamically online at this link[7]. Static maps showing each jurisdiction are included in Appendix A.

The pedestrian HIN was developed using two separate weighted crash thresholds. State routes were analyzed separately due to the interjurisdictional coordination that is required to implement safety countermeasures along state routes, as well as the reality that the roadway characteristics present along state routes are not necessarily representative of local roads.

The pedestrian HIN used screening weights of three (for fatal and severe injury crashes) to one (for minor injury crashes). The pedestrian HIN is represented by 98 miles of the street network that had the highest concentration of weighted crashes on a per mile basis. The minimum weighted crash threshold was substantially higher along state routes (minimum score of 16) compared to local roads (minimum score of 6). This differential scoring was used to keep state routes from dominating the HIN and precluding insights about locally-controlled roadways. The Pedestrian HIN covers just 3.4 percent of the street network for the county, but accounts for half of all pedestrian crashes and 69 percent of F/SI pedestrian crashes from 2018-2022. Roughly 12 percent of the pedestrian HIN is along a state route and 10 percent of the pedestrian HIN is along El Camino Real.

Crashes along the pedestrian HIN shared a similar pattern with countywide crashes when exploring crashes by **lighting condition**. Most crashes occurred during daylight conditions (62 percent), which is expected given that most pedestrian trips occur during daylight hours. However, most F/SI crashes occurred during dark lighting conditions (53 percent), when walking tends to be much less common. If we had temporally-adjusted pedestrian exposure, we would likely see that nighttime severe crash risk for pedestrians is even higher. Furthermore, crashes are nearly twice as likely to result in a F/SI outcome (27 percent) along the HIN during dark lighting conditions compared to daylight conditions (16 percent), underscoring pedestrian risk along this network.

Posted speed limit along the pedestrian HIN also appears to be associated with crash severity. Roughly 30 percent of pedestrian crashes along 25mph HIN segments resulted in a F/SI outcome compared to 36 percent for 35mph streets. When looking at crashes by posted speed limit per 10 miles, HIN segments with a posted speed limit of 40 mph had the largest concentration of total pedestrian crashes (115 crashes per 10 miles; 9 F/SI crashes per 10 miles) followed by 30mph

[7] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

(74 crashes per 10 miles; 13 F/SI crashes per 10 miles) and 45 mph (54 crashes per 10 miles; 13 F/SI crashes per 10 miles).

The most frequent **violation types** include driver *shall yield to pedestrian crossing the roadway at an intersection* (60 percent of total crashes; 47 percent of F/SI crashes) followed by *pedestrians shall yield right-of-way to vehicles except when at a marked crosswalk or an unmarked crosswalk at an intersection* (10 percent of total crashes; 18 percent of F/SI crashes).

Crashes along the HIN occurred predominantly at **intersections** (85 percent of total crashes; 76 percent of F/SI crashes). However, crashes that occurred at segment locations were generally more severe with 44 percent of crashes resulting in a F/SI outcome, compared to 23 percent at intersection. This is consistent with the countywide analysis and is likely related to higher motor vehicle speeds and kinetic energy at the time of the crash. When looking at intersection **signalization**, unsignalized locations accounted for a larger share of pedestrian crashes and F/SI crashes (47 percent of total crashes; 50 percent of F/SI crashes) compared to signalized intersections (39 percent of total crashes; 30 percent of F/SI crashes), though signalized intersections had a much larger concentration of crashes due to there being fewer of them throughout the network.

Of the pedestrian crashes that occurred along the pedestrian HIN, the most common **location-movement crash type** included the following:

- "intersection – pedestrian crossing in crosswalk, motorists making a left turn" (26 percent of total crashes; 21 percent of F/SI crashes),
- "intersection – pedestrian crossing in crosswalk, motorists proceeding straight" (20 percent of total crashes; 19 percent of F/SI crashes), and
- "intersection – pedestrian crossing in crosswalk, motorist making a right turn" (12 percent of total crashes; 6 percent of F/SI crashes).

Regardless of location type and pedestrian action at the time of the crash, crashes most frequently involved a motorist proceeding straight (40 percent of total crashes; 54 percent of F/SI crashes) followed by a motorist making a left turn (31 percent of total crashes; 28 percent of F/SI crashes). Crashes that involved a motorist going straight also tended to be more severe than crashes involving a motorist turning making a left turn or right turn: 37 percent of crashes involving a motorist going straight resulted in a F/SI outcome, and these crashes had the highest average EPDO score (67.3).

The Pedestrian HIN is largely concentrated near or within more **urban areas** of the county. This concentration is expected, as the generally higher volumes of pedestrian and motorist volumes in these areas lead to more pedestrian-motorist interactions and higher crash frequencies. The following communities accounted for the largest share of the pedestrian HIN by overall mileage: South San Francisco (18 percent), San Mateo (18 percent), and Daly City (15 percent).

For informational purposes, the highest-scoring intersections in the county using EPDO scores for pedestrian crashes only are given in Table 5. The top three per jurisdiction are given in the Jurisdiction-Specific Analysis section beginning on page 103.

Table 5 Highest Pedestrian HIN Intersections Countywide

Intersection Name	Jurisdiction	State Highway Network?	EPDO Score
N Humboldt Street / E Poplar Avenue	San Mateo	No	606
E San Bruno Avenue / 3rd Avenue	San Bruno	No	410
El Camino Real / Center Street	Millbrae	Yes	393
W San Bruno Avenue / Masson Avenue	San Bruno	No	382
El Camino Real / Silva Avenue	Millbrae	Yes	371
El Camino Real / Chestnut Avenue	South San Francisco	Yes	273
Westborough Boulevard / Galway Drive	South San Francisco	No	240
Bayshore Boulevard / Guadalupe Canyon Parkway	Brisbane	No	240
Mission Street / Evergreen Avenue	Daly City	No	230
Hillside Boulevard / Brunswick Street	Daly City	No	214

Figure 2 Pedestrian High Injury Network (HIN)

Bicyclist High Injury Network

The countywide bicyclist HIN can be found in Figure 3 and can be viewed dynamically online at this site[8]. Static maps showing each jurisdiction are included in Appendix B. The bicyclist HIN was produced using the same approach as the pedestrian HIN (i.e., evaluating state routes separately from local streets and using the same relative scoring). In this case, the minimum weighted bicyclist crash score per mile is six for both state routes and local streets, due to particularities of the data. The bicyclist HIN represents 96 miles of the street network and accounts for 3.3 percent of the street network. Twenty-seven percent of the network is along a state route, with El Camino Real comprising nearly 10 percent of the bicyclist HIN mileage. Most crashes along the bicyclist HIN involved both a bicyclist and a motorist (82 percent of total crashes; 67 percent of F/SI crashes), while the remaining crashes were solo bicyclist crashes.

Posted speed limit along the bicyclist HIN appears to be positively associated with bicyclist injury severity: the percentage of bicyclist crashes resulting in a F/SI outcome is higher along streets posted at 35mph or greater compared to streets posted at 30mph or lower. Interestingly, HIN segments with a posted speed limit of 45mph account for the largest share of HIN mileage (36 percent), followed by those posted at 35mph (27 percent) and 25mph (21 percent). HIN segments with a posted speed limit of 35mph had the largest share of bicyclist crashes (33 percent of total crashes; 39 percent of F/SI crashes), followed by 45mph segments (32 percent of total crashes; 32 percent of F/SI crashes). Streets with posted speed limits between 25mph and 35mph had comparable crash rates, ranging between 52 to 56 crashes per 10 miles. However, streets with a posted speed limit of 35mph had the highest rate of F/SI crashes per 10 miles (n=14), followed by 50mph (n=9) and 45mph (n=9).

Bicyclist crashes on the HIN occurred most frequently at **intersections** (64 percent of total crashes; 57 percent of F/SI crashes), and particularly at unsignalized intersections (43 percent of all crashes; 40 percent of F/SI crashes). However, crashes at segment locations were disproportionately severe (36 percent of all crashes; 43 percent of F/SI crashes). In terms of crash details, most bicyclist-motorist crashes included the roadway users traveling in perpendicular directions of travel (43 percent of crashes), followed by the same direction (34 percent of all crashes). Same direction crashes were disproportionately severe, comprising 41 percent of F/SI crashes. Unfortunately, roughly one-third of crashes and 41 percent of F/SI crashes do not have pre-crash movement data for both roadway users. Without these data, it is difficult to understand what types of behaviors may have contributed to these crashes. In the absence of these data, we can use the reported **violation type**, although this introduces a possible reporting bias or reporting errors and is a less objective attribute compared to using pre-crash movements. With that caveat, *failure to yield while entering highway* was the most common violation type for perpendicular bicyclist crashes (13 percent of all crashes; 18 percent of F/SI crashes), followed by *disregard red traffic signal* (13 percent of all crashes; 25 percent of F/SI crashes) and *drive on right except when passing* (12 percent of all crashes; 2 percent of F/SI crashes). For same direction crashes, the most common violation types include *inappropriate turn* (28 percent of all crashes; 17 percent of F/SI crashes), followed by *too fast for conditions* (19 percent of all crashes; 25 percent of F/SI crashes).

[8] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

When looking at **functional classification**, secondary streets account for the largest share of the HIN in terms of network mileage (46 percent) followed by tertiary (21 percent) and primary (18 percent) streets. Crash rates per 10 miles are similar between residential streets (43 crashes per 10 miles), tertiary (47 crashes per 10 miles), and secondary (47 crashes per 10 miles) streets, with primary streets having the highest rate (54 crashes per 10 miles). However, primary and secondary streets had the highest rate of F/SI crashes per 10 miles, with 11 and 10 F/SI crashes per 10 miles, respectively. These types of streets generally have higher vehicle speeds, higher vehicle volumes, and are generally larger streets – all risk factors for F/SI crashes.

The Bicyclist HIN is largely concentrated near or within more **urban areas** of the county. This concentration is expected, as urban areas generally have higher volumes of bicyclist and motorist volumes, leading to more bicyclist-motorist interactions and higher crash frequencies. However, roughly 15 percent of the bicyclist HIN is located in unincorporated areas of the county, a substantially higher amount than the corresponding part of the pedestrian HIN (roughly 2 percent). This finding likely reflects that bicyclists are able to travel longer distances than pedestrians, as well as a relatively high percentage of recreational bicycle trips in the county. The following communities had the largest share of the bicyclist HIN in terms of network mileage: Redwood City (16 percent), Menlo Park (10 percent), San Mateo (8 percent), and Woodside (8 percent).

For informational purposes, the highest-scoring intersections in the county using EPDO scores for bicyclist crashes only are given in Table 6. The top three per jurisdiction are given in the Jurisdiction-Specific Analysis section beginning on page 103.

Table 6 Highest Bicyclist EPDO Intersections Countywide

Intersection Name	Jurisdiction	State Highway Network	EPDO Score
La Honda Road/ Portola Road	Woodside	Yes	404
El Camino Real / Selby Lane	Atherton	Yes	393
Manzanita Way / Sand Hill Road	Unincorporated	No	382
Donohoe Street / University Avenue	East Palo Alto	No	279
Portola Road / Sand Hill Road	Unincorporated	No	231
Alpine Road / Arastradero Road	Portola Valley	No	213
Alpine Road / Los Trancos Road	Portola Valley	No	202
Alameda De Las Pulgas / Howard Avenue	San Carlos	No	202
Alameda De Las Pulgas / Nassau Drive	Unincorporated	No	202
Skyline Boulevard / La Honda Road	Woodside	Y	202

Figure 3 Bicyclist High Injury Network (HIN)

Motor Vehicle High Injury Network

The countywide motor vehicle HIN can be found in Figure 4 and can be viewed dynamically online at this site[9]. Static maps showing each jurisdiction are included in Appendix C.

The Motor Vehicle HIN was developed using the same sliding window analysis as the pedestrian and bicyclist HIN but used the same crash threshold for state highways and local roadways and also used the EPDO scoring presented in the Methodology section on page 18. The minimum annualized EPDO score for inclusion on the motor vehicle HIN is 165 (representing, for example, one fatal roadway crash per year or 17 minor injury crashes per year), though where gaps were short identified along otherwise contiguous portions of roadways without underlying characteristic changes, they were connected.

The motor vehicle HIN represents 283 miles of the street network and accounts for about 10 percent of the street network. Forty-two (42) percent of the network is along a state route, and the roadways with the highest cumulative share of the HIN area include Skyline Boulevard, El Camino Real, and State Route 1 (cumulatively 24 percent of the HIN). Roadways in unincorporated areas of the county comprise about 27 percent of the HIN.

As with motor vehicle crashes overall, **higher posted speed limit** correlates crash outcomes: 50 percent of crashes on the HIN are along 45+ mph roadways (58 percent of F/SI crashes). The crashes that occurred at higher speeds along the HIN are primarily along **roadway segments** (60 percent) and include the following as the most frequent and severe crash types on these high-speed roadways:

- Segment hit object crashes (18 percent of crashes, 22 percent of F/SI)
- Segment head-on crashes (11 percent of crashes, 15 percent of F/SI)
- Unsignalized intersection broadside crashes (9 percent of crashes 8 percent of F/SI)

The majority of crashes on the motor vehicle HIN occur along **primary and secondary roadways** (39 percent each) along with F/SI crashes (25 percent primary and 50 percent secondary). The most frequent intersection combinations represented among HIN crashes were:

- Primary-residential roadways (22 percent of crashes and 15 percent of F/SI crashes), which were primarily signalized.
- Secondary-residential roadways (14 percent of crashes and 9 percent of F/SI crashes), which were majority unsignalized.

Among violations, three violations dominated:

- *Unsafe speed* (30 percent of crashes, 23 percent of F/SI), distributed among location types
- *Automobile right of way* (18 percent of crashes and of F/SI), primarily at unsignalized intersections (55 percent)
- *Improper turning* (15 percent of crashes and 13 percent of F/SI), primarily on roadway segments (46 percent) indicating access points as possible causal factor.

[9] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

For informational purposes, the highest-scoring intersections in the county using EPDO scores for motor vehicle crashes only are given in Table 7. The top three per jurisdiction are given in the Jurisdiction-Specific Analysis section beginning on page 103.

Table 7 Motor Vehicle HIN Intersections

Intersection Name	Jurisdiction	State Highway Network?	EPDO Score
Half Moon Bay Road / Old Cañada Drive	Unincorporated	Yes	612
Skyline Boulevard / Alpine Road	Unincorporated	Yes	573
Linden Avenue / Baden Avenue	South San Francisco	No	421
University Avenue / Weeks Street	East Palo Alto	Yes	404
Skyline Boulevard / John Daly Boulevard	Daly City	Yes	402
Woodside Road / Middlefield Road	Redwood City	Yes	396
Cabrillo Highway / Pescadero Creek Road	Unincorporated	Yes	388
Edgewood Road / Junipero Serra Freeway	Unincorporated	Yes	382
Woodside Road / Broadway Street	Redwood City	Yes	372
Whipple Avenue / Veterans Boulevard	Redwood City	No	371

Figure 4 Motor Vehicle High Injury Network (HIN)

Combined High Injury Network

For the purpose of identifying a consolidated network of high injury segments for the San Mateo County and specific jurisdictions, motor vehicle HIN, pedestrian HIN and bicycle HIN were combined to identify, for every roadway segment in the County, whether it is part of zero, one, two, or all three of the modal HINs.

The countywide combined HIN can be found in Figure 5 and can be viewed dynamically online at this site[10]. Static maps showing each jurisdiction are included in Appendix D, and a complete table showing every roadway along any of the modal HINs is included in Appendix E.

In subsequent project tasks, these HIN scores (zero through three) may be combined and weighted to identify priority locations per mode or overall.

10 https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Figure 5 Countywide High Injury Network (HIN)

DESCRIPTIVE ANALYSIS

This section includes descriptive analysis findings that form the basis for systemic safety findings. The analysis starts with a pre-pandemic vs pandemic comparison to understand the differences in safety, considering the significant change of travel behaviors that occurred during the pandemic. It is then followed by an in-depth analysis of crashes that have occurred from the year 2018-2022, conducted by modes including pedestrian, bicyclists, and motor vehicles. Crash locations for both intersection and mid-block crashes have been analyzed. Lastly, characteristics of individuals involved in crashes has been observed to account for the age, sex, and race.

Pre-Pandemic versus Pandemic Comparison

The COVID-19 pandemic has had a significant effect on travel patterns, behaviors, and traffic volumes. The analysis considered crashes that occurred before the pandemic (2017-2019) and during the pandemic years (2020-2022) to observe changes in safety due to the COVID-19 pandemic.

Based on the findings as listed in Table 8, the total number of crashes have decreased, but the number of F/SI crashes before versus after is quite similar (52 compared to 48 percent of the six-year total). This is also evident in the EPDO score per crash which indicates that in the pandemic era the average severity has been about 20 percent higher compared to 2017-2019.

Table 8: Crashes by Year, All Modes Aggregated (2017-2022)

Year	Count	% of 6-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
2017-2019	6,109	58%	555	52%	139,258	54%	22.8
2020-2022	4,436	42%	518	48%	120,774	46%	27.2
Total	**10,545**	**100%**	**1,073**	**100%**	**260,032**	**100%**	**24.7**

Source: TIMS 2023

Based on the findings as listed in Table 9, traffic volumes have decreased along state highway routes in the San Mateo County area with the exception of the Route 35 San Mateo County and Santa Clara County line traffic census location which has stayed the same from 2017 to 2021. Largest reductions in traffic volume were recorded along Route 82 in Colma and Daly City where traffic volumes have decreased by 37.9% from 2017 to 2021.

Table 9: AADT by Route (2017-2021)

Route	Description	2017	2018	2019	2020	2021	% Change from 2017 to 2021
1	Santa Cruz/San Mateo County Line	5,400	5,400	5,000	3,900	3,900	-28%
1	Jct. Rte. 84 East	7,600	7,600	7,600	5,900	6,000	-21%
1	San Mateo/San Francisco County Line	90,300	90,300	101,000	79,000	80,000	-11%
35	Jct. Rte. 92	3,400	3,400	3,400	3,300	3,300	-3%
35	John Daly Boulevard	32,000	32,000	32,000	30,000	30,500	-5%
82	Jct. Rte. 84	39,400	36,100	36,100	28,500	31,000	-21%
82	San Mateo, Jct. Rte. 92	47,300	42,200	42,200	33,000	36,000	-24%
82	Colma, Mission Road	31,000	31,600	31,600	24,800	27,000	-13%
82	Daly City, Mission Street	15,300	10,600	10,600	8,300	9,500	-38%
82	San Mateo/San Francisco County Line	15,300	10,600	10,600	8,300	9,500	-38%
84	Pescadero Road	2,200	2,300	2,300	2,000	2,100	-5%
84	Redwood City, Jct. Rte. 82	51,000	47,000	47,000	40,000	40,500	-21%
92	Jct. Rte. 35 South	28,900	29,500	29,500	23,000	23,200	-20%
92	Jct. Rte. 82	109,200	93,000	93,000	72,000	88,000	-19%
101	San Mateo, Jct. Rte. 92	280,400	272,800	267,000	214,000	203,000	-28%
101	San Francisco/San Mateo County Line	226,800	220,600	219,000	175,000	166000	-27%
280	Junipero Sierra	226,000	216,700	216,700	175,000	162000	-28%
380	South San Francisco, Jct. Rte. 101	23,700	23,700	23,000	19,300	19,500	-18%

Source: Caltrans Traffic Census Program

Based on the findings as listed in Table 10, the total number of crashes have decreased from pre-pandemic to pandemic era in most jurisdictions with the exception of Broadmoor, East Palo Alto, Half Moon Bay, and Woodside. The cities of Atherton, Broadmoor, Burlingame, Daly City, East Palo Alto, Foster City, Millbrae, Pacifica, Portola Valley, Redwood City, San Carlos, Woodside, and Unincorporated San Mateo County (64 percent of total jurisdictions) all recorded higher F/SI crashes in the pandemic era.

Table 10: Crashes by Year and Jurisdiction, All Modes Aggregated (2017-2022)

Jurisdiction	Year	F/SI	Other Crashes	Total
Atherton	2017-2019	2	116	118
	2020-2022	3	41	44
Belmont	2017-2019	5	164	169
	2020-2022	5	130	135
Brisbane	2017-2019	8	53	61
	2020-2022	8	23	31
Burlingame	2017-2019	3	212	215
	2020-2022	11	116	127
Colma	2017-2019	22	9	31
	2020-2022	0	1	1
Daly City	2017-2019	4	544	548
	2020-2022	39	434	473
East Palo Alto	2017-2019	10	250	260
	2020-2022	33	229	262
Foster City	2017-2019	4	106	110
	2020-2022	10	74	84
Half Moon Bay	2017-2019	10	77	87
	2020-2022	9	82	91
Hillsborough	2017-2019	4	30	34
	2020-2022	2	13	15
Menlo Park	2017-2019	23	430	453
	2020-2022	15	252	267
Millbrae	2017-2019	11	142	153
	2020-2022	24	107	131
Pacifica	2017-2019	21	249	270
	2020-2022	24	167	191
Portola Valley	2017-2019	2	25	27
	2020-2022	10	11	21
Redwood City	2017-2019	41	783	824
	2020-2022	50	546	596
San Bruno	2017-2019	56	266	322
	2020-2022	23	187	210
San Carlos	2017-2019	15	155	170

Jurisdiction	Year	F/SI	Other Crashes	Total
	2020-2022	19	139	158
San Mateo	2017-2019	58	715	773
	2020-2022	23	326	349
South San Francisco	2017-2019	66	530	596
	2020-2022	43	424	467
Unincorporated	2017-2019	113	625	738
	2020-2022	137	529	666
Woodside	2017-2019	14	73	87
	2020-2022	30	87	117

Source: TIMS 2023

Summary by Mode

Table 11 presents countywide crashes broken out by travel mode of the constituent parties. The table shows that pedestrian and bicyclist crashes are disproportionately severe when compared to motor vehicle crashes. Eight percent of motor vehicle injury crashes are F/SI, but the shares are 20 and 17 percent of pedestrian and bicyclist crashes, respectively. These pedestrian and bicyclist shares are higher than their respective 13 percent share of all injury level crashes. These statistics highlight the risk of fatal or severe injuries to people walking or biking when involved in a crash. Among injury crashes alone, pedestrian crashes have approximately double the average EPDO score compared to injury motor vehicle crashes (39.5 compared to 25.6).

Table 11: Crashes by Mode, Countywide (2018-2022)

Mode	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Pedestrians	1,064	13%	208	23%	42,081	19%	39.5
Bicyclists	1,058	13%	175	20%	37,630	17%	35.6
Motor Vehicle Alone	6,328	75%	515	57%	136,817	63%	21.6
Total	**8,450**	**100%**	**898**	**100%**	**216,528**	**100%**	**25.6**

Source: TIMS 2023

Crashes by Year

Table 12 summarizes crash frequency and severity for all modes by year for the study period. F/SI crash frequency and overall crash frequency and severity (as measured by EPDO) decreased each year from 2019 to 2020 with sharp decreases in the first two pandemic years (2020-21). This reduction is likely related to changes in travel behaviors due to the COVID-19 pandemic safety precautions and the regional stay at home order that was in effect. At the same time, the per-crash severity has increased – from 23.2 EPDO per crash in 2018 to 26.5 in 2022.

Table 12: Crashes by Year, All Modes Aggregated (2018-2022)

Year	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
2018	2,068	24%	187	21%	47,949	22%	23.2
2019	1,964	23%	194	22%	48,136	22%	24.5
2020	1,415	17%	166	19%	38,844	18%	27.5
2021	1,428	17%	173	19%	39,679	18%	27.8
2022	1,593	19%	179	20%	42,251	20%	26.5
Total	**8,468**	**100%**	**899**	**100%**	**216,859**	**100%**	**25.6**

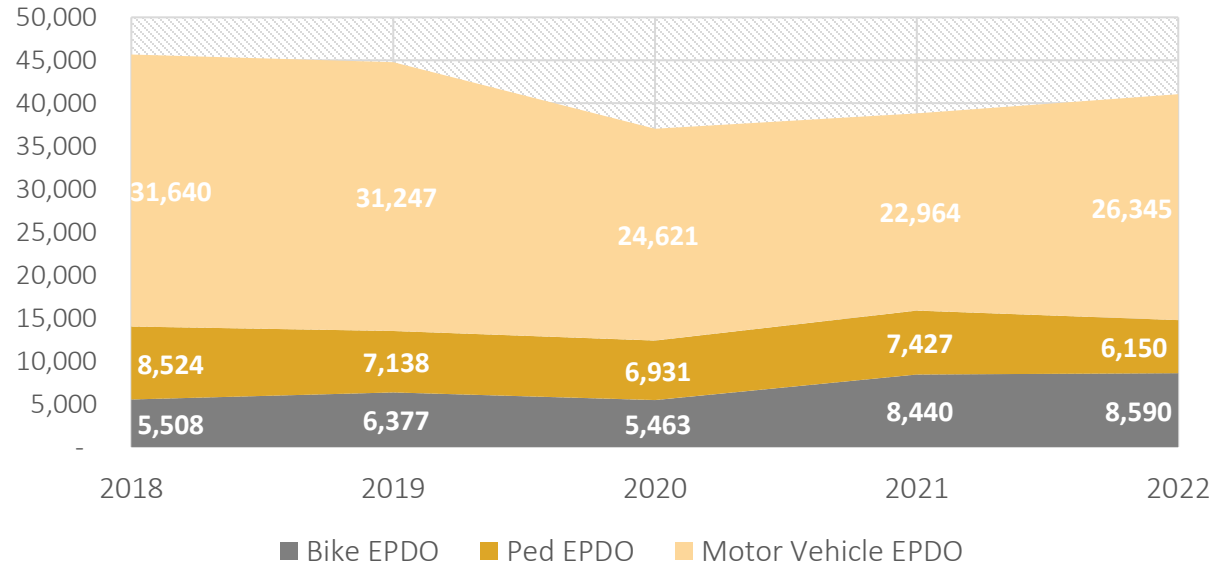
Source: TIMS 2023

Figure 6 displays the annual EPDO scores for each mode, which highlights the overall frequency and severity of crashes. The figure shows:

- The annual EPDO scores for motor vehicle crashes decreased from 31,630 in 2018 to 24,621 in 2020, which is the largest net decrease across modes. The annual EPDO values have increased from 2020 but not to pre-pandemic levels.
- Motor vehicle and bicyclist EPDO scores have increased by 7 percent and 57 percent, respectively. Pedestrian EPDO scores have fluctuated over time, with no discernably consistent trend.

What this figure does *not* show is the relative severity on a per-crash basis. The ensuing sections demonstrate the disproportionately high relative severity of pedestrian and bicyclist crashes compared to motor vehicles. The crash trends by mode are described in sections below.

Figure 6: Annual EPDO Scores by Mode



Source: TIMS 2023

Pedestrians

Table 13 summarizes pedestrian crashes by injury severity and year. Pedestrian crash frequencies were highest during the first two years of the five-year study period and lowest during the core period of the COVID-19 pandemic (2020-2021). Note, however, that pedestrian crashes appear to have slightly increased in severity during the core pandemic years, from an average EPDO score of 39.5 per crash in 2018-2019 to 45.1 per crash in 2020-2021. This finding aligns with national trends in which higher vehicle speeds and higher rates of reckless driving were observed during the pandemic.[11] Pedestrian crash frequencies rose again in 2022 as pandemic-related restrictions ease and travel/activities continued to increase, although the overall share of severe and fatal crashes dropped back to about 16 percent (average EPDO score of 33.1).

Table 13: Pedestrian Crashes by Year and Severity (2018-2022)

Year	Count	% of 5-year count total	Fatal	Severe Injury	Minor Injury	Possible Injury	EPDO	% of Total EPDO Score	Average EPDO Score
2018	250	24%	6	44	159	41	9,946	24%	40.6
2019	251	24%	10	35	172	34	9,556	22%	38.5
2020	178	17%	8	33	106	31	7,830	19%	45.1
2021	174	16%	6	33	113	22	7,885	18%	45.1
2022	211	20%	5	28	147	31	6,864	16%	33.1
Total	**1,064**	**100%**	**35**	**173**	**697**	**159**	**42,081**	**100%**	**40.1**

Source: TIMS 2023

[11] https://www.ghsa.org/resources/news-releases/GHSA/NHTSA-Speeding-Statement22

https://www.iihs.org/news/detail/pandemic-lockdowns-made-rush-hour-speeding-risky-driving-the-new-normal#:~:text=the%20new%20normal-,Pandemic%20lockdowns%20made%20rush%2Dhour%20speeding%2C%20risky%20driving%20the%20new,returned%20to%20pre%2Dpandemic%20levels.

Bicyclists

Table 14 summarizes bicyclist crashes by injury severity and year. Like the other modes, bicyclist crash frequencies were highest during the first two years of the five-year study period and lowest during the core period of the COVID-19 pandemic (2020-2021). As with the other modes, bicyclist crash severity also appeared to increase from pre-pandemic years to pandemic years (average EPDO score of 20 from 2018-2019 compared to 40.2 from 2020-2021). Unlike pedestrian crashes, however, bicyclist crashes appeared to stay more severe in 2022, with an average EPDO score of 43.2.

Table 14: Bicyclist Crashes by Year and Severity (2018-2022)

Year	Count	% of 5-year count total	Fatal	Severe Injury	Minor Injury	Possible Injury	EPDO	% of Total EPDO Score	Average EPDO Score
2018	235	22%	2	25	180	28	6,302	17%	27.3
2019	227	22%	1	32	162	32	7,305	19%	32.7
2020	196	19%	4	25	141	26	6,371	17%	33.3
2021	191	18%	1	43	125	22	8,802	23%	47.0
2022	209	20%	2	40	143	24	8,850	24%	43.2
Total	**1,058**	**100%**	**10**	**165**	**751**	**132**	**37,630**	**100%**	**36.3**

Source: TIMS 2023

Motor Vehicles

Motor vehicle crashes (see Table 15) reported a large reduction in frequency from 2018, while fatal crashes have fluctuated over time with no discernable trend. There has been a decrease in reported severe injury crashes from 2019 to 2022. From 2018 to 2022, minor injury and possible injury crashes have decreased. As with the other modes, frequency of crashes decreased in 2020 through 2022 as the average EPDO score increased, indicating that fewer, but more severe, crashes were occurring.

Table 15: Motor Vehicle Crashes by Year and Severity

Year	Count	% of 5-Year Total	Fatal	Severe Injury	Minor Injury	Possible Injury	EPDO	% of Total EPDO Score	Average EPDO Score
2018	1,577	25%	15	95	1,013	454	31,640	23%	20.1
2019	1,483	23%	10	106	900	467	31,247	23%	21.1
2020	1,039	16%	10	86	616	327	24,621	18%	23.7
2021	1,060	17%	15	75	662	308	22,964	17%	21.7
2022	1,169	19%	14	89	724	342	26,345	19%	22.5
Total	**6,328**	**100%**	**64**	**451**	**3,915**	**1,898**	**136,817**	**100%**	**21.6**

Source: TIMS 2023

Environmental/Land Use

Lighting Conditions

Pedestrians

Table 16 summarizes pedestrian crashes by lighting condition. Most pedestrian crashes (62 percent) occurred during daylight conditions, an expected finding given that most trips are made during daylight conditions. However, lighting condition shows a strong correlation with severity: crashes that occurred in darkness or low-light (i.e., dusk or dawn) conditions were much more likely to result in a F/SI outcome (27 percent) compared to those that occurred during daylight (15 percent). This disproportionality was even stronger in dark, unlit (i.e., lacking streetlight) conditions (32 percent F/SI). While the sample size for dark, unlit conditions was small (n=38), these disparities have been found in national and California-based research on pedestrian fatalities.[12] Lack of visibility and slower detection and reaction times likely contribute to these nighttime crashes. Slower detection and reaction times can result in the motorist traveling at a higher speed (and transferring more kinetic energy) at the time of the crash, leading to a more severe outcome.

Table 16: Lighting Conditions, Pedestrian Crashes (2018-2022)

Lighting Condition	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Daylight	667	62%	100	48%	21,983	52%	33.8
Dark - Street Lights	325	30%	86	41%	15,944	38%	49.8
Dusk - Dawn	41	4%	10	5%	1,882	5%	47.2
Dark - No Street Lights	35	3%	11	5%	2,047	5%	60.0
Dark - Street Lights Not Functioning	3	<1%	1	1%	213	1%	71.0
Unknown	2	<1%	0	0%	12	<1%	6.0
Total	1,073	100%	208	100%	42,081	100%	40.1

Source: TIMS 2023

[12] Sanders, R.L., Schneider, R.J.., & Proulx, F.R. (2022). Pedestrian Fatalities in Darkness: What Do We Know, and What Can Be Done? *Transport Policy*. 120(May): 23-39. DOI: 10.1016/j.tranpol.2022.02.010

Bicyclists

Table 17 summarizes bicyclist crashes by lighting condition. The vast majority of bicyclist crashes occurred during daylight conditions (84 percent), which fits with when most bicyclist trips occur. Like pedestrian crashes, bicyclist crashes were more likely to result in a fatal or severe injury outcome during dark lighting conditions (21 percent) compared to daylight conditions (16 percent). Crash outcomes were even more likely to be severe in dark, unlit conditions (29 percent F/SI), though again the sample size was relatively small (n=14).

Table 17: Lighting Conditions, Bicyclist Crashes (2018-2022)

Lighting Condition	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Daylight	896	84%	137	78%	30,149	80%	34.6
Dark - Street Lights	108	10%	22	13%	4,375	12%	42.1
Dusk - Dawn	43	4%	11	6%	2,134	6%	50.2
Dark - No Street Lights	13	1%	4	2%	801	2%	63.6
Unknown	6	1%	1	1%	160	<1%	26.7
Dark - Street Lights Not Functioning	1	<1%	0	0%	11	<1%	11.0
Total	1,067	100%	175	100%	37,630	100%	36.3

Source: TIMS 2023

Motor Vehicles

Table 18 presents motor vehicle crashes by reported lighting conditions. The majority of crashes occurred in daylight conditions (70 percent), which corresponds to when most travel occurs. Of the 6,328 crashes, 22 percent reported to have occurred in the dark where streetlights were present, and 5 percent occurred where streetlights were not present or functioning. Crashes with no streetlights had nearly double the per-crash EPDO score of daylight crashes. Though relatively rare (n=6), crashes that occurred where streetlights were not functioning had an average EPDO score that was more than three times that of crashes that occurred in the dark where streetlights were functioning.

Table 18: Lighting Conditions, Motor Vehicle Crashes (2018-2022)

Lighting Condition	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Daylight	4,447	70%	328	64%	91,247	67%	20.5
Dusk - Dawn	188	3%	12	2%	3,484	3%	18.5
Dark – Street Lights	1,374	22%	119	23%	30,289	22%	22.0
Dark – No Street Lights	294	5%	52	10%	10,945	8%	37.2
Dark – Street Lights Not Functioning	6	<1%	2	<1%	400	<1%	66.7
Unknown	19	<1%	2	<1%	452	<1%	23.8
Total	**6,328**	**100%**	**515**	**100%**	**136,817**	**100%**	**21.6**

Source: TIMS 2023

Weather Conditions

Weather conditions do not appear to be a significant factor in crash patterns in San Mateo County.

- More than 90 percent of total crashes and F/SI pedestrian and bicyclist crashes occurred during clear weather conditions. The percentage of F/SI crashes during rainy conditions was slightly higher for pedestrians (six percent) compared to bicyclists (one percent). These findings likely reflect low exposure during rainy conditions, particularly for pedestrians and bicyclists who have access to other transportation options when necessary.
- Of motor vehicle crashes, 84 percent occurred during clear weather conditions, 11 percent occurred during cloudy conditions, and 4 percent occurred during rainy conditions.

Roadway Conditions

Pedestrians and Bicyclists

For both modes, the vast majority of crashes occurred at locations with no unusual conditions (98 percent of pedestrian crashes; 95 percent of bicyclist crashes). For bicyclist F/SI crashes (n=175), the majority of F/SI crashes that occurred with any type of non-typical roadway condition (n=17) were solo bicyclist crashes (n=13), underscoring the vulnerability of bicyclists and the need for well-maintained roads. Note that these data may underestimate the degree to which roadway conditions contribute to crashes, particularly for bicyclists, given known patterns of underreporting and common exclusions of solo-bicycle crashes from reported crash data[13].

Motor Vehicles

Roadway conditions do not appear to be a significant factor in motor vehicle crash patterns in San Mateo County. Of motor vehicle crashes, 98 percent occurred during no unusual roadway conditions, 1 percent occurred during construction or repair zone conditions, and 1 percent occurred during flooded conditions.

Proximity to Transit Stop

Table 19 summarizes pedestrian crashes that occurred at an intersection within 250 feet of a transit stop. Pedestrian crashes were nearly evenly split between intersections near a transit stop (48 percent of all crashes; 45 percent of F/SI crashes)and those further away. However, crash rates per intersection type indicate a stronger relationship to pedestrian safety than raw crash numbers suggest. Intersections within 250 feet of a transit stop had a crash rate of 20 crashes per 100 intersections, compared to just four crashes per 100 intersections for those intersections further away. This disproportionality may result from higher pedestrian exposure near transit locations and locations in which transit service is provided (employment centers, commercial/retail, higher density housing, etc.), as well as other roadway or crossing

[13] https://www.visionzerosf.org/wp-content/uploads/2021/11/Severe-Injury-Trends 2011-2020 final report.pdf

characteristics that may increase crash risk (e.g., bus stops being frequently located along arterial or collector streets that are higher-speed, higher-volume streets).

When exploring pedestrian crashes near transit and the presence of intersection signalization, the following patterns were noteworthy:

- There is a similar near-even split between signalized intersections (49 percent of all crashes; 53 percent of F/SI crashes) and unsignalized intersections. However, signalized intersections had roughly six times the rate for both crashes per 100 intersections and F/SI crashes per 100 intersections as unsignalized intersections.
- F/SI crashes at signalized intersections generally involved the pedestrian crossing and being struck by a motorist going straight (29 percent), or the pedestrian crossing and a motorist turning left (24 percent); both crash types most frequently involved a motorist who failed to yield to the pedestrian (77 percent of all crashes; 50 percent of F/SI crashes). These patterns were similar for unsignalized intersections.
- Three-quarters of all crashes and F/SI crashes, regardless of signalization, occurred at an intersection between an arterial (primary, secondary, or tertiary) and a residential street.
- Crashes most frequently occurred at a primary-residential intersection (30 percent of all crashes; 28 percent of F/SI crashes), followed by a secondary-residential intersection (28 percent of all crashes; 28 percent of F/SI crashes).

Cumulatively, these findings suggest a need for additional countermeasure support for pedestrians at intersections near transit stops and along arterial roadways. For unsignalized intersections, these countermeasures likely need to focus on driver stopping or yielding, such as through a pedestrian hybrid beacon or roadway reconfiguration and speed reduction measures that change driver thinking, behavior, and detection-reaction time. For signalized intersections, these countermeasures likely need to strengthen separation in time, such as through leading pedestrian intervals and protected left turn signalization. For all intersections, lighting should be considered as an important countermeasure where it does not currently exist.

Table 19: Proximity to Transit Stop, Pedestrian Intersection Crashes (2018-2022)

Within 250' of transit stops	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Yes	392	48%	64	45%	13,079	44%	33.7
No	427	52%	78	55%	16,839	56%	39.5
Total	**819**	**100%**	**142**	**100%**	**29,918**	**100%**	**36.8**

Source: TIMS 2023

Crash Locations

The following sections discuss crashes by location type. The crashes were assigned as intersection or segment crashes according to the methodology discussed in the Quantifying Crash Severity section on page 23.

Pedestrians

Table 20 summarizes pedestrian crashes by location type.

- Most crashes occurred at an intersection (76 percent of all crashes; 68 percent of F/SI crashes), with the remainder coded to segment locations (24 percent of all crashes; 32 percent of F/SI crashes). This distribution is expected, as interactions between pedestrians and motorists typically occur at intersection locations, rather than midblock.
- When looking at crash locations and signalization, pedestrian crashes occurred most frequently at unsignalized intersections (48 percent of all crashes; 41 percent of F/SI crashes).
- Both segment and unsignalized pedestrian crashes tended to be more severe, with an average EPDO score of 51 and 40.5, respectively, compared to crashes at signalized intersections (average EPDO score of 30.5). Motorist speeds are often higher midblock than at intersections, resulting in higher kinetic energy and limited reaction time, both of which may contribute to greater injury severity from segment crashes.

Countywide sidewalk and driveway data would help us better assess the degree to which pedestrian segment crashes are associated with the absence of sidewalks or presence of driveway locations.

Table 20: Crash Locations, Pedestrian Crashes (2018-2022)

Crash Location	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Unsignalized Intersection	515	48%	86	41%	20,717	49%	40.5
Signalized Intersection	304	28%	56	27%	9,201	22%	30.5
Segment	254	24%	66	32%	12,739	30%	51.0
Total	**1,073**	**100%**	**208**	**100%**	**42,657**	**100%**	**40.1**

Source: TIMS 2023

Bicyclists

Table 21 summarizes bicyclist crashes by crash location. Most bicyclist crashes (43 percent) occurred at unsignalized intersections, but most F/SI crashes occurred at segment locations (43 percent). Roughly one-third of the F/SI crashes at unsignalized intersections were solo bicyclist crashes; these crashes were disproportionately severe, which may reflect reporting bias (i.e., people tend not to report minor injury solo bicyclist crashes). Excluding solo bicyclist crashes, most F/SI crashes at unsignalized intersections involved both parties traveling in perpendicular directions, either both going straight (n=7) or the bicyclist going straight and the motorist making a left turn (n=4).

Similar to unsignalized crashes, roughly 40 percent of the segment F/SI crashes involved a solo bicyclist. Excluding solo bicyclist crashes, both parties traveling in the same direction of travel (e.g., an overtaking or dooring crash) was the most common direction of travel for overall crashes (45 percent) and F/SI crashes (58 percent). The most frequent movement combination overall involved both the bicyclist and motorist going straight (14 percent) and among F/SI crashes involved the bicyclist going straight and the motorist making some other unsafe turn (15 percent).

Countywide data on bicycle facilities (including accurate installation dates), number of lanes on the roadway, and presence of on-street parking would allow us to further assess the relationships between specific roadway characteristics and bicycle crashes. For example, with these data, we could gain additional insights about injury severity and crash types relative to bicycle facility type. A complete countywide dataset with detailed bicycle facility data would allow additional insights into bicycle crash risk factors.

Table 21: Crash Locations, Bicyclist Crashes (2018-2022)

Crash Location	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Unsignalized Intersection	457	43%	69	39%	17,083	45%	37.7
Segment	386	36%	76	43%	15,685	41%	41.2
Signalized Intersection	224	21%	30	17%	5,604	15%	25.0
Total	**1,067**	**100%**	**175**	**100%**	**38,372**	**100%**	**36.3**

Source: TIMS 2023

Motor Vehicles

Table 22 summarizes frequency and severity for motor vehicle crashes based on location type. Crashes most frequently occur along roadway segments (39 percent of total, 52 percent of F/SI crashes) occur along roadway segments (i.e., not within an intersection influence area). Unsignalized intersection crashes are the most severe (average 24.5 EPDO score), followed by segment crashes (average 23.5). Both occupy a larger share of total F/SI crashes and EPDO score compared to their overall share of crashes.

Table 22: Crash Locations, Motor Vehicle Crashes

Crash Location	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Midblock	2,488	39%	267	52%	64,326	47%	25.9
Unsignalized Intersection	2,158	34%	159	31%	47,971	35%	22.2
Signalized Intersection	1,678	27%	89	17%	25,702	19%	15.3
Total	**6,324**	**100%**	**515**	**100%**	**137,999**	**100%**	**21.8**

Source: TIMS 2023

Intersection Crashes

Roadway Functional Class

The subsequent sections analyze intersection crashes by the functional classification of their constituent roadways according to OSM-provided classifications. For a discussion of those classifications and how they map to the locally defined functional classifications, see the Methodology section beginning on page 24.

Pedestrians

Table 23 summarizes pedestrian intersection crashes by highest and lowest functional classification of the intersecting streets.

- The largest share of pedestrian crashes occurred at:
  - secondary and residential streets (23 percent of all crashes; 28 percent of F/SI crashes)
  - primary and residential (20 percent of all crashes; 23 percent of F/SI crashes)
  - residential and residential (19 percent of all crashes; 13 percent of F/SI crashes)
- Intersections between a primary street and either another primary, secondary, or tertiary street had some of the highest rates of F/SI crashes and EPDO scores per 100 intersections. Compared to streets that intersect with a residential street, there are relatively few intersections between only non-residential streets, but crashes that occur at these locations are disproportionately severe.
- Residential-residential intersections accounted for the third largest share of pedestrian crashes but make up 71 percent of the network, resulting in a very low intersection crash rate (1.8 crashes per 100 intersections).

Table 23: Pedestrian Intersection Crashes by Functional Classification (2018-2022)

Higher Order Roadway	Other Roadway	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 ints
Trunk total		**6**	**1%**	**1**	**1%**	**170**	**6.5**	**1.1**
Trunk	Trunk	0	0%	0	0%	0	0.0	0.0
	Primary	0	0%	0	0%	0	0.0	0.0
	Secondary	2	<1%	0	0%	17	25.0	0.0
	Tertiary	3	<1%	1	1%	142	30.0	10.0
	Residential	1	<1%	0	0%	11	1.4	0.0
Primary total		**228**	**28%**	**43**	**30%**	**7,940**	**44.3**	**8.3**
Primary	Primary	4	1%	3	2%	437	28.6	21.4
	Secondary	28	3%	4	3%	728	71.8	10.3
	Tertiary	29	4%	4	3%	750	67.4	9.3
	Residential	167	20%	32	23%	6,025	39.9	7.6
Secondary total		**260**	**32%**	**54**	**38%**	**11,136**	**17.3**	**3.6**
Secondary	Secondary	19	2%	3	2%	505	19.4	3.1
	Tertiary	52	6%	12	9%	2,332	44.8	10.3
	Residential	189	23%	39	28%	8,299	14.7	3.0
Tertiary total		**167**	**20%**	**25**	**18%**	**5,710**	**10.8**	**1.6**
Tertiary	Tertiary	38	5%	7	5%	1,288	30.9	5.7
	Residential	129	16%	18	13%	4,422	9.0	1.3
Residential total		**158**	**19%**	**19**	**13%**	**4,962**	**1.8**	**0.2**
Residential	Residential	158	19%	19	13%	4,962	1.8	0.2

Source: TIMS 2023

Bicyclists

Table 24 summarizes bicyclist intersection crashes by highest and lowest functional classification of the intersecting streets.

- Like pedestrian crashes, crashes occurred most frequently at:
  - secondary-residential intersections (28 percent of all crashes; 24 percent of F/SI crashes)
  - residential-residential intersections (18 percent of all crashes; 13 percent of F/SI crashes)
  - primary-residential intersections (17 percent of all crashes; 16 percent of F/SI crashes)
- As with pedestrian crashes, In comparison, crashes at intersections with only non-residential streets had a substantially higher rate of crashes and F/SI crashes per 100 intersections than crashes at intersections with residential streets. Intersections involving a residential street accounted for a large share of crashes, but they also represent 96 percent of the network.

Table 24: Bicyclist Intersection Crashes by Functional Classification (2018-2022)

Higher Order Roadway	Other Roadway	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 ints
Trunk total		**14**	**2%**	**4**	**4%**	**651**	**15.1**	**4.3**
Trunk	Trunk	3	<1%	0	<1%	33	75.0	0.0
	Primary	0	0%	0	<1%	0	0.0	0.0
	Secondary	3	<1%	1	1%	137	37.5	12.5
	Tertiary	1	<1%	1	1%	120	10.0	10.0
	Residential	7	1%	2	2%	361	10.1	2.9
Primary total		**169**	**22%**	**24**	**24%**	**5,155**	**32.8**	**4.7**
Primary	Primary	5	1%	2	2%	339	35.7	14.3
	Secondary	27	4%	2	2%	510	69.2	5.1
	Tertiary	24	4%	4	4%	680	55.8	9.3
	Residential	113	17%	16	16%	3,626	27.0	3.8
Secondary total		**259**	**38%**	**37**	**37%**	**8,464**	**17.3**	**2.5**
Secondary	Secondary	40	6%	6	6%	1,343	40.8	6.1
	Tertiary	31	5%	7	7%	1,307	26.7	6.0
	Residential	188	28%	24	24%	5,814	14.6	1.9
Tertiary total		**120**	**18%**	**21**	**21%**	**48,87**	**7.7**	**1.4**
Tertiary	Tertiary	12	2%	3	3%	672	9.8	2.4
	Residential	108	16%	18	18%	4,215	7.6	1.3
Residential total		**119**	**18%**	**13**	**13%**	**3,558**	**1.4**	**0.1**
Residential	Residential	119	18%	13	13%	3,558	1.4	0.1

Source: TIMS 2023

Motor Vehicles

Table 25 presents motor vehicle crashes by functional classification. The following disproportionate relationships stand out:

- Intersection crashes along primary and secondary roads account for the majority of intersection crashes (36 and 29 percent each) and similarly large shares of F/SI crashes (35 and 29 percent).
- The highest average EPDO scores were at intersections along the trunk and primary roadway system where they intersect with lower-order intersections. When looking at the signalized versus unsignalized breakdown of these combinations, the unsignalized intersections all have higher average EPDO scores—indicating that unsignalized minor-street intersections along arterial roadways have a disproportionate severity burden in the county.
- Trunk and residential unsignalized intersections consist of two percent of total crashes but make up for six percent of total F/SI crashes.

Table 25: Motor Vehicle Intersection Crashes by Functional Classification

Higher Order Roadway	Other Roadway	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 ints
Trunk total		**164**	**4%**	**17**	**7%**	**4,442**	**176.3**	**176.3**
Trunk	Trunk	31	1%	0	0%	286	775.0	775.0
	Primary	-	0%	0	0%	-	0.0	0.0
	Secondary	31	1%	4	2%	900	387.5	387.5
	Tertiary	15	0%	1	0%	320	150.0	150.0
	Residential	87	2%	12	5%	2,936	126.1	126.1
Primary total		**1,387**	**36%**	**86**	**35%**	**24,738**	**269.3**	**269.3**
Primary	Primary	50	1%	6	2%	1,398	357.1	357.1
	Secondary	209	5%	12	5%	3,332	535.9	535.9
	Tertiary	196	5%	11	4%	3,201	455.8	455.8
	Residential	932	24%	57	23%	16,807	222.4	222.4
Secondary total		**1,121**	**29%**	**72**	**29%**	**21,631**	**74.7**	**74.7**
Secondary	Secondary	139	4%	12	5%	3,027	141.8	141.8
	Tertiary	174	5%	15	6%	3,837	150.0	150.0
	Residential	808	21%	45	18%	14,767	62.8	62.8
Tertiary total		**546**	**14%**	**39**	**16%**	**11,725**	**35.2**	**35.2**
Tertiary	Tertiary	129	3%	10	4%	2,490	104.9	104.9
	Residential	417	11%	29	12%	9,235	29.2	29.2
Residential total		**618**	**16%**	**34**	**14%**	**11,137**	**7.0**	**7.0**
Residential	Residential	618	16%	34	14%	11,137	7.0	7.0

Intersection Control

Pedestrians

Table 26 summarizes pedestrian intersection crashes by intersection signalization.

Most intersection crashes (63%) and F/SI crashes (61%) occurred at unsignalized intersections. This finding is expected as the vast majority of intersections across the county are unsignalized intersections, and these intersections include uncontrolled locations along higher-traffic streets. However, when looking at crashes per 100 intersections, crashes were concentrated at signalized intersections (50.9 crashes per 100 intersections; 9.4 F/SI crashes per 100 intersections).

At *signalized* intersections, the following pre-crash movement trends were most prevalent:

- a pedestrian crossing in a crosswalk who was struck by a left turning motorist (38 percent of all crashes; 29 percent of F/SI crashes), followed by
- a pedestrian crossing in a crosswalk who was struck by a right turning motorist (23 percent of all crashes; 9 percent of F/SI crashes).

Looking just at injury severity per driver pre-crash movement at signalized intersections, the following trends stand out:

- 40 percent of crashes involving motorists proceeding straight resulted in a F/SI outcome, while
- 15 percent of crashes involving a left-turning driver resulted in an F/SI outcome.

Crashes that involved a pedestrian crossing in a crosswalk at a signalized intersection with a motorist going straight accounted for the second largest share of F/SI crashes (23 percent); these crashes were also disproportionately severe when they occurred, with 42 percent of crashes resulting in a F/SI outcome.

At *unsignalized* intersections, the following pre-crash movement trends were most prevalent:

- a pedestrian crossing in a crosswalk who was struck by motorist going straight (24 percent of all crashes; 27 percent of F/SI crashes), and
- a pedestrian crossing in a crosswalk who was struck by motorist making a left turn (22 percent of all crashes; 22 percent of F/SI crashes).

Looking just at injury severity per driver pre-crash movement at unsignalized intersections, the following trends stand out:

- 22 percent of crashes involving a motorist going straight resulted in a F/SI outcome,
- 16 percent of crashes involving a motorist turning left resulted in a F/SI outcome, and
- 9 percent of crashes involving a right turning motorist resulted in an F/SI outcome.

This order of F/SI outcomes by motorist pre-crash movement likely directly reflects the motorist's speed at the time of the crash. Proceeding straight and turning left are generally associated with higher vehicle speeds compared to turning right.

Table 26: Intersection Signalization, Pedestrian Intersection Crashes (2018-2022)

Traffic Signal	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Avg EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 Ints
Signalized	304	37%	56	39%	9,201	31%	30.5	50.9	9.4
Unsignalized	515	63%	86	61%	20,717	69%	40.5	4.3	0.7
Total	**819**	**100%**	**142**	**100%**	**29,918**	**100%**	**36.8**	**6.6**	**1.1**

Source: TIMS 2023

Bicyclists

Table 27 summarizes bicyclist intersection crashes by intersection signalization. Sixty-seven percent of all crashes and 70 percent of F/SI crashes occurred at unsignalized intersections. When looking at crashes per 100 intersections, crashes were concentrated at signalized intersections (37.5 crashes per 100 intersections; 5 F/SI crashes per 100 intersections). The percentage of crashes that resulted in a F/SI outcome was comparable between location types, with 15 percent of crashes resulting in a F/SI outcome at unsignalized intersections compared to 13 percent at signalized intersections.

At *signalized* intersections, the following pre-crash movements between a motorist and bicyclist were the most prevalent:

- Perpendicular pre-crash directions of travel (48 percent of all crashes; 50 percent of F/SI crashes) and
- Same direction movements (32 percent of all crashes; 31 percent of F/SI crashes).

Perpendicular F/SI crashes most commonly involved a bicyclist proceeding straight and the motorist proceeding straight (31 percent), followed by a bicyclist proceeding straight and the motorist making a left turn (12 percent).

In terms of violation type at signalized intersections:

- Disregarding a red traffic signal was the most frequent reported violation type for all crashes (22 percent) and F/SI crashes (39 percent), followed by
- Improper turning (15 percent of all crashes; 12 percent of F/SI crashes).

The same trends in pre-crash movements existed at *unsignalized* intersections, with some differences in severity. The following pre-crash movements between a motorist and bicyclist were the most prevalent:

- Perpendicular pre-crash directions of travel (49 percent of all crashes; 45 percent of F/SI crashes) and

- Same direction (28 percent of all crashes; 38 percent of F/SI crashes).

Most perpendicular crashes occurred at intersections between residential-residential streets (30 percent) and secondary-residential streets (29 percent), though crashes were more likely to result in a F/SI outcome or a higher EPDO at locations between any arterial type (primary, secondary, and tertiary) and a residential street, compared to an intersection only between residential streets.

This finding may reflect both the higher speeds of arterial streets and the challenges a bicyclist may experience when trying to cross a larger street without a traffic control device to accommodate a safe and comfortable crossing.

Table 27: Intersection Signalization, Bicyclist Intersection Crashes (2018-2022)

Traffic Signal	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 Ints
Signalized	224	33%	30	30%	5,604	25%	25.0	37.5	5.0
Unsignalized	457	67%	69	70%	17,083	75%	37.7	3.9	0.6
Total	**681**	**100%**	**99**	**100%**	**22,687**	**100%**	**33.5**	**5.5**	**0.8**

Source: TIMS 2023

Motor Vehicles

Table 28 presents motor vehicle crashes by intersection control. The majority of motor vehicle crashes occurred at unsignalized intersections, but signalized intersections have a much higher crash rate per 100 intersections. This reflects the roadway network: unsignalized intersections are far more abundant (95 percent of countywide intersections), but signalized intersections carry higher traffic volumes.

In terms of severity, the average EPDO score at unsignalized intersections is higher as previously noted, and the EPDO score share is higher than the crash share.

Table 28: Motor Vehicle Intersection Crashes Intersection Control

Traffic Signal	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 Ints
Signalized	1,678	44%	89	36%	25,702	35%	15.3	281.1	14.9
Unsignalized	2,158	56%	159	64%	47,971	65%	22.2	18.2	1.3
Total	**3,836**	**100%**	**248**	**100%**	**73,673**	**100%**	**19.2**	**30.8**	**2.0**

Source: TIMS 2023

Number of Legs

Pedestrians

Table 29 summarizes pedestrian crashes at intersections by the number of intersection legs. Interestingly, three-quarters of the network is comprised of three-legged intersections. However, most pedestrian crashes (59 percent) and F/SI crashes (61 percent) occurred at four-legged intersections. While four-legged intersections only represent about a quarter of intersections, these locations are often riskier than three-legged intersections due to pedestrians having higher exposure levels to moving vehicles, resulting in a higher frequency of interactions that can lead to crashes. The average EPDO scores are essentially the same between three- and four-legged intersections, though crashes are much more concentrated at four-legged intersections when looking at crashes and F/SI crashes per 100 intersections. When looking at signalization and number of legs, crashes most frequently occurred at unsignalized four-legged intersections (33 percent of all crashes; 35 percent of F/SI crashes), although crashes and F/SI crashes are concentrated at signalized four-legged intersections, which have roughly six times the rate of crashes and F/SI crashes per 100 intersections.

Table 29: Number of Legs, Pedestrian Intersection Crashes (2018-2022)

# of Legs	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 Ints
3	319	389%	53	37%	11,543	39%	36.2	3.4	0.6
4	485	59%	86	61%	17,898	60%	36.9	16.3	2.9
5+	15	2%	3	2%	477	2%	31.8	28.8	5.8
Total	**819**	**100%**	**142**	**100%**	**29,918**	**100%**	**36.5**	**6.6**	**1.1**

Source: TIMS 2023

Bicyclists

Table 30 summarizes bicyclist crashes at intersections by number of legs. Unlike pedestrian crashes, most bicyclist crashes (52 percent) and F/SI crashes (55 percent) occurred at three-legged intersections. However, the three-legged locations still had a lower rate of crashes and F/SI crashes per 100 intersections compared to four-legged intersections. As with pedestrians, the higher rate of bicyclist crashes at four-legged intersections likely relates to the role these intersections play in moving traffic throughout the county, and the resultant greater exposure of bicyclists to motor vehicles at these locations. For both pedestrians and bicyclists, greater exposure increases crash risk unless effective safety countermeasures are in place. When looking at signalization, intersections with traffic signals had a higher concentration of crashes (crashes per 100 intersections) for each number of legs category and tended to be more severe with having a higher average EPDO score compared to unsignalized intersections.

Table 30: Number of Legs, Bicyclist Intersection Crashes (2018-2022)

# of Legs	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score	Crashes per 100 Ints	F/SI Crashes per 100 Ints
3	355	52%	54	55%	12,595	55%	35.5	3.8	0.6
4	322	47%	45	46%	10,076	44%	31.3	10.8	1.5
5+	4	1%	0	0%	44	<1%	11.0	7.7	0.0
Total	**681**	**100%**	**99**	**100%**	**22,715**	**100%**	**33.5**	**5.5**	**0.8**

Source: TIMS 2023

Speed Limit

The following sections present intersections crashes by maximum posted speed limit and compare the results to the total mileage of roadway by speed limit. First, The summary of roadways by speed limit is provided in Table 31 for context. Note that roadways with posted speeds 45 mph or higher account for 11 percent of the total roadway network, whereas roadways with posted speed 25 mph or less account for 80 percent. The findings below show a much higher share of crashes occurring on those higher speed roadways.

Table 31: County Roadway Mileage by Posted Speed Limit

Posted Speed Limit	Length (miles)	Share of Total Roadway Mileage
≤25	2306	80%
30	34	1%
35	193	7%
40	17	1%
45	234	8%
50+	92	3%
Total	**2877**	**100%**

Source: C/CAG 2023

Pedestrians

Table 32 summarizes pedestrian crashes by the posted speed limit. We found that 25-mph streets accounted for the largest share of pedestrian crashes (38 percent) and F/SI crashes (34 percent). This distribution makes sense, given that 80 percent of the street network has a speed limit of 25mph or less. As such, the rate of crashes and average EPDO scores per 100 miles is the lowest for 25 mph of all posted speed limits. Streets with a posted speed limit of 45 mph had the second largest share of crashes (27 percent) and F/SI crashes (29 percent), followed by 35-mph streets (23 percent of all crashes; 27 percent of F/SI crashes). These higher speed streets had some of the highest percentages of crashes resulting in an F/SI outcome, average EPDO scores, and EPDO scores per 100 miles. These findings support the current understanding that higher speed roads have serious safety implications for vulnerable road users.

Table 32: Posted Speed Limit, Pedestrian Crashes (2018-2022)

Posted Speed Limit	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	EPDO/ Crash	EPDO/ 100 Miles
25	400	38%	69	34%	15,366	37%	38.4	666
30	82	8%	11	5%	2,586	6%	31.5	7,511
35	237	23%	55	27%	10,299	25%	43.5	5,339
40	34	3%	4	2%	972	2%	28.6	5,570
45	277	27%	59	29%	11,626	28%	42.0	4,971
50+	13	1%	5	3%	728	2%	56.0	790
Total	**1,043**	**100%**	**203**	**100%**	**41,577**	**100%**	**39.9**	**1,445**

Source: TIMS 2023

Bicyclists

Table 33 summarizes bicyclist crashes by the posted speed limit. Streets with a posted speed limit of 25 mph (32 percent of all crashes; 31 percent of F/SI crashes) accounted for the second largest share of crashes but given that these streets represent 80 percent of the network, they had the lowest rate of EPDO scores (n=202) on a 100-mile basis. In contrast, higher-speed streets tend to have very high EPDO scores per 100 miles.

The following streets accounted for the largest share of F/SI crashes and the highest rates of EPDO per 100 miles:

- 45 mph accounted for the largest share of all crashes (32 percent) and F/SI crashes (31 percent) and had the highest rate of EPDO scores per 100 miles (2,129), while 45-mph streets comprise only eight percent of the network.
  - Additional exploration of streets with a posted speed limit of 45 mph shows that the largest share of crashes (37 percent) and F/SI crashes (45 percent) occurred at segment (non-intersection) locations.
  - Most segment crashes and F/SI crashes involved a bicyclist and motorist traveling in the same direction. These same direction crashes often involved violations pertaining to unsafe speed and improper turns.
- 35 mph accounted for the third largest share of all crashes (25 percent) and F/SI crashes (27 percent) but had the second highest rate of EPDO scores per 100 miles (n=1,713), while 35-mph streets comprise only seven percent of the network.
  - Crashes along 35-mph streets most frequently occurred at unsignalized intersections (40 percent of all crashes; 47 percent of F/SI crashes).
  - These crashes at unsignalized intersections generally involved both roadway users traveling in perpendicular directions (39 percent of all crashes; 27 percent of F/SI crashes). These perpendicular direction crashes often involved violations pertaining to failing to stop at a stop sign.

Table 33: Posted Speed Limit, Bicycle Crashes (2018-2022)

Posted Speed Limit	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	EPDO/ Crash	EPDO/ 100 Mile
25	330	32%	231	31%	4,648	32%	14.1	202
30	51	5%	44	6%	73	1%	1.4	212
35	261	25%	200	27%	3,304	23%	12.7	1,713
40	29	3%	24	3%	70	1%	2.4	401
45	330	32%	233	31%	4,980	34%	15.1	2,129
50+	31	3%	19	3%	1,444	10%	46.6	1,566
Total	**1,032**	**100%**	**751**	**100%**	**14,519**	**100%**	**14.1**	**505**

Motor Vehicles

Table 34 presents motor vehicle crashes by intersection control and posted speed limit. Crashes most frequently occurred at intersections with a posted speed limit of 40 mph or higher (41 percent and 45 percent of F/SI crashes), although those roadways account for just 12 percent of the roadway network. Roadways posted at 40-45 mph show the highest EPDO per 100 miles, as well.

The higher-speed intersection primarily occurred at unsignalized intersections:

- 70 percent of 40mph intersections
- 55 percent of 45 mph intersections
- 61 percent of 50+ mph intersections

Notably, almost 47 percent of the 40mph+ unsignalized intersection crashes occurred along secondary roadways A majority of crashes at 45 mph or higher intersections were at unsignalized intersections (56 percent), and most of the frequency and severity was along secondary roadways intersecting lower-order roadways (48 percent of EPDO).

Table 34: Motor Vehicle Intersection Crashes by Posted Speed Limit

Posted Speed Limit	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	EPDO/ Crash	EPDO/ 100 Mile
25	1,081	28%	66	27%	20,785	28%	19.2	901
30	218	6%	10	4%	3,439	5%	15.8	9,988
35	931	24%	60	24%	17,072	23%	18.3	8,850
40	166	4%	10	4%	3,288	4%	19.8	18,842
45	1276	33%	88	35%	25,384	34%	19.9	10,853
50+	164	4%	14	6%	3,705	5%	22.6	4,019
Total	**3,836**	**100%**	**248**	**100%**	**73,673**	**100%**	**19.2**	**2,561**

Source: TIMS 2023

Roadway Crash Geometric Characteristics

Functional Classification

Table 35 presents the roadway functional classification and posted speed limit countywide distribution. The majority (84 percent) of the countywide roadway network has a posted speed limit of 25 mph or less and the majority (66 percent) of roadways are classified as residential.

Table 35: Roadway Functional Class and Posted Speed Distribution, Countywide

Functional Classification	Posted Speed			Total
	<=25	30-35	40+	
Trunk	0%	0%	1%	1%
Primary	<1%	1%	1%	3%
Secondary	2%	2%	3%	7%
Tertiary	5%	2%	1%	8%
Residential	64%	2%	<1%	66%
Other	<1%	0%	<1%	1%
Unknown	13%	<1%	1%	15%
Total	**84%**	**8%**	**8%**	**100%**

Source: C/CAG, OSM 2023

Pedestrians

Table 36 summarizes pedestrian crashes by functional classification. Most pedestrian crashes (29 percent) and F/SI crashes (31 percent) occurred along secondary streets. The distribution of pedestrian crashes is somewhat uniform between secondary, primary, residential, and tertiary streets, with the percentage of crashes by functional class ranging between 20 percent (tertiary) and 29 percent (secondary). However, when looking at mileage-based crash rates, primary streets had the highest rate of crashes per 100 miles (340 crashes per 100 miles) and F/SI crashes (81 F/SI crashes per 100 miles), followed by secondary (137 crashes per 100 miles; 29 F/SI crashes per 100 miles). This supports the current understanding of pedestrian crash risk along major arterials, which generally have higher vehicle speeds, higher vehicle volumes, and greater widths to cross.

Table 36: Functional Classification, Pedestrian Crashes (2018-2022)

Functional Class	Miles	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Crashes per 100 miles	F/SI Crashes per 100 miles
Secondary	225	308	29%	65	31%	13,307	31%	137	29
Primary	78	264	25%	63	30%	11,385	27%	13	2
Residential	1,824	242	23%	32	15%	7,806	18%	89	17
Tertiary	246	219	20%	41	20%	8,711	20%	340	81
Unknown		30	3%	5	2%	1,080	3%	20	4
Trunk	49	10	1%	2	1%	368	1%	137	29
Total		**1,073**	**100%**	**208**	**100%**	**42,657**	**100%**	**36**	**7**

Source: TIMS 2023

Bicyclists

Table 37 summarizes bicyclist crashes by functional classification. Most bicyclist crashes (39 percent) occurred along secondary streets, followed by residential (20 percent) and primary (20 percent) streets. Residential streets accounted for the second largest share of crashes and third largest share of F/SI crashes but had the lowest rate of crashes per 100 miles (11) and F/SI crashes per 100 miles (7) compared to primary streets (260 crashes per 100 miles; 224 F/SI crashes per 100 miles) and secondary streets (177 crashes per 100 miles; 128 KS crashes per 100 miles). Like pedestrian crashes, these findings likely indicate the vulnerability of bicyclists traveling along or across major streets that generally have higher vehicle volumes and speeds and are larger streets to cross.

When looking at crashes along secondary streets, most crashes occurred at unsignalized intersections (43 percent), and most F/SI crashes occurred at segment locations (44 percent). Most crashes at unsignalized locations involved both roadway users traveling in perpendicular directions of travel (41 percent), while most segment F/SI crashes involved a solo bicyclist (45 percent) or the motorist and bicyclist traveling in the same direction (38 percent).

Table 37: Functional Classification, Bicycle Crashes (2018-2022)

Functional Class	Miles	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Crashes per 100 miles	F/SI Crashes per 100 miles
Secondary	225	399	39%	288	38.%	5,930	41%	177	128
Residential	1,824	236	20%	135	18%	3,347	23%	11	7
Tertiary	246	203	18%	131	17%	2,401	17%	77	53
Primary	78	151	20%	174	23%	1,142	8%	260	224
Trunk	49	35	3%	20	3%	1,104	8%	59	41
Ramp	88	30	1%	1	<1%	237	2%	9	1
Alley	21	8	<1%	2	<1%	341	2%	15	10
Motorway	3	3	<1%	0	0%	17	<1%	61	<1%
Total		**1,032**	**100%**	**751**	**100%**	**14,519**	**100%**	**36**	**26**

Source: TIMS 2023

Motor Vehicles

Table 38 presents motor vehicle roadway crashes by functional classification. Secondary roadways are overrepresented in in F/SI share (36 percent) compared to total share (29 percent). Both of those shares are higher than the total secondary roadway share—just 8 percent of the county roadway network. Tertiary roadways are similarly overrepresented – 23 percent of F/SI and 29 percent of total compared to 9 percent of the roadway network. The tertiary crashes have by far the largest crashes and F/SI crashes per 100 miles of roadway network.

Table 38: Functional Classification, Motor Vehicle Crashes (2018-2022)

Functional Class	Miles	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Crashes per 100 miles	F/SI Crashes per 100 miles
Secondary	225	1,828	29%	184	36%	45,476	33%	813.8	81.9
Residential	1,824	1,065	17%	64	12%	19,968	14%	58.4	3.5
Tertiary	246	1,819	29%	121	23%	34,058	25%	2,342.3	155.8
Primary	78	843	13%	69	13%	19,179	14%	343.1	28.1
Trunk	49	409	6%	58	11%	13,056	9%	828.9	117.6
Ramp	88	187	3%	6	1%	2,687	2%	-	-
Alley	21	165	3%	10	2%	3,035	2%	187.6	11.4
Motorway	3	6	0%	3	1%	523	0%	1.7	0.9
Total		**1**	**0%**	**0**	**0%**	**6**	**0%**	**4.9**	**0.0**

Source: TIMS 2023

Speed Limit

Pedestrian

Table 39 summarizes pedestrian crashes by the posted speed limit. We found that 25-mph streets accounted for the largest share of pedestrian crashes (38 percent) and F/SI crashes (34 percent). This distribution makes sense, given that 80 percent of the street network has a speed limit of 25 mph or less. As such, the rate of crashes and average EPDO scores per 100 miles is the lowest for 25 mph of all posted speed limits. Streets with a posted speed limit of 45 mph had the second largest share of crashes (27 percent) and F/SI crashes (29 percent), followed by 35-mph streets (23 percent of all crashes; 27 percent of F/SI crashes). These higher speed streets had some of the highest percentages of crashes resulting in an F/SI outcome, average EPDO scores, and EPDO scores per 100 miles. These findings support the current understanding that higher speed roads have serious safety implications for vulnerable road users.

Table 39: Posted Speed Limit, Pedestrian Crashes (2018-2022)

Posted Speed Limit	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	EPDO/ Crash	EPDO/ 100 Miles
25	400	38%	69	34%	15,366	37%	38.4	666
30	82	8%	11	5%	2,586	6%	31.5	7,511
35	237	23%	55	27%	10,299	25%	43.5	5,339
40	34	3%	4	2%	972	2%	28.6	5,570
45	277	27%	59	29%	11,626	28%	42.0	4,971
50	13	1%	5	3%	728	2%	56.0	790
Total	**1,043**	**100%**	**203**	**100%**	**41,577**	**100%**	**39.9**	**1,445**

Source: TIMS 2023

Bicyclist

Table 40 summarizes bicyclist crashes by the posted speed limit. Streets with a posted speed limit of 25 mph (32 percent of all crashes; 31 percent of F/SI crashes) accounted for the second largest share of crashes, but given that these streets represent 80 percent of the network, they had the lowest rate of EPDO scores (n=202) on a 100-mile basis. In contrast, higher-speed streets tend to have very high EPDO scores per 100 miles.

The following streets accounted for the largest share of F/SI crashes and the highest rates of EPDO per 100 miles:

- 45 mph accounted for the largest share of all crashes (32 percent) and F/SI crashes (31 percent) and had the highest rate of EPDO scores per 100 miles (n=2,129), while 45-mph streets comprise only eight percent of the network.
  - Additional exploration of streets with a posted speed limit of 45 mph shows that the largest share of crashes (37 percent) and F/SI crashes (45 percent) occurred at segment (non-intersection) locations.
  - Most segment crashes and F/SI crashes involved a bicyclist and motorist traveling in the same direction. These same direction crashes often involved violations pertaining to unsafe speed and improper turns.
- 35 mph accounted for the third largest share of all crashes (25 percent) and F/SI crashes (27 percent) but had the second highest rate of EPDO scores per 100 miles (n=1,713), while 35-mph streets comprise only seven percent of the network.
  - Crashes along 35-mph streets most frequently occurred at unsignalized intersections (40 percent of all crashes; 47 percent of F/SI crashes).
  - These crashes at unsignalized intersections generally involved both roadway users traveling in perpendicular directions (39 percent of all crashes; 27 percent of F/SI crashes). These perpendicular direction crashes often involved violations pertaining to failing to stop at a stop sign.

Table 40: Posted Speed Limit, Bicycle Crashes (2018-2022)

Posted Speed Limit	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	EPDO/ Crash	EPDO/ 100 Miles
25	330	32%	231	31%	4,648	32%	14.1	202
30	51	5%	44	6%	73	1%	1.4	212
35	261	25%	200	27%	3,304	23%	12.7	1,713
40	29	3%	24	3%	70	1%	2.4	401
45	330	32%	233	31%	4,980	34%	15.1	2,129
50+	31	3%	19	3%	1,444	10%	46.6	1,566
Total	**1,032**	**100%**	**751**	**100%**	**14,519**	**100%**	**14.1**	**505**

Motor Vehicles

Table 41 presents motor vehicle crashes by posted max speed limit. Roadways with posted speed limits of 40 mph or higher consist of 12 percent of County roadways but make up 44 percent total crashes and the majority (55 percent) of total F/SI crashes. Crashes that occurred on roadways with a posted speed limit of 40 mph or higher had an average EPDO per mile that was more than thirteen times that of crashes occurring on roadways with a posted speed limit of 25 mph or less.

The majority of the roadways (80 percent) in the County have a posted speed limit of 25 mph or less and make up 28 percent of total crashes and 23 percent of total F/SI crashes.

Speed plays a role in crash risk and severity in the following three ways:

- Higher vehicle speeds involve more kinetic energy transfer, resulting in more severe outcomes.
- Drivers traveling at higher speeds have a narrower field of vision.
- Drivers have less margin for reaction times and require greater distance both to react and to brake or avoid a conflict, making crashes more likely.

Table 41: Speed Limit, Motor Vehicle Crashes

Posted Speed Limit	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	EPDO/ Crash	EPDO/ Miles
<=25	1,760	28%	118	23%	35,196	26%	20.0	1,526
30	299	5%	16	3%	5,074	4%	17.0	14,737
35	1310	21%	92	18%	25,611	19%	19.6	13,277
40	222	4%	13	3%	4,311	3%	19.4	24,705
45	2,092	33%	209	41%	51,557	37%	24.6	22,044
50+	454	7%	61	12%	13,563	10%	29.9	14,712
Unknown	187	3%	6	1%	2,687	2%	14.4	-
Total	**6,324**	**100%**	**515**	**100%**	**137,999**	**100%**	**21.8**	**4,796**

Source: TIMS 2023

Crash Dynamics/Behaviors

Crash Type/Pre-Crash Movement Analysis

This section analyzes pre-crash movements and crash types. The crash type coding available in the data are more meaningful for describing vehicle-to vehicle or solo vehicle dynamics than for pedestrian and bicyclists crashes. Therefore, for pedestrian and bicyclist crashes, pre-crash movement is used here as a more useful way to determine crash dynamics while the motor vehicle analysis uses crash types.

Pedestrians

Table 42 summarizes the top ten pedestrian crashes by pre-crash movements. Most crashes involved:

- A pedestrian crossing at an intersection with a motorist making a left turn (24 percent)
- A pedestrian crossing at an intersection with a motorist proceeding straight (15 percent)
- A pedestrian crossing not in a crosswalk with a motorist proceeding straight (13 percent)

Of those three crash types, those that involved a motorist proceeding straight had a higher share of crashes that resulted in a F/SI outcome and a higher average EPDO score. These findings likely relate to higher vehicle speeds at the time of the crash, which lead to a more severe pedestrian injury.

Most crashes involving a motorist making a left turn and the pedestrian crossing in a crosswalk occurred at a signalized intersection (45 percent), but most of the F/SI crashes with this crash type occurred at unsignalized intersections. These F/SI crash types occurred most frequently at secondary streets; along these streets, crashes were generally split between signalized and unsignalized intersections. The vast majority of this crash type was associated with the motorist *failing to yield to the pedestrian* (87 percent of all crashes; 85 percent of F/SI crashes of this type). Additionally, most of crashes that involved a pedestrian crossing in a crosswalk and a motorist making a left turn occurred during daylight conditions (73 percent of all crashes; 83 percent of F/SI crashes) and were on average more severe than crashes that occurred during dark lighting conditions.

Crashes that involved a pedestrian crossing an intersection with a motorist proceeding straight most frequently occurred at unsignalized intersections for overall crashes (77 percent) and F/SI crashes (59 percent). This may be a result of the pedestrian attempting to cross a larger street who was struck by a motorist who did not have a stop sign or signal. Furthermore, crashes at these unsignalized locations most often involved a motorist who did not yield to the crossing pedestrian (80 percent of all crashes; 87 percent of F/SI crashes). Additionally, most F/SI crashes for this crash type (62 percent) occurred during dark lighting conditions, which is higher than the percentage in darkness for all pedestrian crashes countywide (47 percent).

Table 42: Movement-Based Crash Types, Pedestrian Crashes (2018-2022)

Movement-Based Crash Types, Pedestrian	Count	% of Crashes	# of F/SI Crashes	% of F/SI Crashes	EPDO Score	% of Total EPDO Score	Avg EPDO Score
Ped Crossing in Crosswalk at Intersection, MV Making Left Turn	256	24%	40	19%	8,570	20%	33.5
Ped Crossing in Crosswalk at Intersection, MV Proceeding Straight	163	15%	39	19%	7,696	18%	47.5
Ped Crossing Not in Crosswalk, MV Proceeding Straight	139	13%	49	24%	9,005	21%	64.8
Ped Crossing in Crosswalk at Intersection, MV Making Right Turn	122	11%	11	5%	2,826	7%	23.2
Ped In Road, Including Shoulder, MV Proceeding Straight	80	8%	19	9%	3,697	9%	46.8
Ped Crossing in Crosswalk at Intersection, MV Not Stated	26	2%	3	1%	654	2%	25.2
Ped Crossing Not in Crosswalk, MV Making Left Turn	24	2%	6	3%	1,151	3%	48.0
Ped Crossing in Crosswalk Not at Intersection, MV Proceeding Straight	17	2%	5	2%	1,014	2%	63.4
Ped Not in Road, MV Backing	16	2%	2	1%	484	1%	30.3
Ped Not in Road, MV Proceeding Straight	13	1%	4	2%	724	2%	60.3
Other	217	20%	30	15%	6,836	16%	31.5
Total	**1,073**	**100%**	**208**	**100%**	**42,657**	**100%**	**40.1**

Source: TIMS 2023

Crashes that involved a pedestrian crossing not in a crosswalk with a motorist proceeding straight occurred most often at segment locations (46 percent of all crashes; 53 percent of F/SI crashes), followed by unsignalized intersections (39 percent of all crashes; 31 percent of F/SI crashes). Some caution should be used when interpreting the reported action of the pedestrian crossing within a crosswalk or not, as there may be some reporting errors related to a pedestrian crossing within an *unmarked* crosswalk being coded as *not in crosswalk*. Regardless of location type (signalized, unsignalized, or segment), most crashes involved the motorist not yielding to the pedestrian (71 percent of all crashes; 59 percent of F/SI crashes).

Crashes that occurred at segment locations tend to be more severe, having a higher percentage of crashes that resulted in a F/SI outcome (41 percent) and a higher average EPDO score (73) compared to intersection crashes (31 percent of crashes resulting in a F/SI outcome; 58 average EPDO). This difference in injury severity outcomes likely reflects higher vehicle speeds at the time of the crash. Additionally, most F/SI crashes with this crash type (71 percent) occurred during dark lighting conditions – much higher than the percentage of pedestrian crashes for all crash types countywide (47 percent). This combination of midblock crossing, higher vehicle speeds, and dark lighting conditions may be a key factor in severe pedestrian crashes throughout the county.

Bicyclists

Table 43 summarizes the top 10 movement-based bicyclist crash types for crashes that involved at least one bicyclist and one motorist, solo bicyclist crashes are excluded. Most crashes involved both roadway users proceeding straight at the time of the crash for both the overall crashes (21 percent) and F/SI crashes (18 percent). This finding is not surprising, given that velocity for roadway users going straight is generally higher than for other pre-crash movements, and higher velocities reduce reaction time and increase injury severity in the event of a crash.

These crashes occurred most frequently at unsignalized intersections (53 percent), whereas F/SI crashes occurred most frequently at signalized intersections (43 percent). The most frequent violation types relate to *failure to stop at a stop sign* (15 percent of call crashes; 19 percent of F/SI crashes), *disregarding a traffic signal* (12 percent of all crashes; 29 percent of F/SI crashes), and *unsafe speed* (11 percent of all crashes; 5 percent of F/SI crashes).

The second most common crash type involved a bicyclist proceeding straight and a motorist turning left (12 percent of all crashes; 9 percent of F/SI crashes). Most of these crashes occurred at unsignalized intersections (25 percent of all crashes; 46 percent of F/SI crashes), followed by signalized intersections (25 percent of all crashes; 36 percent of F/SI crashes). These crashes were most frequently cited as a road user *failing to yield to oncoming traffic before making a turn* (43 percent of all crashes; 46 percent of F/SI crashes) and *failure to making a turn in a safe place and use a turn signal* (15 percent of all crashes; 0 F/SI crashes).

The third most common crash type involved a bicyclist proceeding straight and a motorist making a right turn (11 percent of all crashes; 6 percent of F/SI crashes). Most of these crashes occurred at unsignalized intersections (43 percent of all crashes; 29 percent of F/SI crashes) and signalized intersections (32 percent of crashes; 53 percent of F/SI crashes). Note that we have

incomplete crash types for more than 18 percent of crashes (motorist or bicyclist action "not stated"), which hampers a complete understanding of bicyclist safety in the county.

Table 43: Movement-Based Crash Types, Bicyclist Crashes (2018-2022)

Movement-Based Crash Types, Bicyclists	Count	% of Crashes	# of F/SI Crash	% of F/SI Crash	EPDO Score	% of Total EPDO Score	Avg EPDO Score
Bike Proceeding Straight, MV Proceeding Straight	186	21%	21	18%	4,911	18%	26.7
Bike Proceeding Straight, MV Making Left Turn	106	12%	11	9%	2,705	10%	25.5
Bike Proceeding Straight, MV Making Right Turn	100	11%	7	6%	2,025	8%	20.3
Bike Not Stated, MV Proceeding Straight	49	6%	9	8%	1,919	7%	39.2
Bike Proceeding Straight, MV Not Stated	36	4%	9	8%	1,831	7%	50.9
Bike Making Left Turn, MV Proceeding Straight	22	3%	5	4%	1,009	4%	45.9
Bike Not Stated, MV Making Left Turn	22	3%	5	4%	1,074	4%	51.1
Bike Proceeding Straight, MV Entering Traffic	21	2%	2	2%	576	2%	27.4
Bike Not Stated, MV Making Right Turn	18	2%	0	0%	188	1%	10.4
Bike Traveling Wrong Way, MV Making Right Turn	17	2%	1	<1%	357	1%	21.0
Other	297	34%	48	41%	10,570	40%	36.2
Total	**874**	**100%**	**118**	**100%**	**27,165**	**100%**	**31.4**

Source: TIMS 2023

Motor Vehicles

Intersection

Table 44 summarizes frequency and severity for all intersection motor vehicle crashes based on crash type. The predominant crash types are broadside (38 percent), rear end (30 percent) and sideswipe (11 percent). These three make up the majority of total crashes (79 percent) and total F/SI crashes (56 percent). Head-on and hit object account for 17 percent of total crashes but make up 26 percent of F/SI crashes and twenty five percent (24 percent) of the total EPDO score.

The top three intersection crash types accounting for EPDO score – broadside, rear end, and head-on – have the following location characteristics:

- Broadside: 61 percent occurred unsignalized intersections (66 percent of EPDO score)
- Rear end: 55 percent at occurred at signalized intersections (51 percent of EPDO score)
- Head-on: 51 percent at occurred at signalized intersections (59 percent of EPDO score)

Table 44: Crash Type and Severity, Motor Vehicle Intersection Crashes

Crash Type	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Broadside	1,471	38%	93	38%	28,167	38%	19.1
Rear End	1,145	30%	30	12%	14,951	20%	13.1
Sideswipe	411	11%	13	5%	5,492	7%	13.4
Head-On	366	10%	45	18%	9,982	14%	27.3
Hit Object	277	7%	40	16%	9,046	12%	32.7
Other	102	3%	8	3%	2,333	3%	22.9
Overturned	48	1%	14	6%	3,018	4%	62.9
Unknown	7	0%	2	1%	285	0%	40.7
Total	**3,827**	**100%**	**245**	**100%**	**73,274**	**100%**	**232.0**

Source: TIMS 2023

Roadway

Table 45 summarizes frequency and severity for all roadway motor vehicle crashes based on crash type. The predominant crash types are rear end (29 percent), hit object (21 percent), and broadside (18 percent). Hit object crashes account for disproportionately large 35 percent of F/SI crashes and 30 percent of EPDO score, compared to 21 percent overall.

Table 45: Crash Type and Severity, Motor Vehicle Roadway Crashes

Crash Type	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Rear End	713	29%	32	12%	11,460	18%	16.1
Hit Object	510	21%	92	35%	18,963	30%	37.2
Broadside	437	18%	26	10%	8,074	13%	18.5
Sideswipe	340	14%	23	9%	6,483	10%	19.1
Head-On	241	10%	49	18%	9,960	16%	41.3
Overturned	168	7%	33	12%	6,785	11%	40.4
Other	69	3%	11	4%	2,352	4%	34.1
Unknown	9	0%	0	0%	84	0%	9.3
Total	**2,487**	**100%**	**266**	**100%**	**64,161**	**100%**	**215.9**

Source: TIMS 2023

Violations

Pedestrians

Table 46 summarizes pedestrian crashes by the officer-reported violation types. The most common violations Included:

- *pedestrian right of way* (50 percent of all crashes; 37 percent of F/SI crashes)
- *pedestrian violation* (19 percent of all crashes; 30 percent of F/SI crashes)
- *unknown* (5 percent of all crashes; 10 percent of F/SI crashes)

For *pedestrian right of way* crashes, the detailed violation descriptions reflect that the vast majority of these crashes involved a driver who did not yield to a pedestrian at an intersection (96 percent of crashes), followed to a much lesser extent by drivers who did not yield to a pedestrian at a driveway (3 percent of crashes). Most of these crashes occurred at unsignalized intersections (56 percent of all crashes; 65 percent of F/SI crashes), and they tended to be more severe than crashes at signalized intersections.

Most *pedestrian violation* crashes involved a pedestrian who failed to yield right of way (78 percent of all crashes; 76 percent of F/SI crashes), followed by illegal midblock crossing (9 percent of crashes; 10 percent of F/SI crashes). For these latter sub-violation types (both within *pedestrian violation)*, about one third of crashes resulted in an F/SI outcome.

When looking at lighting conditions for the top two violation types, dark lighting conditions appear to have a weaker association with F/SI crashes for *pedestrian right of way*, with one-third of F/SI crashes having occurred during dark lighting conditions compared to two-thirds of F/SI crashes for *pedestrian violation*. This finding may reflect pedestrian crossings at locations that lack safety countermeasures (71 percent of F/SI crashes occurred at unsignalized locations).

Table 46: Reported Violations, Pedestrian Crashes (2018-2022)

Reported Violation	Count	% of Crashes	# of F/SI Crashes	% of F/SI Crashes	EPDO Score	% of Total EPDO Score	Avg EPDO Score
Pedestrian Right of Way	541	50%	76	37%	17,638	41%	32.7
Pedestrian Violation	198	19%	63	30%	11,375	27%	58.0
Unknown	57	5%	21	10%	3,546	8%	62.2
Unsafe Speed	65	6%	14	7%	2,637	6%	41.9
Improper Turning	55	5%	7	3%	1,644	4%	30.4
Unsafe Starting or Backing	45	4%	6	3%	1,441	3%	32.0
Traffic Signals and Signs	30	3%	6	3%	1,217	3%	40.6
Driving or Bicycling Under the Influence of Alcohol or Drug	14	1%	3	1%	637	2%	45.5
Other Improper Driving	9	1%	3	1%	582	1%	64.7
Not Stated	10	1%	3	1%	548	1%	54.8
Improper Passing	5	1%	2	1%	415	1%	83.0
Other (violation with < 1% share of EPDO)	44	4%	4	2%	977	2%	22.2
Total	**1,073**	**100%**	**208**	**100%**	**42,657**	**100%**	**40.1**

Source: TIMS 2023

Bicyclists

Table 47 summarizes bicyclist crashes by officer-reported violation types. The most frequent violation types included:

- *automobile right of way* (19 percent of crashes; 15 percent of F/SI crashes)
- *unsafe speed* (18 percent of crashes; 28 percent of F/SI crashes)
- *improper turning* (17 percent of crashes; 12 percent of F/SI crashes)

Crashes cited as *automobile right of way* generally involved a road user failing *to yield to traffic when entering or crossing a highway/road* (32 percent of all crashes), *not yielding to oncoming traffic before turning or making a U-turn* (30 percent of crashes), and *not stopping at a stop sign and yielding to other road users who do not have a stop sign* (23 percent of crashes).

The majority of crashes cited as *unsafe speed* were cited as the bicyclist traveling too fast (83 percent of crashes; 88 percent of F/SI crashes); of these 187 *unsafe speed* crashes, 101 were solo bicyclist crashes. Most of these 187 crashes occurred at segment locations (55 percent), followed by unsignalized locations (34 percent). Note that these data should be interpreted with caution, as *unsafe speed* violation type may be used as a blanket violation or a default violation when the proper violation type is not entirely clear from the responding officer's perspective.

Table 47: Reported Violations, Bicyclist Crashes (2018-2022)

Reported Violation	Count	% of Crashes	# of F/SI Crashes	% of F/SI Crashes	EPDO Score	% of Total EPDO Score	Avg EPDO Score
Unsafe Speed	187	18%	49	28%	10,005	26%	53.5
Automobile Right of Way	199	19%	27	15%	6,392	17%	32.3
Improper Turning	180	17%	21	12%	5,068	13%	28.3
Traffic Signals and Signs	95	9%	18	10%	3,441	9%	37.4
Other Hazardous Violation	66	6%	14	8%	2,754	7%	43.0
Unknown	53	5%	13	7%	2,615	7%	50.3
Wrong Side of the Road	118	11%	6	3%	2,144	5%	18.2
Other Than Driver (or Pedestrian)	21	2%	7	4%	1,350	4%	67.5
Driving or Bicycling Under the Influence of Alcohol or Drug	13	1%	6	3%	1,114	3%	85.7
Not Stated	24	2%	3	2%	753	2%	31.4
Improper Passing	38	4%	2	1%	706	2%	18.6
Unsafe Starting or Backing	18	1%	3	2%	686	2%	38.1
Other (violation with < 1% share of EPDO)	33	3%	3	2%	740	2%	22.4
Total	**1,067**	**100%**	**175**	**100%**	**38,372**	**100%**	**36.3**

Motor Vehicles

Table 48 summarizes frequency and severity for motor vehicle crashes based on primary collision factors. The predominant crash types are *unsafe speed* (27 percent), *automobile right of way* (19 percent), and *improper turning* (18 percent) make up the majority of total crashes (46 percent) and total F/SI crashes (58 percent).

Table 48. Primary Collision Factors - Motor Vehicles

Primary Collision Factor	Count	% of Crashes	Count of F/SI Crashes	% of F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Unsafe Speed	1,732	27%	118	23%	33,985	25%	19.6
Automobile Right of Way	1,177	19%	61	12%	20,581	15%	17.5
Improper Turning	1,108	18%	97	19%	25,170	18%	22.7
Traffic Signals and Signs	632	10%	41	8%	11,597	8%	18.3
Driving or Bicycling Under the Influence of Alcohol or Drug	598	9%	95	18%	20,366	15%	34.1
Following Too Closely	206	3%	3	1%	2,470	2%	12.0
Unsafe Starting or Backing	179	3%	9	2%	2,874	2%	16.1
Unknown	140	2%	15	3%	3,063	2%	21.9
Wrong Side of the Road	136	2%	32	6%	6,002	4%	44.1
Other Than Driver (or Pedestrian)	100	2%	16	3%	3,480	3%	34.8
Other	320	5%	28	5%	7,229	5%	22.6
Total	**6,328**	**100%**	**515**	**100%**	**136,817**	**100%**	**21.6**

Source: TIMS 2023

Alcohol/Drug Usage

This section analyzes alcohol/drug usage as a reported factor in crashes.

Pedestrians

Table 49 summarizes pedestrian crashes by whether the driver or pedestrian was under the influence of alcohol. The vast majority of crashes did not have any road user found to be under the influence of alcohol (96 percent of all crashes; 94 percent of F/SI crashes). Crashes were much more likely to result in a F/SI if the pedestrian was reported to be under the influence of alcohol, with 35 percent of crashes resulting in F/SI compared to 19 percent for crashes in which no one was found to be under the influence of alcohol. Additionally, 10 of the 12 F/SI crashes with one of the roadway users under the influence occurred during dark lighting conditions.

Table 49: Under the Influence of Alcohol, Pedestrian Crashes (2018-2022)

Driver under the Influence	Pedestrian under the Influence	Count	% of Crashes	# of F/SI Crashes	% of F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
No	No	1,033	96%	196	94%	40,278	94%	39.3
No	**Yes**	23	2%	8	4%	1,529	4%	66.5
Yes	No	17	2%	4	2%	850	2%	50.0
Total		**1,073**	**100%**	**208**	**100%**	**42,657**	**100%**	**40.1**

Source: TIMS 2023

Bicyclists

Table 50 summarizes bicyclist crashes by whether the driver or bicyclist was under the influence of alcohol. Like pedestrian crashes, few reported crashes identified either the motorist or bicyclist as being under the influence of alcohol (1.8 percent of all crashes; 4.6 percent of F/SI crashes).

Table 50: Under the Influence of Alcohol, Bicyclist Crashes (2018-2022)

Driver under the Influence	Bicyclist under the Influence	Count	% of Crashes	# of F/SI Crashes	% of F/SI Crashes	EPDO Score	% EPDO Score	Average EPDO Score
No	No	1,047	98%	167	95%	36,923	96%	35.6
No	**Yes**	11	1%	4	2%	713	2%	64.8
Yes	No	9	1%	4	2%	736	2%	81.8
Total		**1,067**	**100%**	**175**	**100%**	**38,372**	**100%**	**36.3**

Source: TIMS 2023

Motor Vehicles

Table 51 summarizes frequency and severity for all motor vehicle crashes based on alcohol/drug usage being report. Drivers were recorded as under the influence in 10 percent of total crashes but 19 percent of F/SI crashes.

Table 51: Alcohol/Drug Usage Crashes, Motor Vehicles

Alcohol/Drug Usage Reported?	Count	% of 5-year Total Crashes	F/SI Count	% of Total F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Yes	606	10%	97	19%	20,731	15%	34.2
No	5,718	90%	418	81%	117,268	85%	20.5
Total	**6,324**	**100%**	**515**	**100%**	**137,999**	**100%**	**21.8**

Source: TIMS 2023

Solo Bicyclist Crashes

Table 52 summarizes crashes for solo bicyclist crashes and crashes that involved both a bicyclist and a motorist. Given the relatively high share of F/SI crashes that solo bicyclist crashes represent (only 18 percent of all crashes, but 33 percent of F/SI crashes), this section aims to see if there are distinct patterns between the two crash types.

Table 52: Solo Bicyclist Crashes (2018-2022)

Mode Type	Bicyclist Crashes	% of Crashes	# of F/SI Crashes	% of F/SI Crashes	EPDO Score	% of Total EPDO Score	Average EPDO Score
Bicyclist-Motorist	874	82%	118	67%	27,165	14%	31.4
Solo bicyclist	193	18%	57	33%	11,207	30%	58.4
Total	1,067	100%	175	100%	38,372	17%	36.3

Source: TIMS 2023

Violation type

The reported violation types are distinct for the two crash types. The majority of solo bicyclist crashes were cited as *unsafe speed* for all crashes and F/SI crashes. For bicyclist-motorist crashes, in contrast, the most frequent violation type was *automobile right of way*. The distribution of crashes by violation for each crash type also differs *unsafe speed* had a substantially larger proportion of crashes (52 percent) for solo bicyclist crashes, while *automobile right of way* accounted for a much smaller share of bicyclist-motorist crashes (23 percent). It is highly unlikely that a solo bicyclist crash would have an automobile right of way violation, but officers may code this while interpreting a bicyclist as an automobile user who they deem to have violated right of way.

- Solo bicyclist
  - Unsafe Speed: 52 percent of all crashes; 56 percent of F/SI crashes
  - Improper turning: 18 percent of all crashes; 14 percent of F/SI crashes
  - Other than Driver or Pedestrian: 10 percent of all crashes; 12 percent of F/SI crashes
- Bicyclist-Motorist
  - Automobile right of way: 23 percent of all crashes; 23 percent of F/SI crashes
  - Improper turning: 17 percent of all crashes; 11 percent of F/SI crashes
  - Wrong side of the road: 13 percent of all crashes; 5 percent of F/SI crashes

Location Type

Solo bicyclist crashes occur more frequently at segment locations (55 percent) compared to bicyclist-motorist crashes (23 percent), although it is the unsignalized intersection crashes that are disproportionately severe for solo bicyclists. Solo bicyclist segment crashes had a much larger share of crashes that had some kind of roadway condition issue (20 percent) compared to bicyclist-motorist crashes (2 percent). While bicyclists are particularly vulnerable to injury with involved in a crash with a motorist, they are also vulnerable to poor roadway conditions, which can cause the bicyclist to fall or lost control while making an evasive maneuver.

- Solo bicyclist
  - segment: 55 percent of all crashes; 54 percent of F/SI crashes
  - unsignalized intersection: 33 percent of all crashes; 39 percent of F/SI crashes
  - signalized intersection: 11 percent of all crashes; 7 percent of F/SI crashes
- Bicyclist-Motorist
  - segment: 23 percent of all crashes; 38 percent of F/SI crashes
  - unsignalized intersection: 45 percent of all crashes; 40 percent of F/SI crashes
  - signalized intersection: 23 percent of all crashes; 22 percent of F/SI crashes

Functional Classification

A key difference between the two crash types is that solo bicyclists crashes, and particularly F/SI crashes, occurred less frequently along or at primary roadways. Aside from crashes along or at primary roadways , the distribution of crashes by functional classification are similar, and both crash types most frequently occurred along secondary streets.

- Solo bicyclist
  - Primary: 13 percent of all crashes; 5 percent of F/SI crashes
  - Secondary: 40 percent of all crashes; 44 percent of F/SI crashes
  - Tertiary: 17 percent of all crashes; 21 percent of F/SI crashes
  - Residential: 18 percent of all crashes; 18 percent of F/SI crashes
- Bicyclist-Motorist
  - Primary: 20 percent of all crashes; 22 percent of F/SI crashes
  - Secondary: 36 percent of all crashes; 35 percent of F/SI crashes
  - Tertiary: 18 percent of all crashes; 17 percent of F/SI crashes
  - Residential: 19 percent of all crashes; 16 percent of F/SI crashes

Posted Speed Limit

Solo bicyclist crashes occurred more often along 45mph streets than bicyclist-motorist crashes, although they were more likely to be severe on 30-35 mph streets.

- Solo bicyclist
  - 25 mph: 25 percent of all crashes; 30 percent of F/SI crashes
  - 30-35 mph: 21 percent of all crashes; 30 percent of F/SI crashes

  - 40-45 mph: 42 percent of all crashes; 32 percent of F/SI crashes
  - 50+ mph: 5 percent of all crashes; 4 percent of F/SI crashes
- Bicyclist-Motorist
  - 25 mph: 32 percent of all crashes; 25 percent of F/SI crashes
  - 30-35 mph: 31 percent of all crashes; 32 percent of F/SI crashes
  - 40-45 mph: 32 percent of all crashes; 33 percent of F/SI crashes
  - 50+ mph: 3 percent of all crashes; 7 percent of F/SI crashes

Unincorporated Areas

Solo bicyclist crashes had nearly three times the share of crashes that occurred in unincorporated areas of the county. Many of the solo bicyclist crashes in unincorporated areas are clustered along Skyline Blvd, Tunitas Creek Rd, Kings Mountain Rd, Half Moon Bay Rd, and Cañada Rd. Most of these streets are narrow, have narrow or no shoulders, and are popular recreation bicycling routes.

- Solo bicyclist
  - Unincorporated: 33 percent of all crashes; 30 percent of F/SI crashes
- Bicyclist-Motorist
  - Unincorporated: 12 percent of all crashes; 20 percent of F/SI crashes

Demographic Party and Victim Variables

This section provides analysis of the victims compared for all crashes as well as specifically for fatal and severe injury (F/SI) outcomes for different age groups, sex, and racial groups. Analyzing these characteristics helps identify any disparities and inequities in road safety. In addition, it becomes possible to better understand the factors contributing to crashes and their outcomes. Different age groups, sex, and racial groups may have varying and intersecting risk factors, behaviors and vulnerabilities that contribute to crashes. This insight can inform the County as well as specific jurisdictions towards development and implementation of effective safety measures to specific groups, including engineering and operational improvements, as well as policies, programs, and targeted educational campaigns aligned with the Safe System Approach.

The analysis looks into the victim characteristics by their mode of travel (motor vehicle drivers/occupants, pedestrians, and bicyclists). This comparison is based on the number of victims, and not the number of crashes, so the total numbers are different than in the other analyses within this memo. Any given crash may injure multiple victims, at different levels of severity. The relationship among crashes, parties, and victims is explained in Crash Data Overview on page 20.

Analyzing the victim data provides additional insight into these crashes and potential crash dynamics. This analysis compared the distribution of parties involved in crashes to the population distribution of San Mateo County. Values greater than one suggest that a certain segment of the population is overrepresented on a per capita basis, while values less than one suggest that that segment of the population is underrepresented on the same basis. It is important to note that this comparison is imperfect in two ways. First, if more or fewer people from a segment of the population bicycle, walk, or drive, we would expect that to be reflected in crash rates, all else equal – and this proportion of people who bicycle, walk, or drive may not reflect their per capita proportion. We likely see this, for example, in trends related to age and sex, and potentially related to race. In the absence of more nuanced exposure data, however, a per capita understanding is still valuable to help us understand how crashes are distributed among various segments of the population. Second, the home zip code is not readily available for all parties involved in the crash, so we cannot rule out that some people riding a bicycle or driving a motor vehicle live outside of San Mateo and their inclusion will therefore marginally affect the accuracy of the victim-to-population ratio. This effect is more likely to apply to drivers (who have longer travel distances on average) than to bicyclists or pedestrians in the county.

Age

Pedestrians

Table 53 summarizes pedestrian victims involved in a crash by age. Pedestrian victims aged between 15 to 29 and 55 to 59 years of age accounted for the largest share of victims for all injury severities. However, pedestrian victims aged from 40 to 44 and 55 to 74 years of age had the largest share of F/SI victims. This is likely a reflection of the level of force the human body can endure as people age, such that pedestrian victims aged in their twenties are less likely to experience a severe injury than a victim aged in their seventies. Indeed, research has found that

an injury to a 65-year-old is approximately the same the injury a 30-year old would experience at *11 mph higher*[14]. This is also reflected in the F/SI victim-to-population ratios which show victims aged 65 or older were the most overrepresented age cohorts, whereas younger populations were generally underrepresented in F/SI crashes. Furthermore, younger populations between 15 to 19 years of age were the most overrepresented victims but fairly underrepresented in F/SI crashes.

Table 53: Victim age breakdown, Pedestrian crashes (2018-2022)

Age	Victims	F/SI Victims	% of Victims	% of F/SI Victims	Share of Population[15]	Victims: Population Ratio	F/SI Victims: Population Ratio
0 - 4	18	2	2%	1%	6%	0.3	0.2
5 - 9	25	5	2%	2%	6%	0.4	0.4
10 - 14	75	11	7%	5%	6%	1.2	0.9
15 - 19	94	8	9%	4%	5%	1.6	0.7
20 - 24	79	11	7%	5%	5%	**1.4**	1.0
25 - 29	91	13	8%	6%	7%	**1.2**	0.9
30 - 34	76	10	7%	5%	8%	0.9	0.6
35 - 39	72	13	7%	6%	8%	0.9	0.8
40 - 44	63	19	6%	9%	7%	0.9	**1.3**
45 - 49	65	13	6%	6%	7%	0.9	0.9
50 - 54	68	11	6%	5%	7%	0.9	0.8
55 - 59	100	19	9%	9%	7%	**1.3**	**1.3**
60 - 64	69	18	6%	9%	6%	1.0	**1.4**
65 - 69	72	19	7%	9%	5%	**1.3**	**1.7**
70 - 74	63	19	6%	9%	4%	**1.5**	**2.3**
75 - 79	30	8	3%	4%	3%	1.0	**1.4**

[14] Tefft, Brian C. 2013. Impact speed and a pedestrian's risk of severe injury or death. Accident Analysis & Prevention, 50: 871-878. https://doi.org/10.1016/j.aap.2012.07.022.
[15] Based on ACS 5-year estimates

Age	Victims	F/SI Victims	% of Victims	% of F/SI Victims	Share of Population[15]	Victims: Population Ratio	F/SI Victims: Population Ratio
80 - 84	25	10	2%	5%	2%	**1.2**	**2.5**
85 +	0	0	0%	0%	2%	0.0	0.0
Unknown	*31*	*5*	*3%*	*2%*			
Total	**1085**	**209**	**100%**	**100%**	**100%**	**1.0**	**1.0**

Source: TIMS 2023, American Community Survey 2021 5-year tables

Bicyclists

Table 54 summarizes bicyclist victims involved in a crash by age. Younger victims aged between 10 to 19 years of age and victims aged between 50 to 54 accounted for the largest share of victims involved in a crash; these cohorts are also some of the most overrepresented victims in overall crashes. In contrast, victims aged at least 70 were the most underrepresented victims, which likely reflects bicycling exposure amongst various age groups. Younger victims aged between 10 to 19 were neither over nor underrepresented in F/SI crashes in these data. However, victims aged between 45 to 64 accounted for the largest share of F/SI victims, and victims aged between 45 to 54, 60 to 64, and 75 to 79 were the most overrepresented age cohorts in terms of fatal or severe injury.

Table 54: Victim age breakdown, Bicyclist crashes (2018-2022)

Age	Victims	F/SI Victims	% of Victims	% of F/SI Victims	Share of Population[16]	Victims: Population Ratio	F/SI Victims: Population Ratio
0 - 4	1	0	<1%	0.0%	5.5%	0.0	0.0
5 - 9	18	1	2%	0.6%	5.7%	0.3	0.1
10 - 14	120	11	11%	6.2%	5.8%	**1.9**	**1.1**
15 - 19	116	9	11%	5.1%	5.4%	**2.0**	0.9
20 - 24	68	8	6%	5%	5%	**1.2**	0.9
25 - 29	90	13	8%	7%	7%	**1.2**	**1.1**
30 - 34	79	8	7%	5%	8%	0.9	0.6
35 - 39	64	12	6%	7%	8%	0.8	0.9
40 - 44	71	11	7%	6%	7%	1.0	0.9
45 - 49	77	19	7%	11%	7%	1.0	**1.5**
50 - 54	121	27	11%	15%	7%	**1.6**	**2.2**
55 - 59	79	11	7%	6%	7%	**1.1**	0.9
60 - 64	72	20	7%	11%	6%	**1.1**	**1.8**
65 - 69	56	11	5%	6%	5%	1.0	**1.2**
70 - 74	28	6	3%	3%	4%	0.6	0.8
75 - 79	15	8	1%	5%	3%	0.5	**1.7**
80 - 84	9	2	1%	1%	2%	0.4	0.6
85 +	0	0	0%	0%	2%	0.0	0.0
Unknown	*4*	*0*	*0%*	0%			
Total	**1084**	**177**	**100%**	**100%**	**100.0%**	**1.0**	**1.0**

Source: TIMS 2023, ACS 2021 5-year tables

[16] Based on ACS 5-year estimates

Motor Vehicles

Table 55 compares the motor vehicle victim age breakdown against the age breakdown of residents in San Mateo County. Values greater than one indicate that a given age group is over-represented in the crash data.

The table shows that victims between the ages of 10 and 29 are more likely to be injured, including F/SI as result of traffic safety issues on average than other groups. Victims between the ages 15 to 24 are especially over-represented with victims and F/SI ratios over two.

Local safety plan review identified children, young adults, and older adults as target victim age populations.

Victims ranging from ages 0-14 (children) account for 18 percent of the countywide population and 14 percent of total crashes and 8 percent of F/SI motor vehicle crash victims. Victims ranging from ages 15-24 (young adult) account for 11 percent of the countywide population but account for 22 percent of total crashes and 26 percent of F/SI motor vehicle crash victims. Victims ranging from ages 65 and up account for 16 percent of the countywide population but account for 10 percent of total crashes and 14 percent of F/SI motor vehicle crash victims.

Table 55: Victim age breakdown, Motor Vehicle Only crashes (2018-2022)

Age	Victims	% of Victims	F/SI Victims	% of F/SI Victims	Share of Population[17]	Victims: Population Ratio	F/SI Victims: Population Ratio
0 - 4	271	3%	2	0%	5%	0.5	0.1
5 - 9	315	3%	6	1%	6%	0.5	0.2
10 - 14	854	8%	41	7%	6%	**1.4**	**1.2**
15 - 19	1,140	11%	73	12%	5%	**2.0**	**2.3**
20 - 24	1,090	11%	81	14%	5%	**2.0**	**2.6**
25 - 29	951	9%	71	12%	7%	**1.3**	**1.7**
30 - 34	832	8%	39	7%	8%	1.0	0.9
35 - 39	703	7%	32	5%	8%	0.9	0.7
40 - 44	669	6%	37	6%	7%	1.0	0.9
45 - 49	643	6%	45	8%	7%	0.9	**1.1**
50 - 54	637	6%	40	7%	7%	0.9	1.0

[17] Based on ACS 5-year estimates

Age	Victims	% of Victims	F/SI Victims	% of F/SI Victims	Share of Population[17]	Victims: Population Ratio	F/SI Victims: Population Ratio
55 - 59	326	3%	3	1%	7%	0.5	0.1
60 - 64	511	5%	33	6%	6%	0.8	0.9
65 - 69	414	4%	35	6%	5%	0.8	**1.1**
70 - 74	312	3%	16	3%	4%	0.7	0.7
75 - 79	204	2%	16	3%	3%	0.7	1.0
80 - 84	130	1%	9	2%	2%	0.7	0.8
85 +	15	<1%	0	0%	2%	0.1	-
Unknown	353	3%	13	2%	0%	N/A	N/A
Total	**10,370**	**100%**	**592**	**100%**	**100%**	**1.0**	**1.0**

Source: TIMS 2023, ACS 2021 5-year tables

Table 56 compares the driver's age breakdown against the age breakdown of residents in San Mateo County. Values greater than one indicate that a given age group is over-represented in the crash data. Drivers summarized in this table are the drivers involved in all crashes (pedestrian, bicyclists, motor vehicle only, solo-motor vehicle, etc.). This table also summarizes the number and share of driver who were involved in F/SI crashes, in which the driver may not have sustained a F/SI but rather a pedestrian or bicyclist may have been fatally or severely injured.

The table shows that drivers between the ages of 20 and 44 are disproportionately likely (on a per-capita basis) to be involved in a crash, and drivers aged between 20 and 34 are overrepresented in F/SI crashes compared to other groups. Drivers between the ages 20 to 24 are especially over-represented in crashes and F/SI ratios.

The table also shows that the aging population is generally underrepresented in both overall crashes and F/SI crashes. Additional research is needed to better reflect travel behaviors within the region, as these results may indicate that younger populations drive more frequently, more recklessly, and/or during higher-risk times (e.g., when visibility is limited (darkness)) compared to the aging population.

Table 56: Driver age breakdown, All crashes (2018-2022)

Driver Age	# Drivers	% Drivers	# Drivers in F/SI Crashes	# Drivers in F/SI Crashes	Share of Population[18]	Driver: Population Ratio	F/SI Driver: Population Ratio
0 - 4	1	0.0%	0	0.0%	5%	0.00	0.00
5 - 9	1	0.0%	0	0.0%	6%	0.00	0.00
10 - 14	12	0.2%	0	0.0%	6%	0.03	0.00
15 - 19	351	5.6%	32	5.3%	5%	**1.03**	0.98
20 - 24	750	11.9%	76	12.7%	5%	**2.25**	**2.39**
25 - 29	777	12.4%	84	14.0%	7%	**1.78**	**2.01**
30 - 34	673	10.7%	69	11.5%	8%	**1.38**	**1.48**
35 - 39	636	10.1%	46	7.7%	8%	**1.31**	0.99
40 - 44	522	8.3%	39	6.5%	7%	**1.22**	0.96
	474	7.5%	41	6.8%	7%	**1.08**	0.98
50 - 54	483	7.7%	51	8.5%	7%	**1.13**	**1.25**
55 - 59	480	7.6%	43	7.2%	7%	**1.11**	**1.04**
60 - 64	356	5.7%	39	6.5%	6%	0.91	**1.05**
65 - 69	301	4.8%	33	5.5%	5%	0.90	**1.04**
70 - 74	233	3.7%	19	3.2%	4%	0.92	0.79
75 - 79	151	2.4%	17	2.8%	3%	0.89	**1.05**
80 - 84	85	1.4%	11	1.8%	2%	0.72	0.97
85 +	0	0.0%	0	0.0%	2%	0.00	0.00
Unknown	31	0.5%	5	0.8%	0%		
Total	**6286**	**100.0%**	**600**	**100.0%**	**100%**	**1.00**	**1.00**

Source: TIMS 2023, ACS 2021 5-year tables

[18] Based on ACS 5-year estimates

Sex

Disclaimer: Party sex is based on officer's assumption or visual impression, which can be problematic and inaccurate. The only categorical values for sex in the crash report form include "male", "female", and "Not Stated" and do not include other sex identities. The party representation and comparison made to the San Mateo county population should be interpreted with caution given these reporting shortcomings.

Table 57 compares the victim sex breakdown against the sex breakdown of residents in San Mateo County. To compare these distributions, the percentage of victims and of F/SI victims within each sex divided by the percentage share in the population overall. Values greater than one indicate that a given sex is over-represented in the crash data.

The table shows that male victims are more likely to be injured including F/SI as result of traffic safety issues on average than other victims.

Table 57: Victim sex breakdown (2018-2022)

Sex	Victims	% of Victims	F/SI Victims	% of F/SI Victims	Share of Population[19]	Victims: Populations Ratio	F/SI Victims: Population Ratio
Male	6,829	53%	666	67%	50%	**1.1**	**1.3**
Female	5,915	46%	319	32%	50%	0.9	0.6
Other	139	1%	3	<1%	0%	N/A	N/A
Not Stated	1	<1%	0	0%	0%	N/A	N/A
Total	**12,884**	**100%**	**988**	**100%**	**100%**	**1.0**	**1.0**

Source: TIMS 2023, ACS 2021 5-year tables

Table 58 shows fatally and severely injured victims by sex and mode. Male victims are more over-represented in F/SI outcomes than in all crashes—67 percent F/SI victims—and account for approximately three times as many F/SI bicyclist and driver victims.

[19] Based on ACS 5-year estimates.

Table 58: Fatally and severely injured victims by sex and mode (2018-2022)

Victim Type	Male		Female		Other		Not Stated	
	F/SI Victims	% of F/SI Victims	F/SI Victims	% of F/SI Victims	F/SI Victims	% of F/SI Victims	F/SI Victims	% of F/SI Victims
Bicyclist	144	15%	33	3%	-	0%	-	-
Driver	351	36%	121	12%	1	<1%	-	-
Other	4	-	2	-	-	0%	-	-
Passenger	48	5%	69	7%	1	<1%	-	-
Pedestrian	119	12%	94	10%	1	<1%	-	-
Total	**666**	**67%**	**319**	**32%**	**3**	**<1%**	**-**	**-**

Source: TIMS 2023,

Race

Disclaimer: Party race is based on an officer's assumption or visual impression, which can be problematic and inaccurate. Additionally, there are only five racial categories (excluding "Not Stated") within the crash data, in contrast to the American Community Survey (ACS), which has nearly twice as many race and ethnicity categories. The party representation and comparison made to the San Mateo county population should be interpreted with caution given these reporting shortcomings.

Victims are assessed based on race to identify whether any racial groups are substantially over-represented. The police report data encodes victim races as "Asian", "Black", "Hispanic", "Other", and "White", based solely on the reporting officer's observation and best judgment.[20] This information is not included on personal identification unlike sex. This method of reporting inevitably leads to inaccurate classification of some victims. In addition, these racial classifications do not cover the full range of ethnic and racial groups that individuals are able to self-report in the context of the ACS, so a direct comparison to the distribution within the population is not possible. Despite this, we used our best judgment to connect the victim racial breakdown to the overall population, as presented in Table 59. The findings and comparisons should be interpreted with caution. Lastly, race information is recorded in crash data at the party level rather than at the victim level, so the total numbers will differ from the age and sex findings previously listed. For example, if a car has a driver and two passengers, then all three people are included in the *victims* table but only the driver is included in the *party* table: hence, there is no passenger information in the subsequent tables.

[20] California Highway Patrol. "Collision Investigation Manual." 2003.

These results suggest that Hispanic, Black, and "Other" victims are disproportionately victims of traffic crashes, and that these groups are disproportionately killed or severely injured. However, this table does not reflect how people travel in San Mateo County, e.g., if people in one race drive significantly more than those of another race, and therefore cannot provide a true picture of traffic risk. Additionally, it bears repeating that the reporting method is likely error-prone; thus, any conclusions drawn from this section should be caveated with recognition of a need for further research.

Table 59 clearly shows an overrepresentation of Black and Hispanic victims in crashes, at rates 2.2 time and 1.2 times their share of the population. This disproportionality may be due to several factors, including historic and current underinvestment in pedestrian and bicyclist infrastructure in predominantly minority neighborhoods, underinvestment in education campaigns in these neighborhoods, and the percentages of residents in these neighborhoods that walk, use transit, and/or bicycle for transportation, and interactions between these factors.

Victims identified as "Other" races may also be overrepresented, though again it is not clear what the makeup of that category is among crash victims compared to the ACS categories.

Table 59: Victim racial breakdown (2018-2022)

Race	Victims	F/SI Victims	% of Victims[21]	% of F/SI Victims	Share of Population[22]	Victims: Populations Ratio	F/SI Victims: Population Ratio
White	5,243	521	30%	36%	38%	0.8	0.9
Hispanic	4,911	366	28%	25%	24%	**1.2**	1.1
Not Stated	3,489	270	20%	19%	0%	N/A	N/A
Other	1,487	114	9%	8%	5%	**1.7**	1.6
Asian	1,371	127	8%	9%	31%	0.3	0.3
Black	760	61	4%	4%	2%	**2.2**	**2.1**
Total	**17,261**	**1,459**	**100%**	**100%**	**100%**	**1.0**	**1.0**

Source: TIMS 2023, ACS 2021 5-year tables

In addition to looking at the overall burden of traffic crashes by race, we can consider how the fatally and severely injured victims of each race are impacted while traveling in various ways, as depicted in Table 60. White and Hispanic travelers are the most likely to be severely injured or

[21] Percentages are assessed based on total number of victims with a stated race.
[22] Based on ACS 5-year estimates.

killed while walking, and that White and Hispanic travelers are the most likely to be severely injured or killed while riding a bicycle.

Over half of bicyclist F/SI victims are white. That is higher than their 38 percent share of the population and commensurate 37 percent share of drivers fatally or severely injured, though we do not have an adequate understanding of the demographics of overall biking in the County for comparison. Likewise, 30 percent of pedestrians fatally or severely injured were Hispanic, which is 1.25 times higher than their 24 percent share of the population.

Table 60: Fatally and severely injured victims by race and mode (2018-2022)

Victim Type	Asian		Black		Hispanic		Other		White		Not Stated		Total	
	#	%	#	%	#	%	#	#	#	#	#	%	#	%
Bicyclist	19	1%	8	1%	27	2%	13	1%	104	7%	10	1%	181	13%
Driver	86	6%	41	3%	280	19%	91	6%	355	24%	110	8%	963	66%
Other	0	0%	0	0%	0	0%	0	0%	4	<1%	119	8%	123	8%
Pedestrian	22	2%	12	1%	58	4%	10	1%	58	4%	31	2%	191	14%
Total	**127**	**9%**	**61**	**4%**	**366**	**25%**	**114**	**8%**	**521**	**36%**	**270**	**19%**	**1,459**	**100%**
Share of Population		**31%**		**2%**		**24%**		**5%**		**38%**		**0%**		**100%**

Source: TIMS 2023, ACS 2021 5-Year Tables

JURISDICTION-SPECIFIC ANALYSIS

The descriptive analysis entails findings from a County-level analysis where the number of crashes is suitably large to establish robust and jurisdiction specific findings. This section provides supplemental findings which are specific to the 9 jurisdictions that do not have a safety plan. Each section starts with top three of the following crash characteristics as observed:

- Crash Location
- Crash Type
- Functional Classification
- Lighting Conditions
- Posted Speed Limit
- Pre-Crash Movement
- Relative Direction of Travel
- Violation Type

Following this, the analysis identified and lists the top three HIN intersections by mode identified for all 9 jurisdictions. Table 61 lists the number of reported crashes for the nine jurisdictions and the percentage share of crashes that involved pedestrians and bicyclists.

Table 61: Crashes by Severity, Mode, and Jurisdiction

Jurisdiction	Severity Level	Number of Reported Crashes	Pedestrian Share	Bicyclist Share
Belmont	All Injury/Fatal	244	10.7%	20.7%
	F/SI	8	12.5%	25.0%
Brisbane	All Injury/Fatal	69	11.6%	7.2%
	F/SI	12	50.0%	16.7%
East Palo Alto	All Injury/Fatal	458	12.2%	16.4%
	F/SI	48	27.1%	20.8%
Foster City	All Injury/Fatal	150	13.3%	10.7%
	F/SI	13	46.2%	23.1%
Half Moon Bay	All Injury/Fatal	145	9.0%	10.3%
	F/SI	17	17.6%	11.8%
Hillsborough	All Injury/Fatal	38	10.5%	18.4%
	F/SI	5	20.0%	40.0%

Jurisdiction	Severity Level	Number of Reported Crashes	Pedestrian Share	Bicyclist Share
Portola Valley	All Injury/Fatal	39	7.7%	64.1%
	F/SI	14	0.0%	85.7%
San Carlos	All Injury/Fatal	281	13.5%	14.2%
	F/SI	32	28.1%	12.5%
Woodside	All Injury/Fatal	185	0.5%	38.9%
	F/SI	44	2.3%	47.7%

Belmont

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[23]

Table 62: Crash Statistics for Key Variables, Belmont

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		26 Crashes, 1 F/SI Crashes	35 Crashes, 2 F/SI Crashes	168 Crashes, 1 F/SI Crashes
Crash Location	1	Segment (11 Crashes, 1 F/SI Crashes)	Unsignalized Intersection (17 Crashes, 1 F/SI Crashes)	Segment (72 Crashes, 3 F/SI Crashes)
	2	Unsignalized Intersection (13 Crashes, 0 F/SI Crashes)	Segment (10 Crashes, 1 F/SI Crashes)	Unsignalized Intersection (70 Crashes, 2 F/SI Crashes)
	3	Signalized Intersection (2 Crashes, 0 F/SI Crashes)	Signalized Intersection (8 Crashes, 0 F/SI Crashes)	Signalized Intersection (41 Crashes, 0 F/SI Crashes)
Crash Type	1	Perpendicular – Ped Crossing Not in Crosswalk, MV Proceeding Straight (5 Crashes, 1 F/SI Crashes)	Same Direction - Other (5 Crashes, 1 F/SI Crashes)	Broadside (52 Crashes, 4 F/SI Crashes)
	2	Perpendicular - Other (4 Crashes, 0 F/SI Crashes)	Solo - Other (2 Crashes, 1 F/SI Crashes)	Rear End (75 Crashes, 0 F/SI Crashes)
	3	Perpendicular - Ped Crossing in Crosswalk at Intersection, MV Making Right Turn (3 Crashes, 0 F/SI Crashes)	Same Direction- Bike Proceeding Straight, MV Proceeding Straight (5 Crashes, 0 F/SI Crashes)	Sideswipe (23 Crashes, 1 F/SI Crashes)

[23] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
Functional Classification	1	primary (4 Crashes, 1 F/SI Crashes)	primary (8 Crashes, 1 F/SI Crashes)	secondary (81 Crashes, 3 F/SI Crashes)
	2	secondary (10 Crashes, 0 F/SI Crashes)	alley (1 Crashes, 1 F/SI Crashes)	primary (43 Crashes, 1 F/SI Crashes)
	3	residential (8 Crashes, 0 F/SI Crashes)	secondary (13 Crashes, 0 F/SI Crashes)	residential (37 Crashes, 0 F/SI Crashes)
Lighting Condition	1	Light (18 Crashes, 1 F/SI Crashes)	Light (30 Crashes, 2 F/SI Crashes)	Light (135 Crashes, 5 F/SI Crashes)
	2	Dark (8 Crashes, 0 F/SI Crashes)	Dark (5 Crashes, 0 F/SI Crashes)	Dark (47 Crashes, 0 F/SI Crashes)
	3			Unknown (1 Crashes, 0 F/SI Crashes)
Posted Speed Limit	1	35 (8 Crashes, 1 F/SI Crashes)	<=25 (8 Crashes, 1 F/SI Crashes)	35 (55 Crashes, 3 F/SI Crashes)
	2	<=25 (8 Crashes, 0 F/SI Crashes)	45 (3 Crashes, 1 F/SI Crashes)	40 (33 Crashes, 2 F/SI Crashes)
	3	30 (7 Crashes, 0 F/SI Crashes)	35 (15 Crashes, 0 F/SI Crashes)	<=25 (40 Crashes, 0 F/SI Crashes)
Pre-Crash Movement	1	Ped Crossing Not in Crosswalk, MV Proceeding Straight (6 Crashes, 1 F/SI Crashes)	Other (11 Crashes, 2 F/SI Crashes)	Other (50 Crashes, 1 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
	2	Other (7 Crashes, 0 F/SI Crashes)	Bike Proceeding Straight, MV Proceeding Straight (8 Crashes, 0 F/SI Crashes)	MC Proceeding Straight, MV Entering Traffic (2 Crashes, 2 F/SI Crashes)
	3	Ped Crossing in Crosswalk at Intersection, MV Making Left Turn (3 Crashes, 0 F/SI Crashes)	Bike Proceeding Straight, MV Making Right Turn (5 Crashes, 0 F/SI Crashes)	MV Proceeding Straight, MV Stopped (35 Crashes, 0 F/SI Crashes)
Relative Direction of Travel	1	Perpendicular (19 Crashes, 1 F/SI Crashes)	Same Direction (14 Crashes, 1 F/SI Crashes)	Same Direction (94 Crashes, 2 F/SI Crashes)
	2	Same Direction (5 Crashes, 0 F/SI Crashes)	Solo (4 Crashes, 1 F/SI Crashes)	Perpendicular (41 Crashes, 2 F/SI Crashes)
	3	Unknown (1 Crashes, 0 F/SI Crashes)	Perpendicular (9 Crashes, 0 F/SI Crashes)	Opposite (22 Crashes, 1 F/SI Crashes)
Violation Type	1	Failure to yield to pedestrian at intersection (13 Crashes, 1 F/SI Crashes)	Inappropriate turn (9 Crashes, 1 F/SI Crashes)	Too fast for conditions (44 Crashes, 0 F/SI Crashes)
	2	Pedestrian failed to yield right of way (5 Crashes, 0 F/SI Crashes)	Open door safely (3 Crashes, 1 F/SI Crashes)	Inappropriate turn (27 Crashes, 1 F/SI Crashes)
	3	Too fast for conditions (2 Crashes, 0 F/SI Crashes)	Failure to yield while entering highway (6 Crashes, 0 F/SI Crashes)	Failure to yield while entering highway (19 Crashes, 1 F/SI Crashes)

Table 63: HIN Roadways in Belmont

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Alameda de las Pulgas	6.7	X	X	X
El Camino Real	23.5	X	X	X
Lyall Way	0.3	X		
Old County Road	3.4	X	X	
Ralston Avenue	3.5	X	X	

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 64: Belmont top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
Ralston Avenue / Belmont Canyon Road	N	263
Ralston Avenue / Pullman Avenue	N	247
El Camino Real / Ralston Avenue	Y	128
Pedestrian		
Alameda De las Pulgas / Carlmont Drive	N	22
El Camino Real / Belmont Avenue	Y	22
El Camino Real / Ralston Avenue	Y	22
Bicycle		
El Camino Real / W 39th Avenue	Y	191
El Camino Real / Ralston Avenue	Y	55
Ralston Avenue / Academy Avenue	N	22

Brisbane

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[24]

Table 65: Crash Statistics for Key Variables, Brisbane

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		8 Crashes, 6 F/SI Crashes	5 Crashes, 2 F/SI Crashes	56 Crashes, 4 F/SI Crashes
Crash Location	1	Segment (4 Crashes, 3 F/SI Crashes)	Segment (4 Crashes, 1 F/SI Crashes)	Segment (26 Crashes, 3 F/SI Crashes)
	2	Signalized Intersection (2 Crashes, 2 F/SI Crashes)	Signalized Intersection (1 Crashes, 1 F/SI Crashes)	Signalized Intersection (19 Crashes, 1 F/SI Crashes)
	3	Unsignalized Intersection (2 Crashes, 1 F/SI Crashes)		Unsignalized Intersection (11 Crashes, 0 F/SI Crashes)
Crash Type	1	Perpendicular - Other (2 Crashes, 2 F/SI Crashes)	Same Direction- Other (2 Crashes, 1 F/SI Crashes)	Rear End (14 Crashes, 1 F/SI Crashes)
	2	Perpendicular - Ped Crossing Not in Crosswalk, MV Proceeding Straight (1 Crashes, 1 F/SI Crashes)	Solo - Overturned (1 Crashes, 1 F/SI Crashes)	Broadside (16 Crashes, 1 F/SI Crashes)
	3	Perpendicular - Ped In Road, Including Shoulder, MV Proceeding Straight (1 Crashes, 1 F/SI Crashes)	Solo - Other (1 Crashes, 0 F/SI Crashes)	Hit Object (12 Crashes, 1 F/SI Crashes)

[24] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
Functional Classification	1	primary (4 Crashes, 4 F/SI Crashes)	primary (2 Crashes, 1 F/SI Crashes)	primary (34 Crashes, 2 F/SI Crashes)
	2	tertiary (4 Crashes, 2 F/SI Crashes)	secondary (1 Crashes, 1 F/SI Crashes)	tertiary (14 Crashes, 2 F/SI Crashes)
	3		tertiary (2 Crashes, 0 F/SI Crashes)	secondary (5 Crashes, 0 F/SI Crashes)
Lighting Condition	1	Dark (4 Crashes, 4 F/SI Crashes)	Light (5 Crashes, 2 F/SI Crashes)	Light (42 Crashes, 2 F/SI Crashes)
	2	Light (4 Crashes, 2 F/SI Crashes)		Dark (14 Crashes, 2 F/SI Crashes)
Posted Speed Limit	1	<=25 (4 Crashes, 2 F/SI Crashes)	50+ (1 Crashes, 1 F/SI Crashes)	45 (30 Crashes, 3 F/SI Crashes)
	2	45 (2 Crashes, 2 F/SI Crashes)	<=25 (3 Crashes, 1 F/SI Crashes)	<=25 (21 Crashes, 1 F/SI Crashes)
	3	50+ (2 Crashes, 2 F/SI Crashes)	45 (1 Crashes, 0 F/SI Crashes)	50+ (5 Crashes, 0 F/SI Crashes)
Pre-Crash Movement	1	Other (3 Crashes, 2 F/SI Crashes)	Other (3 Crashes, 1 F/SI Crashes)	Other (18 Crashes, 1 F/SI Crashes)
	2	Ped Crossing Not in Crosswalk, MV Proceeding Straight (2 Crashes, 2 F/SI Crashes)	Overturned (1 Crashes, 1 F/SI Crashes)	Hit Object (12 Crashes, 1 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
	3	Ped In Road, Including Shoulder, MV Proceeding Straight (1 Crashes, 1 F/SI Crashes)	Bike Not Stated, MV Making Right Turn (1 Crashes, 0 F/SI Crashes)	MV Proceeding Straight, MV Proceeding Straight (2 Crashes, 1 F/SI Crashes)
Relative Direction of Travel	1	Perpendicular (5 Crashes, 5 F/SI Crashes)	Same (3 Crashes, 1 F/SI Crashes)	Same (20 Crashes, 2 F/SI Crashes)
	2	Unknown (2 Crashes, 1 F/SI Crashes)	Solo (2 Crashes, 1 F/SI Crashes)	Solo (16 Crashes, 1 F/SI Crashes)
	2	Same Direction (1 Crashes, 0 F/SI Crashes)		Perpendicular (12 Crashes, 1 F/SI Crashes)
Violation Type	1	Pedestrian failed to yield right of way (3 Crashes, 3 F/SI Crashes)	Too fast for conditions (1 Crashes, 1 F/SI Crashes)	Driving while under the influence of alcohol (9 Crashes, 2 F/SI Crashes)
	2	Failure to yield to pedestrian at intersection (3 Crashes, 2 F/SI Crashes)	Unknown (2 Crashes, 1 F/SI Crashes)	Broke law while driving under the influence of alcohol (1 Crashes, 1 F/SI Crashes)
	3	Too fast for conditions (1 Crashes, 1 F/SI Crashes)	Allow adequate space for passing (1 Crashes, 0 F/SI Crashes)	Disregarded signal (2 Crashes, 1 F/SI Crashes)

Table 66: HIN Roadways in Brisbane

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Bayshore Boulevard	2.9	X		X
Guadalupe Canyon Parkway	2.5	X		
Sierra Point Highway	1.4	X		

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 67: Brisbane top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
Bayshore Boulevard / Main Street	N	170
Valley Drive / N Hill Drive	N	39
Bayshore Boulevard / Old County Road	N	33
Pedestrian		
Bayshore Boulevard / Guadalupe Canyon Parkway	N	240
Bicycle		
Valley Drive / N Hill Drive	N	120

East Palo Alto

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[25]

Table 68: Crash Statistics for Key Variables, East Palo Alto

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		56 Crashes, 13 F/SI Crashes	75 Crashes, 10 F/SI Crashes	327 Crashes, 25 F/SI Crashes
Crash Location	1	Unsignalized Intersection (33 Crashes, 8 F/SI Crashes)	Signalized Intersection (28 Crashes, 6 F/SI Crashes)	Unsignalized Intersection (171 Crashes, 15 F/SI Crashes)
	2	Segment (14 Crashes, 4 F/SI Crashes)	Unsignalized Intersection (34 Crashes, 3 F/SI Crashes)	Signalized Intersection (96 Crashes, 5 F/SI Crashes)
	3	Signalized Intersection (9 Crashes, 1 F/SI Crashes)	Segment (13 Crashes, 1 F/SI Crashes)	Segment (60 Crashes, 5 F/SI Crashes)
Crash Type	1	Perpendicular - Other (6 Crashes, 2 F/SI Crashes)	Perpendicular - Bike Proceeding Straight, MV Proceeding Straight (13 Crashes, 1 F/SI Crashes)	Broadside (138 Crashes, 8 F/SI Crashes)
	2	Unknown - Other (3 Crashes, 2 F/SI Crashes)	Same Direction- Bike Proceeding Straight, MV Proceeding Straight (5 Crashes, 1 F/SI Crashes)	Rear End (75 Crashes, 3 F/SI Crashes)
	3	Unknown - Ped Not in Road, MV Proceeding Straight (2 Crashes, 2 F/SI Crashes)	Same Direction- Bike Not Stated, MV Proceeding Straight (2 Crashes, 1 F/SI Crashes)	Head-On (32 Crashes, 4 F/SI Crashes)

[25] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
Functional Classification	1	tertiary (14 Crashes, 5 F/SI Crashes)	primary (26 Crashes, 6 F/SI Crashes)	primary (112 Crashes, 7 F/SI Crashes)
	2	residential (14 Crashes, 3 F/SI Crashes)	tertiary (10 Crashes, 3 F/SI Crashes)	residential (91 Crashes, 6 F/SI Crashes)
	3	secondary (8 Crashes, 2 F/SI Crashes)	secondary (19 Crashes, 1 F/SI Crashes)	secondary (46 Crashes, 7 F/SI Crashes)
Lighting Condition	1	Dark (27 Crashes, 8 F/SI Crashes)	Light (55 Crashes, 4 F/SI Crashes)	Light (209 Crashes, 15 F/SI Crashes)
	2	Light (29 Crashes, 5 F/SI Crashes)	Dark (19 Crashes, 6 F/SI Crashes)	Dark (117 Crashes, 10 F/SI Crashes)
	3		Unknown (1 Crashes, 0 F/SI Crashes)	Unknown (1 Crashes, 0 F/SI Crashes)
Posted Speed Limit	1	<=25 (28 Crashes, 8 F/SI Crashes)	35 (35 Crashes, 7 F/SI Crashes)	<=25 (178 Crashes, 17 F/SI Crashes)
	2	35 (22 Crashes, 4 F/SI Crashes)	<=25 (33 Crashes, 3 F/SI Crashes)	35 (123 Crashes, 8 F/SI Crashes)
	3	Unknown (6 Crashes, 1 F/SI Crashes)	40 (4 Crashes, 0 F/SI Crashes)	Unknown (15 Crashes, 0 F/SI Crashes)
Pre-Crash Movement	1	Other (13 Crashes, 4 F/SI Crashes)	Bike Proceeding Straight, MV Proceeding Straight (21 Crashes, 2 F/SI Crashes)	Other (92 Crashes, 6 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
	2	Ped Crossing Not in Crosswalk, MV Proceeding Straight (12 Crashes, 3 F/SI Crashes)	Other (21 Crashes, 2 F/SI Crashes)	Hit Object (21 Crashes, 4 F/SI Crashes)
	3	Ped Not in Road, MV Proceeding Straight (2 Crashes, 2 F/SI Crashes)	Bike Proceeding Straight, MV unknown (4 Crashes, 2 F/SI Crashes)	MV Proceeding Straight, MV Proceeding Straight (56 Crashes, 2 F/SI Crashes)
Relative Direction of Travel	1	Perpendicular (33 Crashes, 7 F/SI Crashes)	Perpendicular (36 Crashes, 2 F/SI Crashes)	Perpendicular (109 Crashes, 8 F/SI Crashes)
	2	Unknown (12 Crashes, 5 F/SI Crashes)	Opposite (14 Crashes, 4 F/SI Crashes)	Same (89 Crashes, 4 F/SI Crashes)
	3	Same (7 Crashes, 1 F/SI Crashes)	Same (15 Crashes, 3 F/SI Crashes)	Solo (33 Crashes, 5 F/SI Crashes)
Violation Type	1	Pedestrian failed to yield right of way (15 Crashes, 4 F/SI Crashes)	Disregarded signal (12 Crashes, 3 F/SI Crashes)	Too fast for conditions (71 Crashes, 8 F/SI Crashes)
	2	Failure to yield to pedestrian at intersection (16 Crashes, 3 F/SI Crashes)	Inappropriate turn (15 Crashes, 1 F/SI Crashes)	Inappropriate turn (74 Crashes, 4 F/SI Crashes)
	3	Inappropriate turn (6 Crashes, 2 F/SI Crashes)	Drive on right except when passing (3 Crashes, 1 F/SI Crashes)	Unknown (17 Crashes, 3 F/SI Crashes)

Table 69: HIN Roadways in East Palo Alto

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Bay Road	3.3	X		X
Bayshore Rd	1.7	X	X	X
Capitol Avenue	0.2	X		
Clarke Avenue	0.3	X		
Donohoe Street	0.5	X	X	
Newbridge Street	1.0	X	X	
O'Connor Street	0.6	X		
Pulgas Avenue	1.5	X		X
Runnymede Street	0.9		X	
Scofield Street	0.1	X		
US 101	1.2	X		
University Avenue	2.1	X	X	
Willow Road	2.3	X	X	

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 70: East Palo Alto top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
University Avenue / Weeks Street	Y	404
Donohoe Street / University Avenue	Y	327
University Avenue / Bay Road	Y	312
Pedestrian		

Intersection Name	State Highway Network	EPDO Score
University Avenue / Weeks Street	Y	197
Bay Road / Illinois Street / Clarke Avenue	N	191
University Avenue / Bell Street	Y	137
Bicycle		
Donohoe Street / University Avenue	N	279
University Avenue / Adams Drive	Y	191
Willow Road / Newbridge Street	Y	164

Foster City

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[26]

Table 71: Crash Statistics for Key Variables, Foster City

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		20 Crashes, 6 F/SI Crashes	16 Crashes, 3 F/SI Crashes	114 Crashes, 4 F/SI Crashes
Crash Location	1	Signalized Intersection (9 Crashes, 4 F/SI Crashes)	Segment (6 Crashes, 2 F/SI Crashes)	Segment (40 Crashes, 2 F/SI Crashes)
	2	Unsignalized Intersection (8 Crashes, 1 F/SI Crashes)	Signalized Intersection (5 Crashes, 1 F/SI Crashes)	Signalized Intersection (42 Crashes, 2 F/SI Crashes)
	3	Segment (3 Crashes, 1 F/SI Crashes)	Unsignalized Intersection (5 Crashes, 0 F/SI Crashes)	Unsignalized Intersection (32 Crashes, 0 F/SI Crashes)
Crash Type	1	Same Direction- Ped Crossing in Crosswalk Not at Intersection, MV Proceeding Straight (1 Crashes, 0 F/SI Crashes)	Same Direction- Other (2 Crashes, 1 F/SI Crashes)	Hit Object (16 Crashes, 2 F/SI Crashes)
	2	Unknown - Ped Not in Road, MV Proceeding Straight (1 Crashes, 0 F/SI Crashes)	Perpendicular - Bike Not Stated, MV Proceeding Straight (1 Crashes, 1 F/SI Crashes)	Rear End (44 Crashes, 0 F/SI Crashes)
	3	Perpendicular - Ped Crossing in Crosswalk at Intersection, MV Proceeding Straight (6 Crashes, 2 F/SI Crashes)	Perpendicular - Bike Proceeding Straight, MV Proceeding Straight (1 Crashes, 1 F/SI Crashes)	Sideswipe (15 Crashes, 1 F/SI Crashes)

[26] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
Functional Classification	1	secondary (16 Crashes, 5 F/SI Crashes)	secondary (12 Crashes, 2 F/SI Crashes)	secondary (68 Crashes, 1 F/SI Crashes)
	2	primary (1 Crashes, 1 F/SI Crashes)	residential (2 Crashes, 1 F/SI Crashes)	ramp (5 Crashes, 2 F/SI Crashes)
	3	tertiary (2 Crashes, 0 F/SI Crashes)	primary (2 Crashes, 0 F/SI Crashes)	primary (19 Crashes, 1 F/SI Crashes)
Lighting Condition	1	Dark (8 Crashes, 4 F/SI Crashes)	Light (15 Crashes, 3 F/SI Crashes)	Light (86 Crashes, 1 F/SI Crashes)
	2	Light (12 Crashes, 2 F/SI Crashes)	Dark (1 Crashes, 0 F/SI Crashes)	Dark (28 Crashes, 3 F/SI Crashes)
Posted Speed Limit	1	35 (19 Crashes, 6 F/SI Crashes)	35 (13 Crashes, 2 F/SI Crashes)	35 (91 Crashes, 2 F/SI Crashes)
	2	<=25 (1 Crashes, 0 F/SI Crashes)	<=25 (2 Crashes, 1 F/SI Crashes)	50+ (9 Crashes, 2 F/SI Crashes)
	3		50+ (1 Crashes, 0 F/SI Crashes)	<=25 (12 Crashes, 0 F/SI Crashes)
Pre-Crash Movement	1	Ped Crossing in Crosswalk Not at Intersection, MV Proceeding Straight (1 Crashes, 0 F/SI Crashes)	Other (3 Crashes, 1 F/SI Crashes)	Hit Object (14 Crashes, 2 F/SI Crashes)
	2	Ped Not in Road, MV Proceeding Straight (1 Crashes, 0 F/SI Crashes)	Bike Not Stated, MV Proceeding Straight (1 Crashes, 1 F/SI Crashes)	Other (26 Crashes, 1 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
	3	Ped Crossing in Crosswalk at Intersection, MV Proceeding Straight (6 Crashes, 2 F/SI Crashes)	Bike Proceeding Straight, MV Proceeding Straight (2 Crashes, 1 F/SI Crashes)	MV Making Left Turn, MV Proceeding Straight (11 Crashes, 1 F/SI Crashes)
Relative Direction of Travel	1	Unknown (1 Crashes, 0 F/SI Crashes)	Perpendicular (6 Crashes, 2 F/SI Crashes)	Same (59 Crashes, 1 F/SI Crashes)
	2	Perpendicular (15 Crashes, 6 F/SI Crashes)	Same (5 Crashes, 1 F/SI Crashes)	Solo (19 Crashes, 2 F/SI Crashes)
	3	Opposite (2 Crashes, 0 F/SI Crashes)	Opposite (3 Crashes, 0 F/SI Crashes)	Perpendicular (23 Crashes, 1 F/SI Crashes)
Violation Type	1	Failure to yield to pedestrian at intersection (11 Crashes, 2 F/SI Crashes)	Failure to yield while entering highway (2 Crashes, 1 F/SI Crashes)	Too fast for conditions (44 Crashes, 1 F/SI Crashes)
	2	Unknown (1 Crashes, 1 F/SI Crashes)	Failed to drive within one lane (1 Crashes, 1 F/SI Crashes)	Disregarded signal (15 Crashes, 2 F/SI Crashes)
	3	Peds yield to drivers already in an intersection (1 Crashes, 1 F/SI Crashes)	Disregarded signal (2 Crashes, 1 F/SI Crashes)	Driving while under the influence of alcohol (5 Crashes, 1 F/SI Crashes)

Table 72: HIN Roadways in Foster City

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Foster City Boulevard	1.7	X		X
Hillsdale Boulevard	3.9	X	X	X
Metro Center Boulevard	0.7	X		
Shell Boulevard	1.1			X

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 73: Foster City top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
Foster City Boulevard / Triton Drive / Metro Center Boulevard	N	188
Edgewater Boulevard / E Hillsdale Boulevard	N	137
E Hillside Boulevard / Shell Boulevard	N	111
Pedestrian		
Shell Boulevard / Catamaran Street	N	202
Foster City Boulevard / E Hillsdale Boulevard	N	131
Shell Boulevard / Foster Square Lane	N	120
Bicycle		
Foster City Boulevard / E Hillsdale Boulevard	N	120
E Hillside Boulevard / Shell Boulevard	N	22
Edgewater Boulevard / SR 92 Ramp / Emerald Bay Lane	N	11

Half Moon Bay

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[27]

Table 74: Crash Statistics for Key Variables, Half Moon Bay

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		13 Crashes, 3 F/SI Crashes	15 Crashes, 2 F/SI Crashes	117 Crashes, 12 F/SI Crashes
Crash Location	1	Segment (7 Crashes, 2 F/SI Crashes)	Unsignalized Intersection (5 Crashes, 1 F/SI Crashes)	Segment (66 Crashes, 8 F/SI Crashes)
	2	Unsignalized Intersection (6 Crashes, 1 F/SI Crashes)	Signalized Intersection (2 Crashes, 1 F/SI Crashes)	Unsignalized Intersection (32 Crashes, 4 F/SI Crashes)
	3		Segment (8 Crashes, 0 F/SI Crashes)	Signalized Intersection (19 Crashes, 0 F/SI Crashes)
Crash Type	1	Same Direction - Other (1 Crashes, 1 F/SI Crashes)	Same Direction - Other (2 Crashes, 1 F/SI Crashes)	Rear End (50 Crashes, 3 F/SI Crashes)
	2	Perpendicular - Ped Crossing Not in Crosswalk, MV Proceeding Straight (2 Crashes, 1 F/SI Crashes)	Perpendicular - Bike Proceeding Straight, MV Making Left Turn (1 Crashes, 1 F/SI Crashes)	Broadside (22 Crashes, 4 F/SI Crashes)
	3	Unknown - Other (2 Crashes, 1 F/SI Crashes)	Same Direction - Bike Making Left Turn, MV Proceeding Straight (3 Crashes, 0 F/SI Crashes)	Hit Object (14 Crashes, 2 F/SI Crashes)

[27] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
Functional Classification	1	residential (3 Crashes, 1 F/SI Crashes)	trunk (8 Crashes, 2 F/SI Crashes)	trunk (75 Crashes, 8 F/SI Crashes)
	2	trunk (2 Crashes, 1 F/SI Crashes)	tertiary (3 Crashes, 0 F/SI Crashes)	primary (12 Crashes, 2 F/SI Crashes)
	3	secondary (2 Crashes, 1 F/SI Crashes)	primary (2 Crashes, 0 F/SI Crashes)	Unknown (16 Crashes, 1 F/SI Crashes)
Lighting Condition	1	Dark (6 Crashes, 2 F/SI Crashes)	Light (12 Crashes, 2 F/SI Crashes)	Light (81 Crashes, 10 F/SI Crashes)
	2	Light (7 Crashes, 1 F/SI Crashes)	Dark (3 Crashes, 0 F/SI Crashes)	Dark (36 Crashes, 2 F/SI Crashes)
Posted Speed Limit	1	<=25 (7 Crashes, 1 F/SI Crashes)	40 (8 Crashes, 2 F/SI Crashes)	40 (71 Crashes, 7 F/SI Crashes)
	2	35 (3 Crashes, 1 F/SI Crashes)	35 (4 Crashes, 0 F/SI Crashes)	35 (14 Crashes, 3 F/SI Crashes)
	3	40 (2 Crashes, 1 F/SI Crashes)	<=25 (3 Crashes, 0 F/SI Crashes)	Unknown (16 Crashes, 1 F/SI Crashes)
Pre-Crash Movement	1	Other (6 Crashes, 2 F/SI Crashes)	Other (3 Crashes, 1 F/SI Crashes)	Other (33 Crashes, 4 F/SI Crashes)
	2	Ped Crossing Not in Crosswalk, MV Proceeding Straight (2 Crashes, 1 F/SI Crashes)	Bike Proceeding Straight, MV Making Left Turn (1 Crashes, 1 F/SI Crashes)	Hit Object (14 Crashes, 2 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
	3	Ped Crossing in Crosswalk at Intersection, MV Making Left Turn (2 Crashes, 0 F/SI Crashes)	Bike Proceeding Straight, MV Making Right Turn (4 Crashes, 0 F/SI Crashes)	MV Proceeding Straight, MV Stopped (17 Crashes, 1 F/SI Crashes)
Relative Direction of Travel	1	Perpendicular (8 Crashes, 1 F/SI Crashes)	Same (8 Crashes, 1 F/SI Crashes)	Same (62 Crashes, 4 F/SI Crashes)
	2	Same (1 Crashes, 1 F/SI Crashes)	Perpendicular (7 Crashes, 1 F/SI Crashes)	Perpendicular (15 Crashes, 3 F/SI Crashes)
	3	Unknown (2 Crashes, 1 F/SI Crashes)		Opposite (13 Crashes, 3 F/SI Crashes)
Violation Type	1	Inappropriate turn (2 Crashes, 1 F/SI Crashes)	Open door safely (1 Crashes, 0 F/SI Crashes)	Too fast for conditions (43 Crashes, 2 F/SI Crashes)
	2	Unknown (4 Crashes, 1 F/SI Crashes)	Unknown (2 Crashes, 2 F/SI Crashes)	Driving while under the influence of alcohol (14 Crashes, 3 F/SI Crashes)
	3	Illegal Segment crossing (1 Crashes, 1 F/SI Crashes)	Inappropriate turn (5 Crashes, 0 F/SI Crashes)	Allow adequate space for passing (10 Crashes, 2 F/SI Crashes)

Table 75: HIN Roadways in Half Moon Bay

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Main Street	2.0	X		
SR 1	30.4	X	X	
San Mateo Road	6.6	X		

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 76: Half Moon Bay top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
Cabrillo Highway N / Purisima Way	Y	202
Cabrillo Highway N / Guerrero Avenue	Y	202
Cabrillo Highway S / Wavecrest Road	Y	202
Pedestrian		
Main Street / Lewis Foster Drive	N	11
Bicycle		
Cabrillo Highway N / Roosevelt Boulevard	Y	191
Cabrillo Highway S / Kelly Avenue	Y	120
San Mateo Road / Main Street	Y	11

Hillsborough

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[28]

Table 77: Crash Statistics for Key Variables, Hillsborough

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		4 Crashes, 1 F/SI Crashes	7 Crashes, 2 F/SI Crashes	27 Crashes, 1 F/SI Crashes
Crash Location	1	Unsignalized Intersection (1 Crashes, 1 F/SI Crashes)	Unsignalized Intersection (5 Crashes, 2 F/SI Crashes)	Segment (12 Crashes, 1 F/SI Crashes)
	2	Segment (3 Crashes, 0 F/SI Crashes)	Segment (2 Crashes, 0 F/SI Crashes)	Unsignalized Intersection (15 Crashes, 0 F/SI Crashes)
Crash Type	1	Perpendicular - Ped In Road, Including Shoulder, MV Proceeding Straight (1 Crashes, 1 F/SI Crashes)	Perpendicular - Other (2 Crashes, 1 F/SI Crashes)	Broadside (6 Crashes, 1 F/SI Crashes)
	2	Perpendicular - Other (1 Crashes, 0 F/SI Crashes)	Same Direction - Other (1 Crashes, 1 F/SI Crashes)	Hit Object (8 Crashes, 0 F/SI Crashes)
	3	Same Direction - Other (1 Crashes, 0 F/SI Crashes)	Opposite - Bike Proceeding Straight, MV Making Left Turn (1 Crashes, 0 F/SI Crashes)	Head-On (6 Crashes, 0 F/SI Crashes)
Functional Classification	1	residential (4 Crashes, 1 F/SI Crashes)	residential (3 Crashes, 1 F/SI Crashes)	secondary (6 Crashes, 1 F/SI Crashes)

[28] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
	2		tertiary (2 Crashes, 1 F/SI Crashes)	residential (17 Crashes, 0 F/SI Crashes)
	3		secondary (2 Crashes, 0 F/SI Crashes)	tertiary (4 Crashes, 0 F/SI Crashes)
Lighting Condition	1	Light (4 Crashes, 1 F/SI Crashes)	Light (7 Crashes, 2 F/SI Crashes)	Light (18 Crashes, 1 F/SI Crashes)
	2			Dark (9 Crashes, 0 F/SI Crashes)
Posted Speed Limit	1	<=25 (4 Crashes, 1 F/SI Crashes)	<=25 (5 Crashes, 2 F/SI Crashes)	30 (4 Crashes, 1 F/SI Crashes)
	2		45 (2 Crashes, 0 F/SI Crashes)	<=25 (20 Crashes, 0 F/SI Crashes)
	3			45 (3 Crashes, 0 F/SI Crashes)
Pre-Crash Movement	1	Ped In Road, Including Shoulder, MV Proceeding Straight (2 Crashes, 1 F/SI Crashes)	Other (4 Crashes, 2 F/SI Crashes)	MV Proceeding Straight, MV unknown (1 Crashes, 0 F/SI Crashes)
	2	Other (2 Crashes, 0 F/SI Crashes)	Bike Proceeding Straight, MV Making Left Turn (1 Crashes, 0 F/SI Crashes)	Other (7 Crashes, 1 F/SI Crashes)
	3		Bike Proceeding Straight, MV unknown (1 Crashes, 0 F/SI Crashes)	Hit Object (8 Crashes, 0 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
Relative Direction of Travel	1	Perpendicular (2 Crashes, 1 F/SI Crashes)	Perpendicular (4 Crashes, 1 F/SI Crashes)	Opposite (8 Crashes, 1 F/SI Crashes)
	2	Same (2 Crashes, 0 F/SI Crashes)	Same (1 Crashes, 1 F/SI Crashes)	Solo (10 Crashes, 0 F/SI Crashes)
	3		Opposite (2 Crashes, 0 F/SI Crashes)	Same (4 Crashes, 0 F/SI Crashes)
Violation Type	1	Unknown (1 Crashes, 1 F/SI Crashes)	Drivers/cyclists yield to drivers already in an intersection (4 Crashes, 2 F/SI Crashes)	Inappropriate turn (7 Crashes, 1 F/SI Crashes)
	2	Too fast for conditions (1 Crashes, 0 F/SI Crashes)	Failure to yield while entering highway (2 Crashes, 0 F/SI Crashes)	Too fast for conditions (3 Crashes, 0 F/SI Crashes)
	3	Failure to yield to pedestrian at intersection (1 Crashes, 0 F/SI Crashes)	Inappropriate turn (1 Crashes, 0 F/SI Crashes)	Drivers/cyclists yield to drivers already in an intersection (2 Crashes, 0 F/SI Crashes)

Table 78: HIN Roadways in Hillsborough

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
El Camino Real	23.5	X	X	X
Golf Course Drive	0.2	X		

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 79: Hillsborough top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
Skyline Boulevard / Skyfarm Drive	Y	11
Crystal Springs Road / Merner Road	N	11
Skyline Boulevard / Chateau Drive	Y	11
Pedestrian[1]		
Bicycle		
Hayne Road / Golf Course Drive / Black Mountain Road / SR 35 Ramp	Y	11

[1] No pedestrian crashes have been reported in Hillsborough during the data analysis period (2018-2022)

Portola Valley

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[29]

Table 80: Crash Statistics for Key Variables, Portola Valley

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		3 Crashes, 0 F/SI Crashes	25 Crashes, 12 F/SI Crashes	11 Crashes, 2 F/SI Crashes
Crash Location	1	Unsignalized Intersection (1 Crashes, 0 F/SI Crashes)	Unsignalized Intersection (14 Crashes, 6 F/SI Crashes)	Unsignalized Intersection (7 Crashes, 2 F/SI Crashes)
	2	Segment (2 Crashes, 0 F/SI Crashes)	Segment (11 Crashes, 6 F/SI Crashes)	Segment (4 Crashes, 0 F/SI Crashes)
Crash Type	1	Unknown - Bike Proceeding Straight, Ped In Road, Including Shoulder (1 Crashes, 0 F/SI Crashes)	Solo - Other (7 Crashes, 6 F/SI Crashes)	Hit Object (6 Crashes, 2 F/SI Crashes)
	2	Same Direction - Other (1 Crashes, 0 F/SI Crashes)	Solo - Overturned (2 Crashes, 2 F/SI Crashes)	Broadside (2 Crashes, 0 F/SI Crashes)
	3	Same Direction - Bike Not Stated, Ped In Road, Including Shoulder (1 Crashes, 0 F/SI Crashes)	Perpendicular - Other (2 Crashes, 1 F/SI Crashes)	Head-On (1 Crashes, 0 F/SI Crashes)
Functional Classification	1	residential (1 Crashes, 0 F/SI Crashes)	secondary (18 Crashes, 9 F/SI Crashes)	residential (3 Crashes, 1 F/SI Crashes)

[29] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
	2	secondary (2 Crashes, 0 F/SI Crashes)	residential (3 Crashes, 2 F/SI Crashes)	tertiary (1 Crashes, 1 F/SI Crashes)
	3		tertiary (2 Crashes, 1 F/SI Crashes)	secondary (6 Crashes, 0 F/SI Crashes)
Lighting Condition	1	Light (3 Crashes, 0 F/SI Crashes)	Light (25 Crashes, 12 F/SI Crashes)	Dark (5 Crashes, 2 F/SI Crashes)
	2			Light (6 Crashes, 0 F/SI Crashes)
Posted Speed Limit	1	<=25 (1 Crashes, 0 F/SI Crashes)	35 (19 Crashes, 10 F/SI Crashes)	35 (9 Crashes, 2 F/SI Crashes)
	2	35 (2 Crashes, 0 F/SI Crashes)	<=25 (2 Crashes, 1 F/SI Crashes)	<=25 (1 Crashes, 0 F/SI Crashes)
	3		45 (2 Crashes, 1 F/SI Crashes)	(1 Crashes, 0 F/SI Crashes)
Pre-Crash Movement	1	Bike Proceeding Straight, Ped In Road, Including Shoulder (1 Crashes, 0 F/SI Crashes)	Other (11 Crashes, 8 F/SI Crashes)	Hit Object (5 Crashes, 2 F/SI Crashes)
	2	Other (1 Crashes, 0 F/SI Crashes)	Overturned (2 Crashes, 2 F/SI Crashes)	Other (4 Crashes, 0 F/SI Crashes)
	3	Bike Not Stated, Ped In Road, Including Shoulder (1 Crashes, 0 F/SI Crashes)	Bike Not Stated, MV Making Left Turn (4 Crashes, 1 F/SI Crashes)	Head-On (1 Crashes, 0 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
Relative Direction of Travel	1	Unknown (1 Crashes, 0 F/SI Crashes)	Solo (10 Crashes, 8 F/SI Crashes)	Solo (7 Crashes, 2 F/SI Crashes)
	2	Same (2 Crashes, 0 F/SI Crashes)	Perpendicular (7 Crashes, 3 F/SI Crashes)	Perpendicular (2 Crashes, 0 F/SI Crashes)
	3		Same (5 Crashes, 1 F/SI Crashes)	Unknown (1 Crashes, 0 F/SI Crashes)
Violation Type	1	Too fast for conditions (1 Crashes, 0 F/SI Crashes)	Too fast for conditions (11 Crashes, 6 F/SI Crashes)	Inappropriate turn (4 Crashes, 1 F/SI Crashes)
	2	Inappropriate turn (1 Crashes, 0 F/SI Crashes)	Unknown (4 Crashes, 3 F/SI Crashes)	Broke law while driving under the influence of alcohol (1 Crashes, 1 F/SI Crashes)
	3	Unknown (1 Crashes, 0 F/SI Crashes)	Failure to yield while making a turn (5 Crashes, 1 F/SI Crashes)	Too fast for conditions (4 Crashes, 0 F/SI Crashes)

Table 81: HIN Roadways in Portola Valley

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Alpine Road	7.5	X	X	
Portola Road	4.2	X	X	

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 82: Portola Valley top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
Alpine Road / Portola Road	N	22
Alpine Road / Indian Xing	N	11
Alpine Road / Golden Oak Drive	N	6
Pedestrian[1]		
Bicycle		
Alpine Road / Arastradero Road	N	213
Alpine Road / Los Trancos Road	N	202
Portola Road / Stonegate Road	N	191

[1] No pedestrian crashes have occurred in Portola Valley during the data analysis period (2018-2022.

San Carlos

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[30]

Table 83: Crash Statistics for Key Variables, San Carlos

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		38 Crashes, 9 F/SI Crashes	40 Crashes, 4 F/SI Crashes	203 Crashes, 18 F/SI Crashes
Crash Location	1	Unsignalized Intersection (18 Crashes, 3 F/SI Crashes)	Unsignalized Intersection (12 Crashes, 2 F/SI Crashes)	Segment (73 Crashes, 6 F/SI Crashes)
	2	Signalized Intersection (11 Crashes, 4 F/SI Crashes)	Segment (21 Crashes, 1 F/SI Crashes)	Signalized Intersection (71 Crashes, 7 F/SI Crashes)
	3	Segment (9 Crashes, 2 F/SI Crashes)	Signalized Intersection (7 Crashes, 1 F/SI Crashes)	Unsignalized Intersection (59 Crashes, 5 F/SI Crashes)
Crash Type	1	Perpendicular - Ped Crossing in Crosswalk at Intersection, MV Making Left Turn (7 Crashes, 3 F/SI Crashes)	Perpendicular - Bike Proceeding Straight, MV Making Right Turn (3 Crashes, 1 F/SI Crashes)	Broadside (73 Crashes, 8 F/SI Crashes)
	2	Perpendicular - Ped Crossing Not in Crosswalk, MV Proceeding Straight (3 Crashes, 2 F/SI Crashes)	Perpendicular - Bike Not Stated, MV Making Left Turn (1 Crashes, 1 F/SI Crashes)	Rear End (58 Crashes, 3 F/SI Crashes)
	3	Perpendicular - Ped Crossing in Crosswalk at Intersection, MV Proceeding Straight (5 Crashes, 2 F/SI Crashes)	Perpendicular - Other (3 Crashes, 1 F/SI Crashes)	Sideswipe (21 Crashes, 3 F/SI Crashes)

[30] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
Functional Classification	1	secondary (17 Crashes, 7 F/SI Crashes)	secondary (24 Crashes, 3 F/SI Crashes)	secondary (102 Crashes, 12 F/SI Crashes)
	2	residential (9 Crashes, 1 F/SI Crashes)	primary (6 Crashes, 1 F/SI Crashes)	primary (41 Crashes, 3 F/SI Crashes)
	3	primary (7 Crashes, 1 F/SI Crashes)	residential (4 Crashes, 0 F/SI Crashes)	residential (31 Crashes, 2 F/SI Crashes)
Lighting Condition	1	Light (28 Crashes, 8 F/SI Crashes)	Light (36 Crashes, 3 F/SI Crashes)	Light (160 Crashes, 11 F/SI Crashes)
	2	Dark (10 Crashes, 1 F/SI Crashes)	Dark (4 Crashes, 1 F/SI Crashes)	Dark (43 Crashes, 7 F/SI Crashes)
Posted Speed Limit	1	35 (11 Crashes, 4 F/SI Crashes)	45 (19 Crashes, 3 F/SI Crashes)	45 (86 Crashes, 10 F/SI Crashes)
	2	45 (12 Crashes, 3 F/SI Crashes)	30 (4 Crashes, 1 F/SI Crashes)	<=25 (41 Crashes, 4 F/SI Crashes)
	3	<=25 (14 Crashes, 2 F/SI Crashes)	<=25 (8 Crashes, 0 F/SI Crashes)	35 (40 Crashes, 3 F/SI Crashes)
Pre-Crash Movement	1	Ped Crossing in Crosswalk at Intersection, MV Making Left Turn (11 Crashes, 3 F/SI Crashes)	Other (14 Crashes, 1 F/SI Crashes)	MV Proceeding Straight, MV Proceeding Straight (46 Crashes, 4 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
	2	Ped Crossing in Crosswalk at Intersection, MV Proceeding Straight (6 Crashes, 2 F/SI Crashes)	Bike Proceeding Straight, MV Making Right Turn (8 Crashes, 1 F/SI Crashes)	Other (39 Crashes, 3 F/SI Crashes)
	3	Ped Crossing Not in Crosswalk, MV Proceeding Straight (3 Crashes, 2 F/SI Crashes)	Bike Not Stated, MV Making Left Turn (1 Crashes, 1 F/SI Crashes)	Hit Object (23 Crashes, 2 F/SI Crashes)
Relative Direction of Travel	1	Perpendicular (23 Crashes, 8 F/SI Crashes)	Perpendicular (14 Crashes, 4 F/SI Crashes)	Perpendicular (67 Crashes, 7 F/SI Crashes)
	2	Unknown (6 Crashes, 1 F/SI Crashes)	Same (15 Crashes, 0 F/SI Crashes)	Same (71 Crashes, 5 F/SI Crashes)
	3	Same (7 Crashes, 0 F/SI Crashes)	Opposite (6 Crashes, 0 F/SI Crashes)	Solo (29 Crashes, 3 F/SI Crashes)
Violation Type	1	Failure to yield to pedestrian at intersection (13 Crashes, 2 F/SI Crashes)	Disregarded signal (4 Crashes, 2 F/SI Crashes)	Too fast for conditions (60 Crashes, 4 F/SI Crashes)
	2	Did not safely stop, park or reverse on highway (7 Crashes, 1 F/SI Crashes)	Inappropriate turn (9 Crashes, 1 F/SI Crashes)	Disregarded signal (31 Crashes, 4 F/SI Crashes)
	3	Failure to yield to a vehicle that is yielding to pedestrian (1 Crashes, 1 F/SI Crashes)	Failure to yield while entering highway (4 Crashes, 1 F/SI Crashes)	Failure to yield while entering highway (13 Crashes, 3 F/SI Crashes)

Table 84: HIN Roadways in San Carlos

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Alameda de las Pulgas	6.7	X	X	X
Belmont Avenue	0.6	X		
Brittan Avenue	1.4	X		X
El Camino Real	23.5	X	X	X
Holly Street	1.0	X	X	
Industrial Road	2.4	X		X
Laurel Street	1.5			X
Old County Road	3.4	X	X	
San Carlos Avenue	1.4		X	
Stafford Street	0.4	X		

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 85: San Carlos top EPDO intersections

Intersection Name	State Highway Network	EPDO Score
Motor Vehicle Only		
Brittan Avenue / Old County Road	N	285
Industrial Road / Brittan Avenue	N	251
El Camino Real / Belmont Avenue	Y	230
Pedestrian		
Brittan Avenue / Cordilleras Avenue	N	191
Industrial Road / E San Carlos Avenue	N	191
Brittan Avenue / Old County Road	N	120

Intersection Name	State Highway Network	EPDO Score
Bicycle		
Alameda De Las Pulgas / Howard Avenue	N	202
El Camino Real / Eaton Avenue	Y	191
San Carlos Avenue / Devonshire Boulevard	N	120

Woodside

The following tables show crash statistics for key variables, locations along the modal HINs, and top intersections based on EPDO. The intersection table is shared for informational purposes and does **not** represent a potential project list, which will be evaluated and developed as part of a subsequent task. The modal HINs can be viewed dynamically online at this site.[31]

Table 86: Crash Statistics for Key Variables, Woodside

Variable	Rank	Pedestrian	Bicyclist	Motorists
All Crashes		1 Crashes, 1 F/SI Crashes	72 Crashes, 21 F/SI Crashes	112 Crashes, 22 F/SI Crashes
Crash Location	1	Unsignalized Intersection (1 Crashes, 1 F/SI Crashes)	Segment (48 Crashes, 12 F/SI Crashes)	Segment (89 Crashes, 19 F/SI Crashes)
	2		Unsignalized Intersection (22 Crashes, 9 F/SI Crashes)	Unsignalized Intersection (20 Crashes, 3 F/SI Crashes)
	3		Signalized Intersection (2 Crashes, 0 F/SI Crashes)	Signalized Intersection (3 Crashes, 0 F/SI Crashes)
Crash Type	1	Unknown - Bike Proceeding Straight, Ped In Road, Including Shoulder (1 Crashes, 1 F/SI Crashes)	Unknown - Bike Proceeding Straight, MV Proceeding Straight (1 Crashes, 0 F/SI Crashes)	Hit Object (38 Crashes, 10 F/SI Crashes)
	2		Solo - Overturned (20 Crashes, 8 F/SI Crashes)	Head-On (18 Crashes, 6 F/SI Crashes)
	3		Solo - Other (12 Crashes, 6 F/SI Crashes)	Sideswipe (10 Crashes, 4 F/SI Crashes)
Functional Classification	1	secondary (1 Crashes, 1 F/SI Crashes)	secondary (30 Crashes, 11 F/SI Crashes)	secondary (59 Crashes, 16 F/SI Crashes)

[31] https://kai.maps.arcgis.com/apps/instant/basic/index.html?appid=97ffc3b8dec94cf7a1d65ae3e3324de4

Variable	Rank	Pedestrian	Bicyclist	Motorists
	2		tertiary (11 Crashes, 4 F/SI Crashes)	(33 Crashes, 3 F/SI Crashes)
	3		(16 Crashes, 3 F/SI Crashes)	residential (9 Crashes, 2 F/SI Crashes)
Lighting Condition	1	Light (1 Crashes, 1 F/SI Crashes)	Light (72 Crashes, 21 F/SI Crashes)	Light (87 Crashes, 15 F/SI Crashes)
	2			Dark (25 Crashes, 7 F/SI Crashes)
Posted Speed Limit	1	45 (1 Crashes, 1 F/SI Crashes)	45 (42 Crashes, 13 F/SI Crashes)	45 (64 Crashes, 18 F/SI Crashes)
	2		Unknown (16 Crashes, 3 F/SI Crashes)	(33 Crashes, 3 F/SI Crashes)
	3		35 (8 Crashes, 3 F/SI Crashes)	35 (9 Crashes, 1 F/SI Crashes)
Pre-Crash Movement	1	Bike Proceeding Straight, Ped In Road, Including Shoulder (1 Crashes, 1 F/SI Crashes)	Other (29 Crashes, 11 F/SI Crashes)	Hit Object (37 Crashes, 10 F/SI Crashes)
	2		Overturned (20 Crashes, 8 F/SI Crashes)	Other (45 Crashes, 9 F/SI Crashes)
	3		Bike Proceeding Straight, MV Making Left Turn (4 Crashes, 1 F/SI Crashes)	MC Proceeding Straight, MV Proceeding Straight (6 Crashes, 2 F/SI Crashes)

Variable	Rank	Pedestrian	Bicyclist	Motorists
Relative Direction of Travel	1	Unknown (1 Crashes, 1 F/SI Crashes)	Solo (35 Crashes, 14 F/SI Crashes)	Solo (57 Crashes, 11 F/SI Crashes)
	2		Same (18 Crashes, 4 F/SI Crashes)	Opposite (28 Crashes, 9 F/SI Crashes)
	3		Perpendicular (7 Crashes, 2 F/SI Crashes)	Same (19 Crashes, 1 F/SI Crashes)
Violation Type	1	Too fast for conditions (1 Crashes, 1 F/SI Crashes)	Drivers/cyclists yield to drivers already in an intersection (1 Crashes, 0 F/SI Crashes)	Too fast for conditions (51 Crashes, 10 F/SI Crashes)
	2		Disregarded signal (1 Crashes, 0 F/SI Crashes)	Driving while under the influence of alcohol (8 Crashes, 4 F/SI Crashes)
	3		Too fast for conditions (38 Crashes, 13 F/SI Crashes)	Do not cross double parallel lines (10 Crashes, 3 F/SI Crashes)

Table 87: HIN Roadways in Woodside

Roadway name	Length (mi)[1]	Motor Vehicle HIN[2]	Bicyclist HIN[2]	Pedestrian HIN[2]
Cañada Road	7.1	X	X	
Farm Hill Boulevard	1.8	X		
Kings Mountain Road	3.5		X	
La Honda Road	14.0	X	X	
Portola Road	4.2	X	X	
SR 35	25.3	X	X	
SR 84	2.6	X		
Woodside Road	7.0	X	X	

[1] The length value is for the entire HIN corridor, which may represent portions in neighboring jurisdictions.

[2] This column identifies whether *any* portion of the selected roadway is along the HIN (results may differ within select jurisdictions)

Table 88: Woodside top EPDO intersections

Intersection Name	State Highway Network?	EPDO Score
Motor Vehicle Only		
Woodside Road / Lindenbrook Road	Y	202
Portola Road / Old La Honda Road	N	191
La Honda Road / Martinez Road	Y	191
Pedestrian		
Cañada Road / Corto Lane	N	191
Bicycle		
La Honda Road / Portola Road	Y	404
Skyline Boulevard / La Honda Road	Y	202
Woodside Road / Oakhill Drive	Y	191

NEXT STEPS

This memo presents hot spot (location based) and systemic (location and systemwide) crash trends. The evaluation can stand alone and provide directly useful information for participating jurisdictions to consider and to incorporate in the Countywide LRSP.

The memo will also serve upcoming tasks in the following ways:

- **Task 4: Community and Stakeholder engagement** – We will use the key findings listed here including the mode-specific and combined HIN to relay safety trends when engaging with the public. We will request their input on whether their experience is reflected in the key findings presented here. Caltrans is involved in the advisory group and we will continue to work with them in this task.
- **Task 5: Countermeasures/Implementation –** We will develop a list of Safe System-aligned recommendations to address and improve safety. The recommendations will be mapped to the key findings of this memo—for example:
  - Emphasizing nighttime safety based on lighting and crash risk findings,
  - Recommending engineering solutions that address the top crash and location types.
  - Recommending target populations and behaviors based on the demographic/user behavior findings.
- **Task 7: Develop Prioritized List of Safety Projects for Each Jurisdiction in San Mateo County:** We will use the HIN, top systemic/roadway characteristics and equity spatial data to screen the network and prioritize locations to develop project lists for the county. We will continue to coordinate with Caltrans in this task.
- **Task 8: Countywide LRSP Development:** We will concisely summarize the key findings as part of the plan.

We have shared this memo with the advisory group and others at C/CAG staff's direction and have addressed one set of non-conflicting comments.

Appendix A
Pedestrian HIN Maps by Jurisdiction

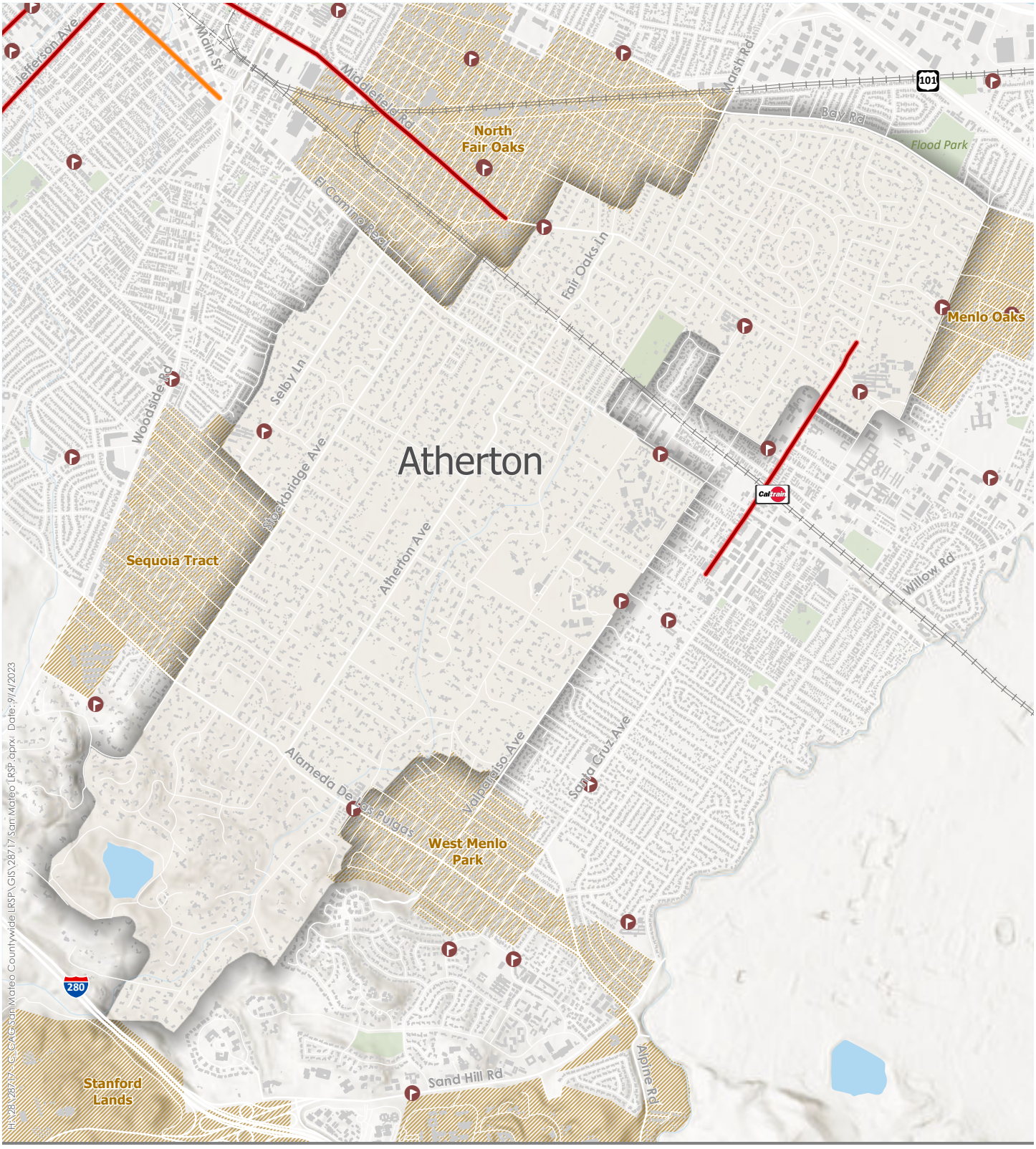
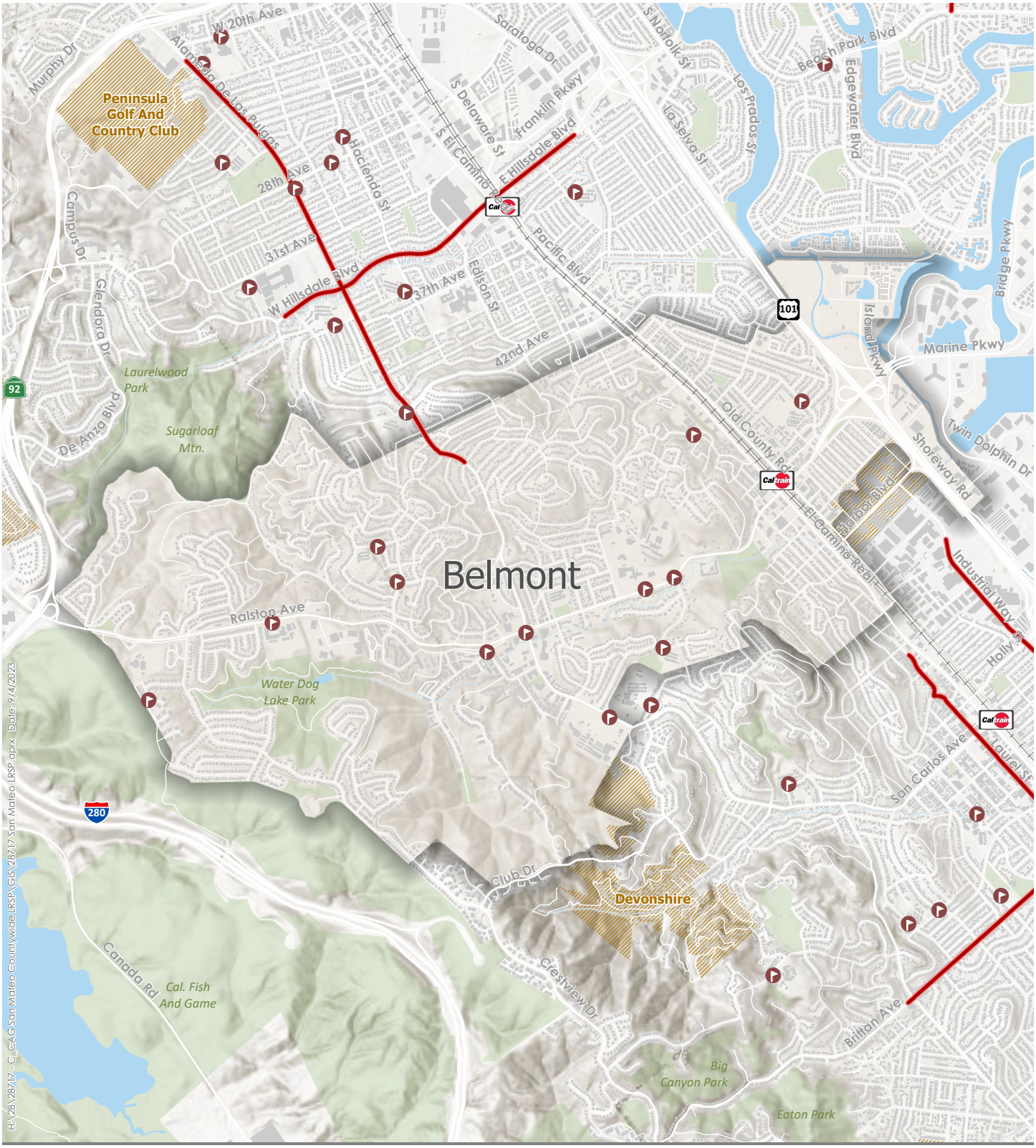


Figure P-1

Pedestrian High Injury Network (HIN)
City of Atherton, CA

KITTELSON & ASSOCIATES



H:\28\287\7 C_CAG San Mateo Countywide LRSP\GIS\287\7 San Mateo LRSP.aprx Date: 9/4/2023

- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN

0 0.5 Miles

Figure P-2

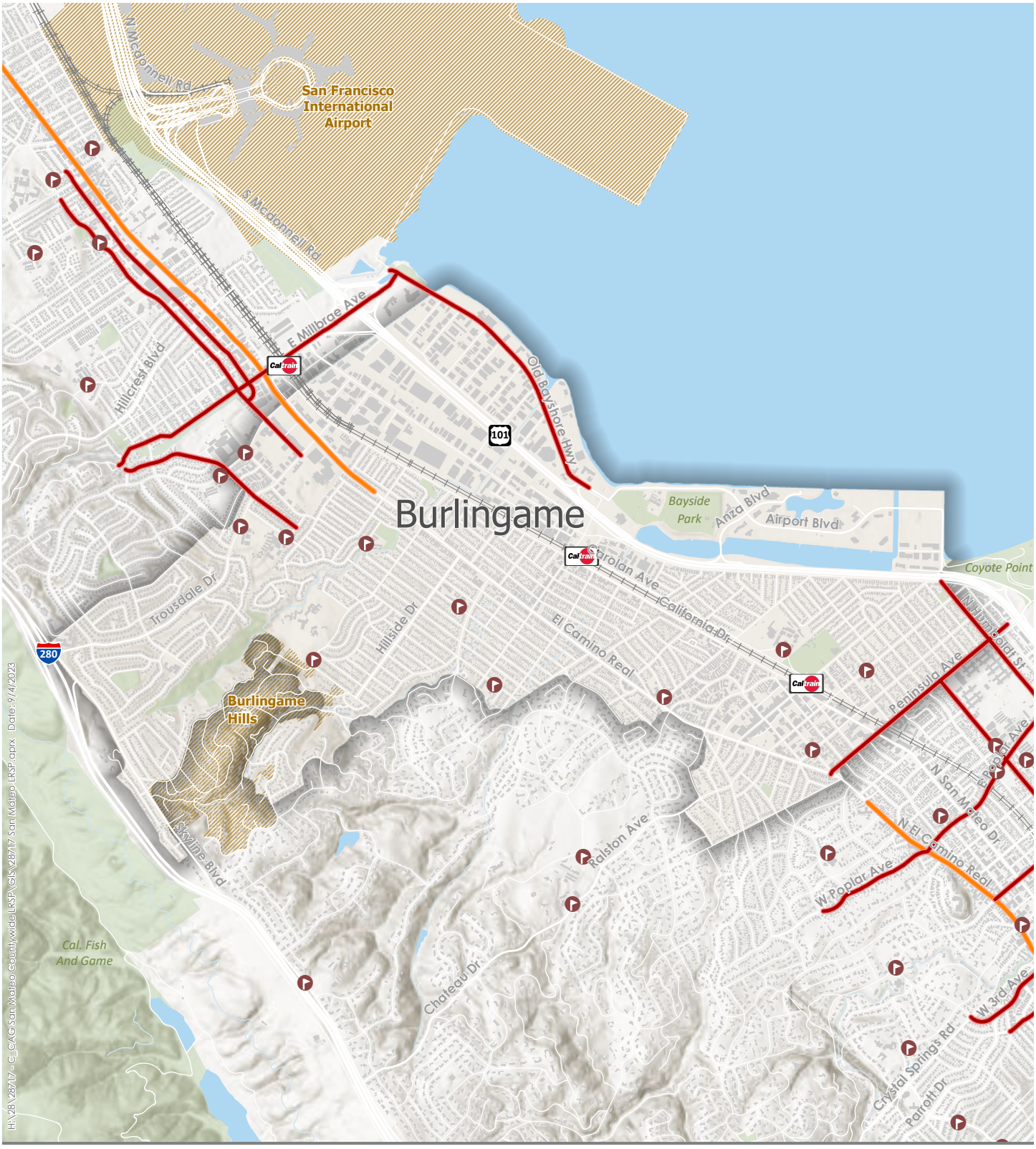
KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Belmont, CA

Figure P-3

Pedestrian High Injury Network (HIN)
City of Brisbane, CA

KITTELSON & ASSOCIATES



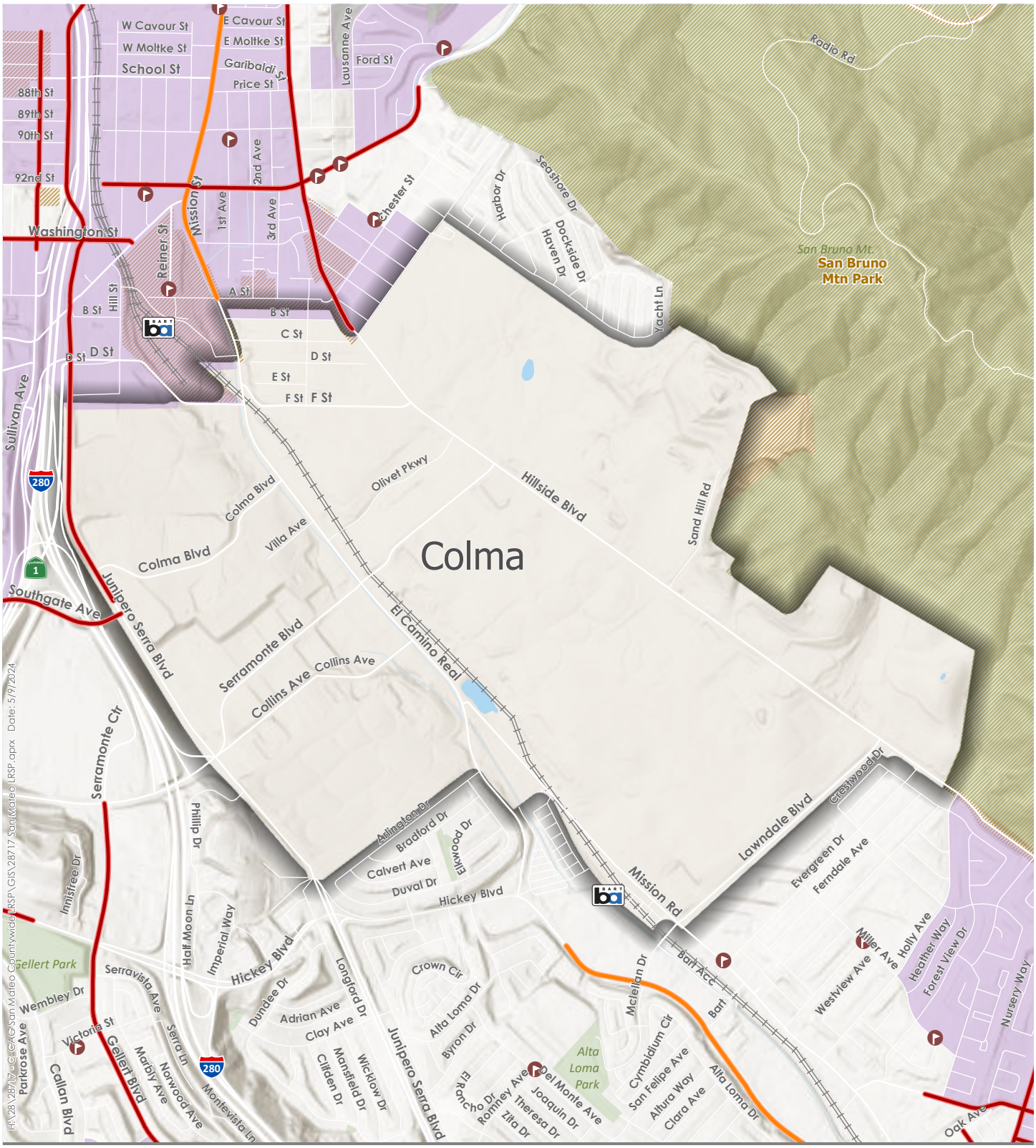
- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN

0 0.5 Miles

Figure P-4

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Burlingame, CA



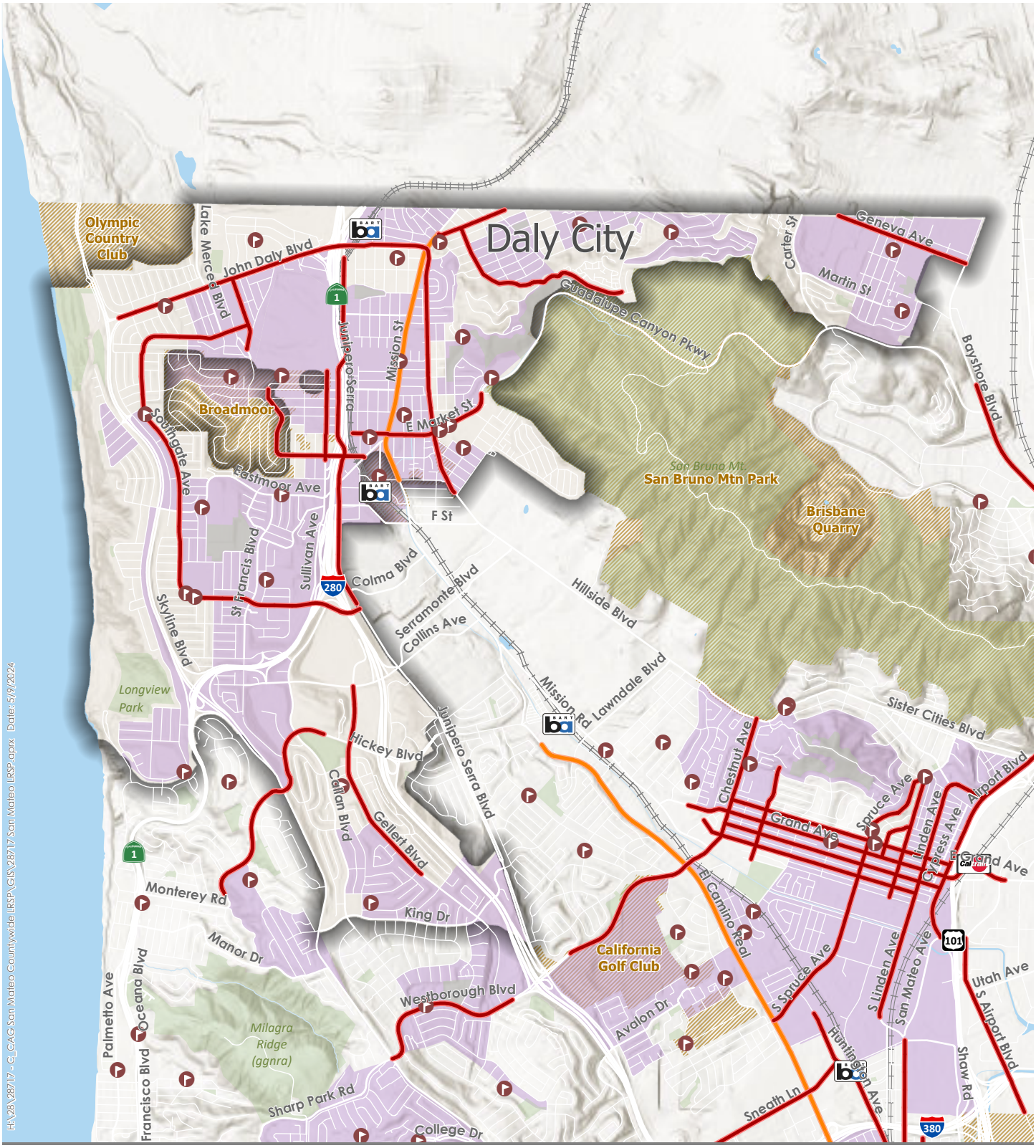
- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN
- C/CAG Equity Focus Aeas

0 0.5 Miles

Figure P-5

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Colma, CA



- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN
- C/CAG Equity Focus Aeas

0 0.5 1 Miles

Figure P-6

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Daly City, CA

- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN

0 0.5 Miles

Figure P-7

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of East Palo Alto, CA

Figure P-8

Pedestrian High Injury Network (HIN)
City of Foster City, CA

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

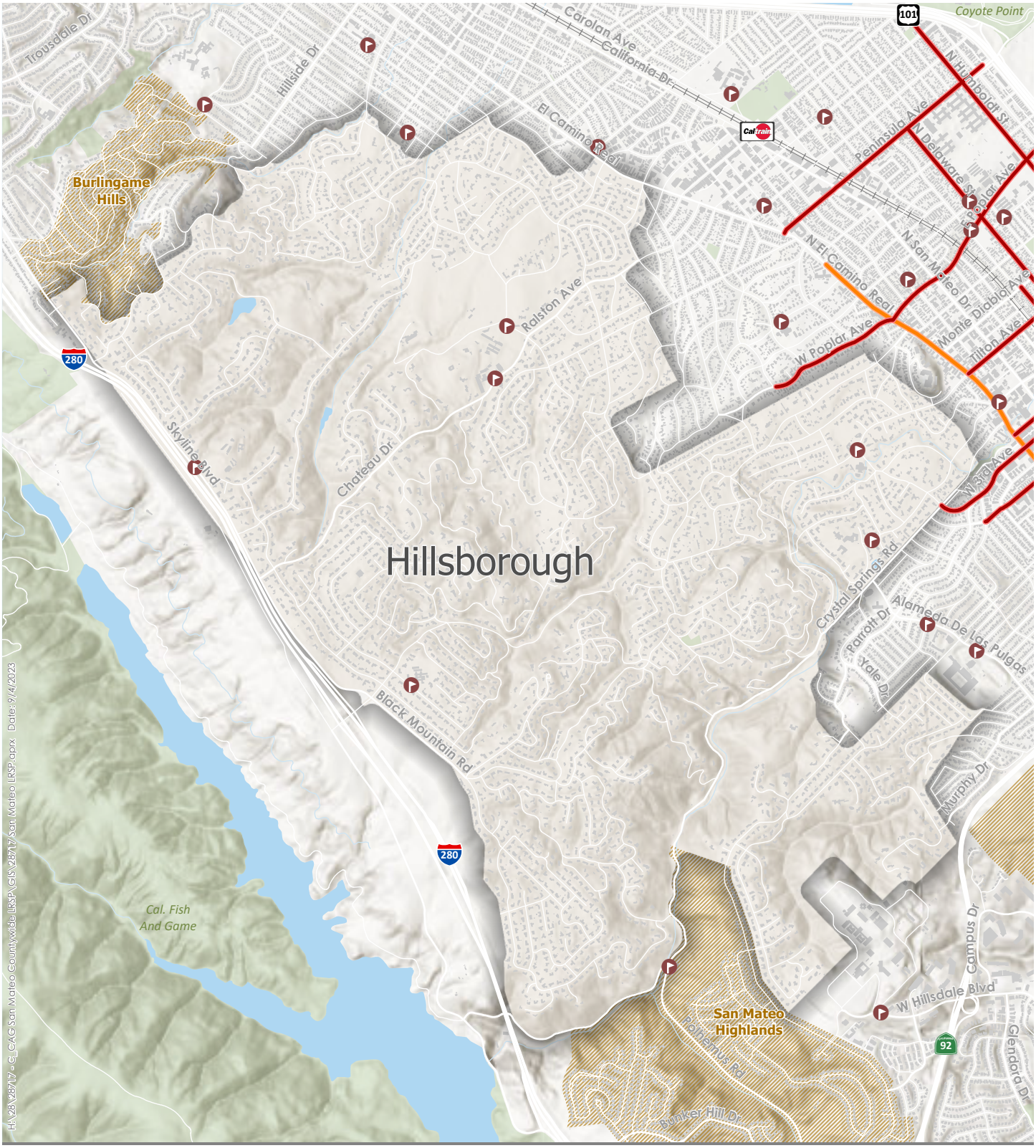
Non-Highway Pedestrian HIN
Highway Pedestrian HIN

0 0.5 1 Miles

Figure P-9

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Half Moon Bay, CA



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

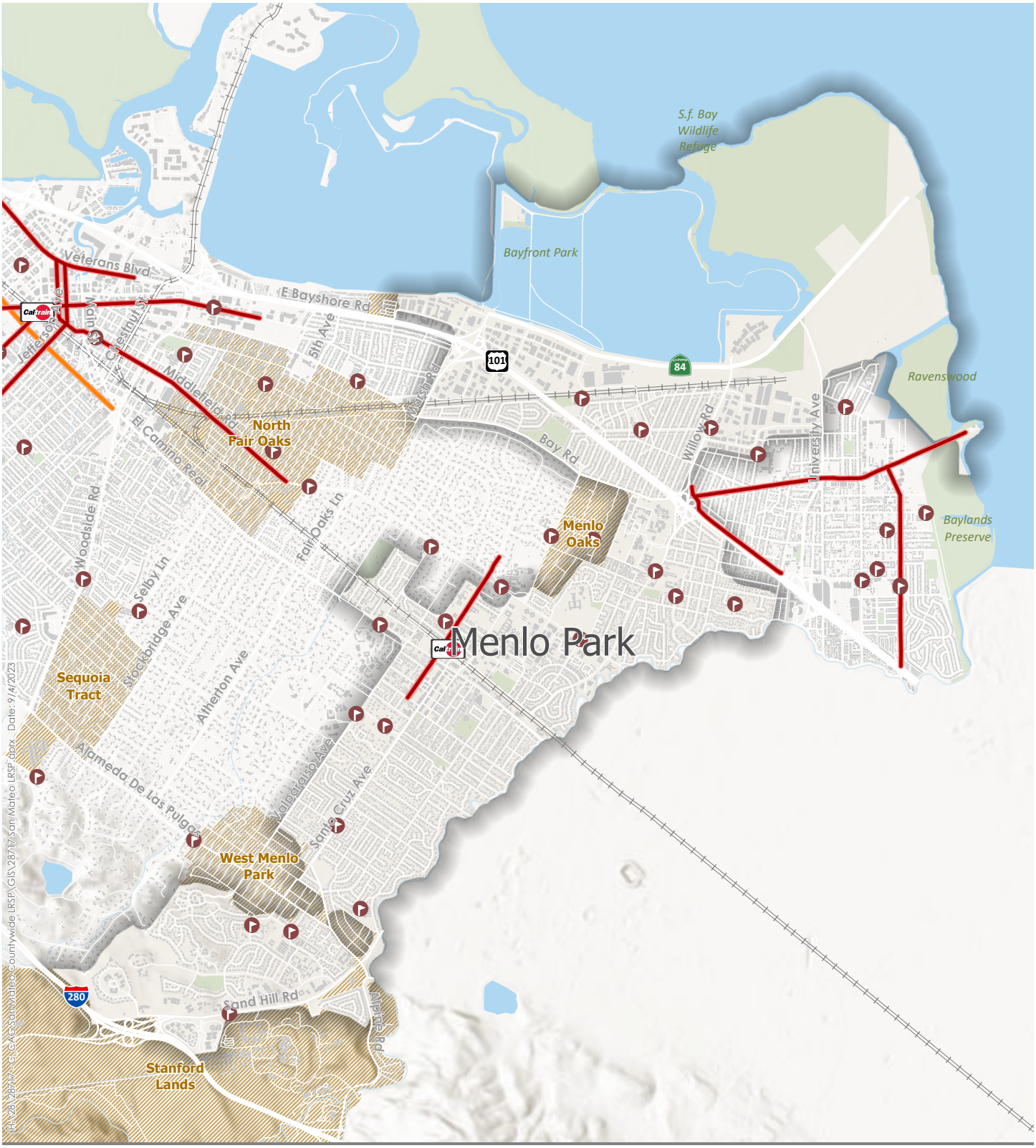
Non-Highway Pedestrian HIN
Highway Pedestrian HIN

0 0.5 Miles

Figure P-10

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Hillsborough, CA



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway Pedestrian HIN
Highway Pedestrian HIN

0 0.5 1 Miles

Figure P-11

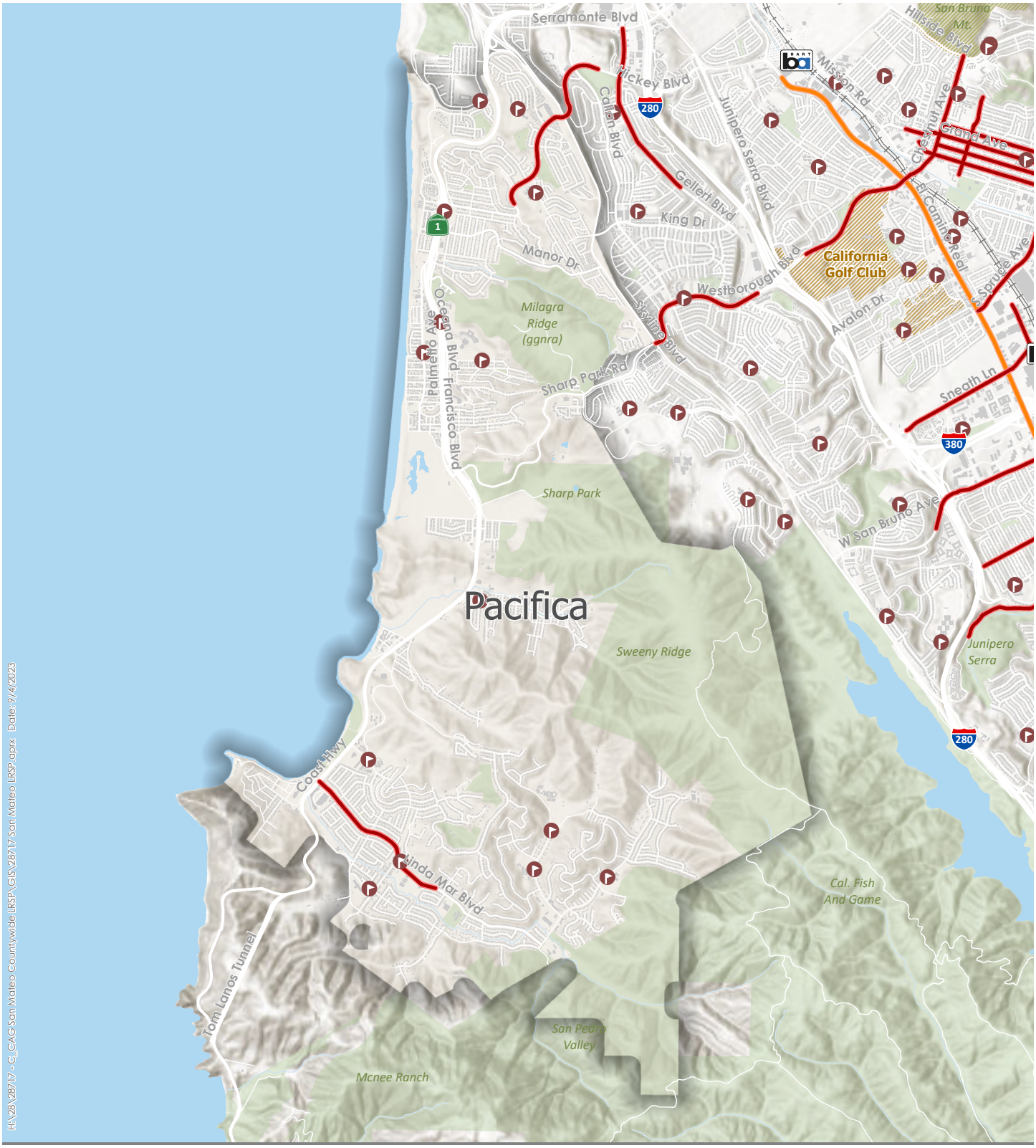
Pedestrian High Injury Network (HIN)
City of Menlo Park, CA

KITTELSON & ASSOCIATES

Figure P-12

Pedestrian High Injury Network (HIN)
City of Millbrae, CA

KITTELSON & ASSOCIATES



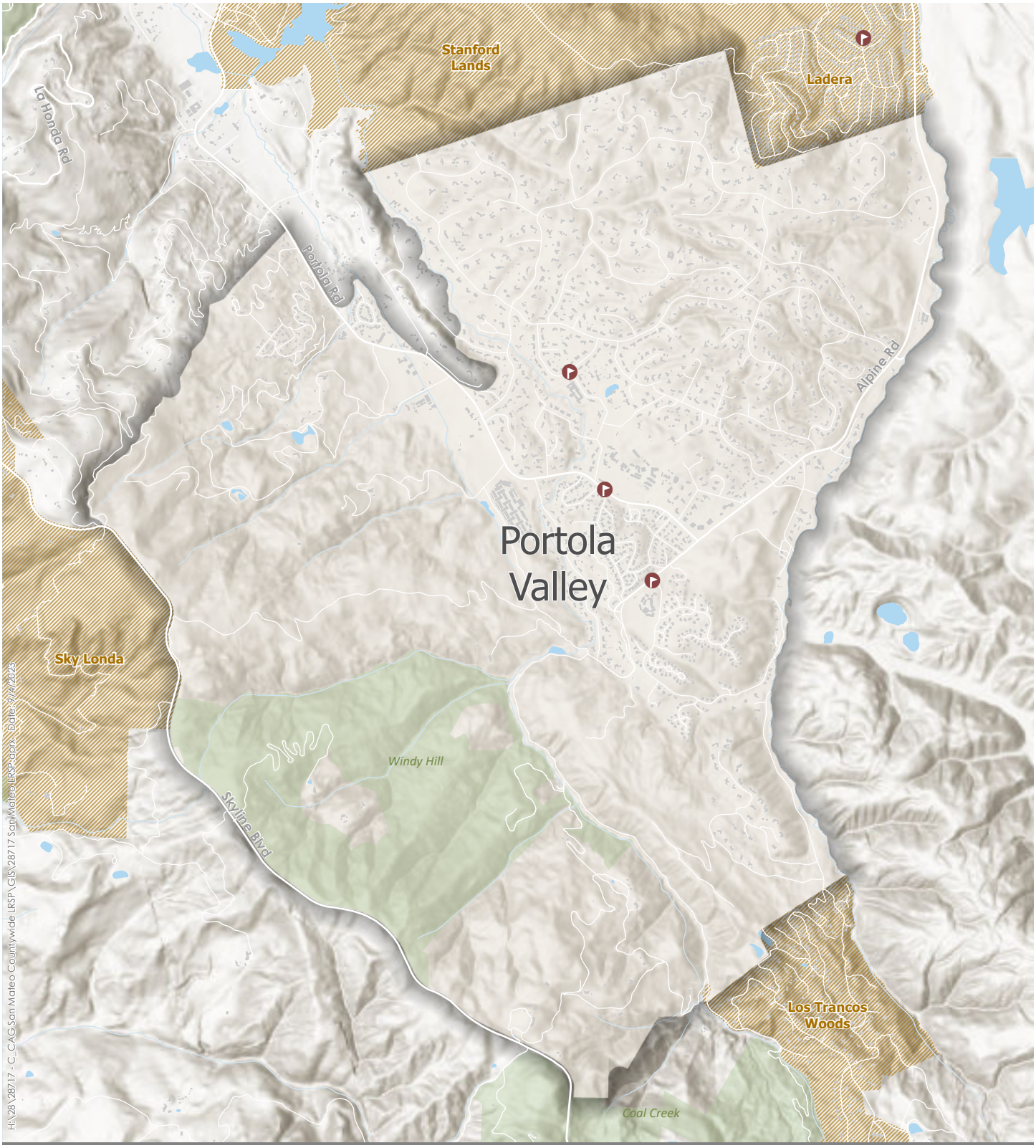
- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN

0 0.5 1 Miles

Figure P-13

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Pacifica, CA



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

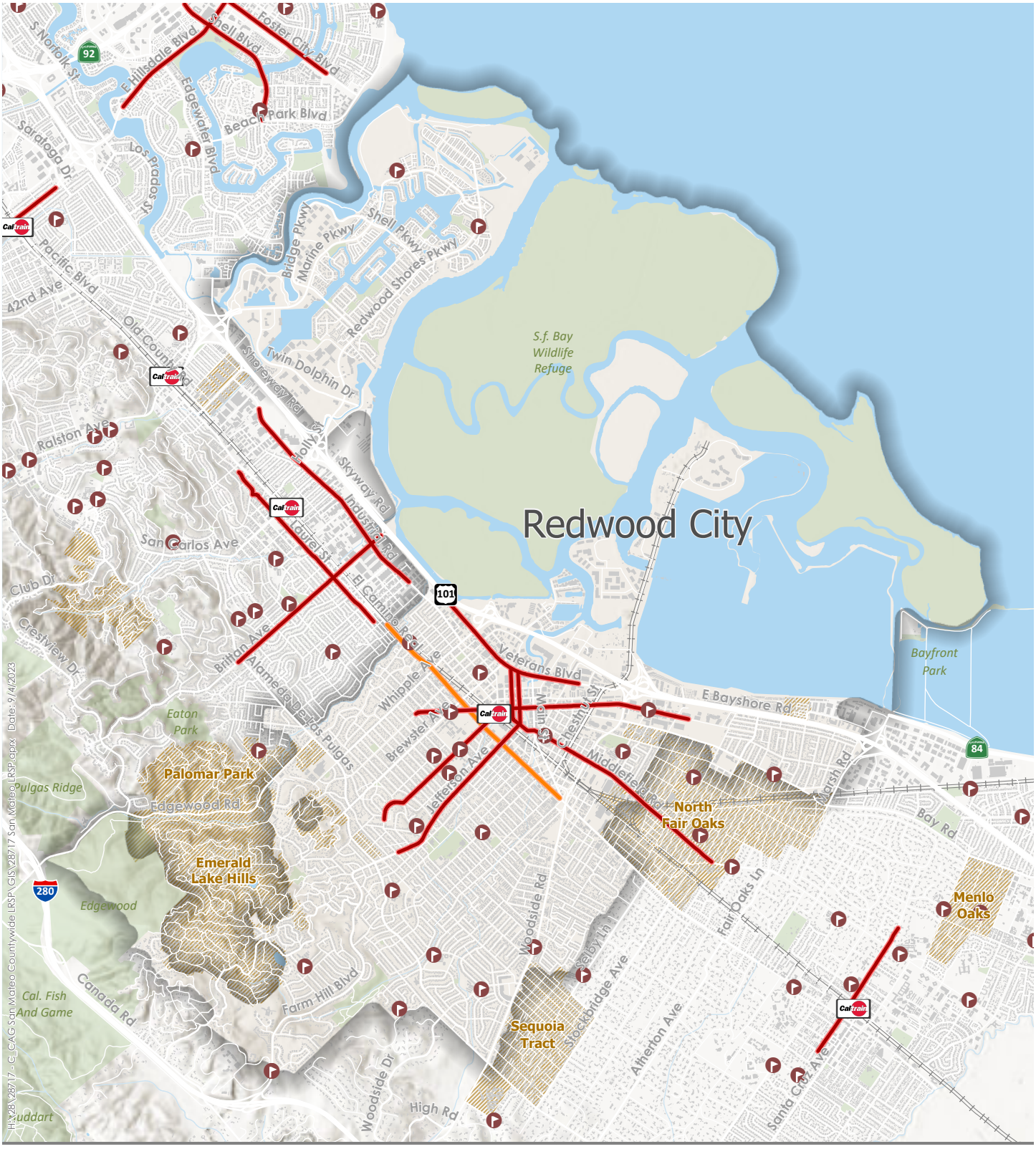
Non-Highway Pedestrian HIN
Highway Pedestrian HIN

0 0.5 Miles

Figure P-14

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Portola Valley, CA



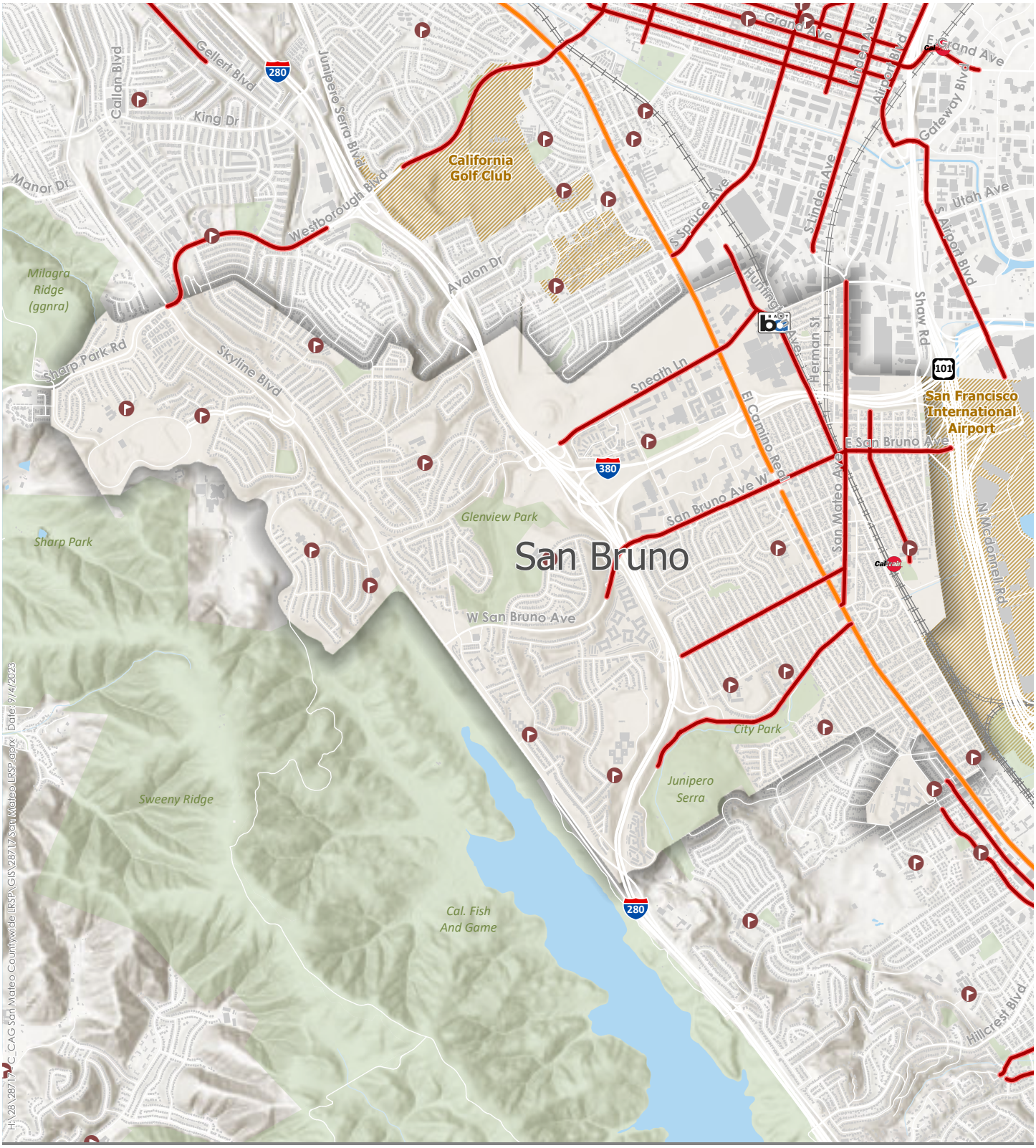
- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN

0 0.5 1 1.5 Miles

Figure P-15

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Redwood City, CA



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

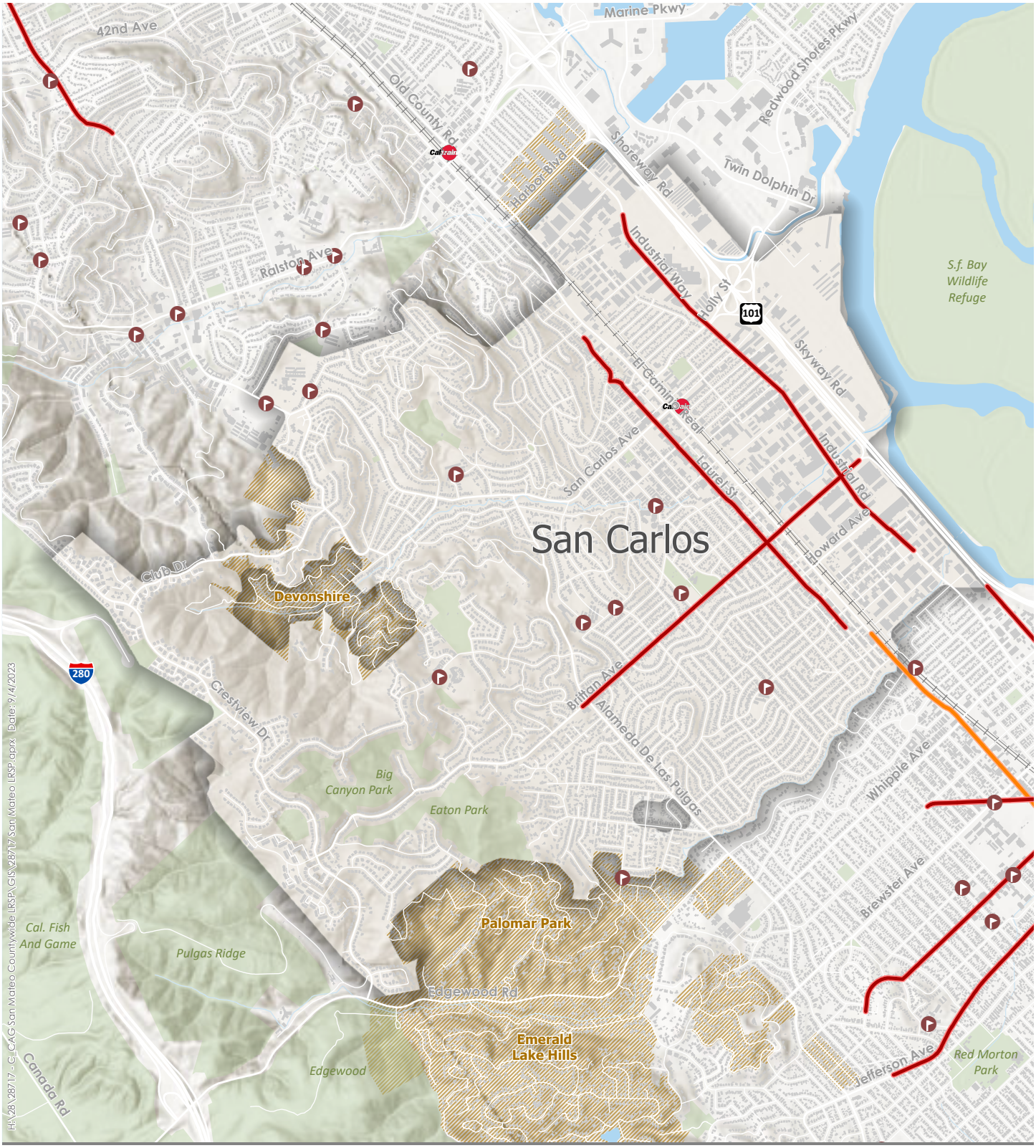
Non-Highway Pedestrian HIN
Highway Pedestrian HIN

0 0.5 Miles

Figure P-16

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of San Bruno, CA



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

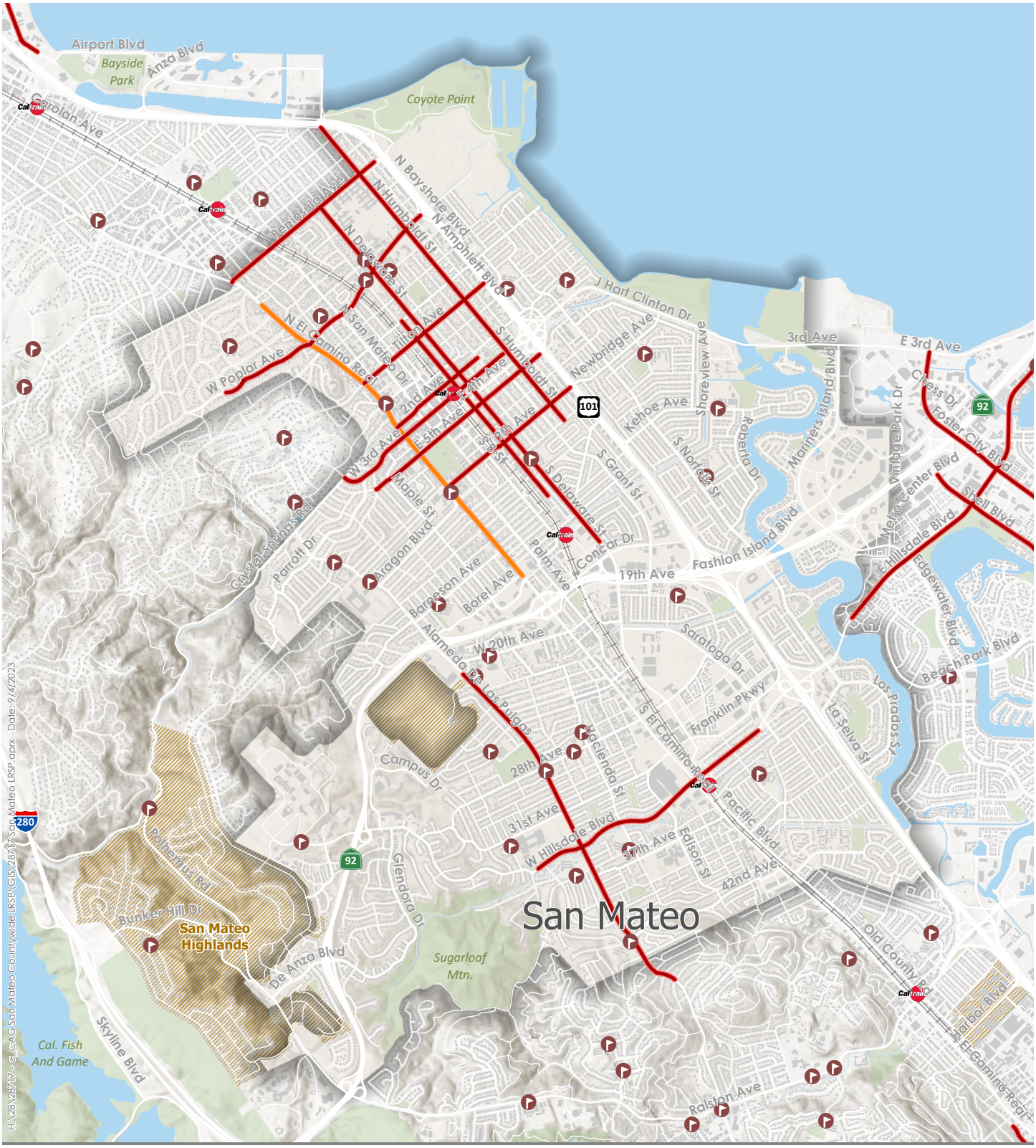
Non-Highway Pedestrian HIN
Highway Pedestrian HIN

0 0.5 Miles

Figure P-17

Pedestrian High Injury Network (HIN)
City of San Carlos, CA

KITTELSON & ASSOCIATES



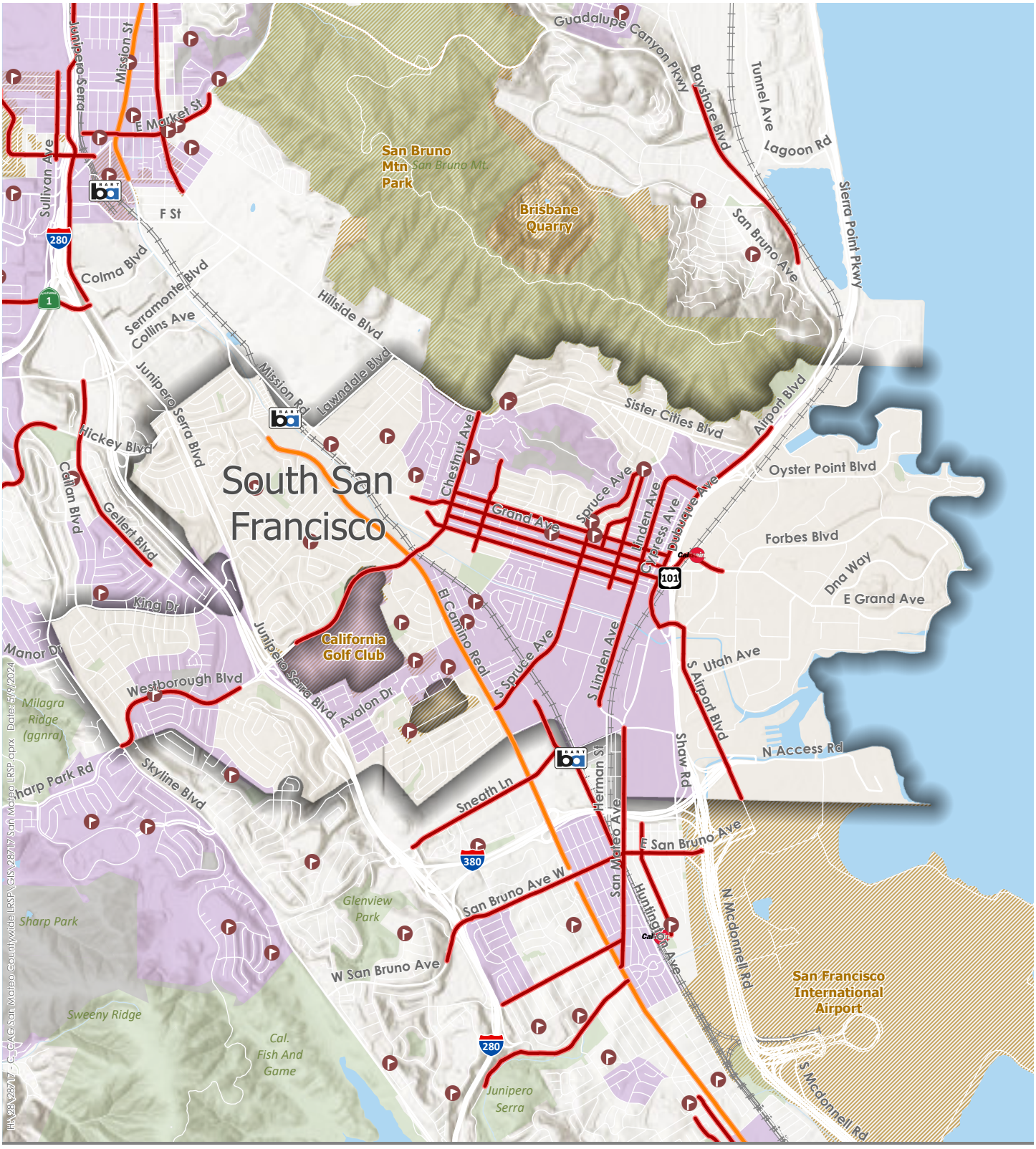
- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN

0 0.5 1 Miles

Figure P-18

Pedestrian High Injury Network (HIN)
City of San Mateo, CA

KITTELSON & ASSOCIATES



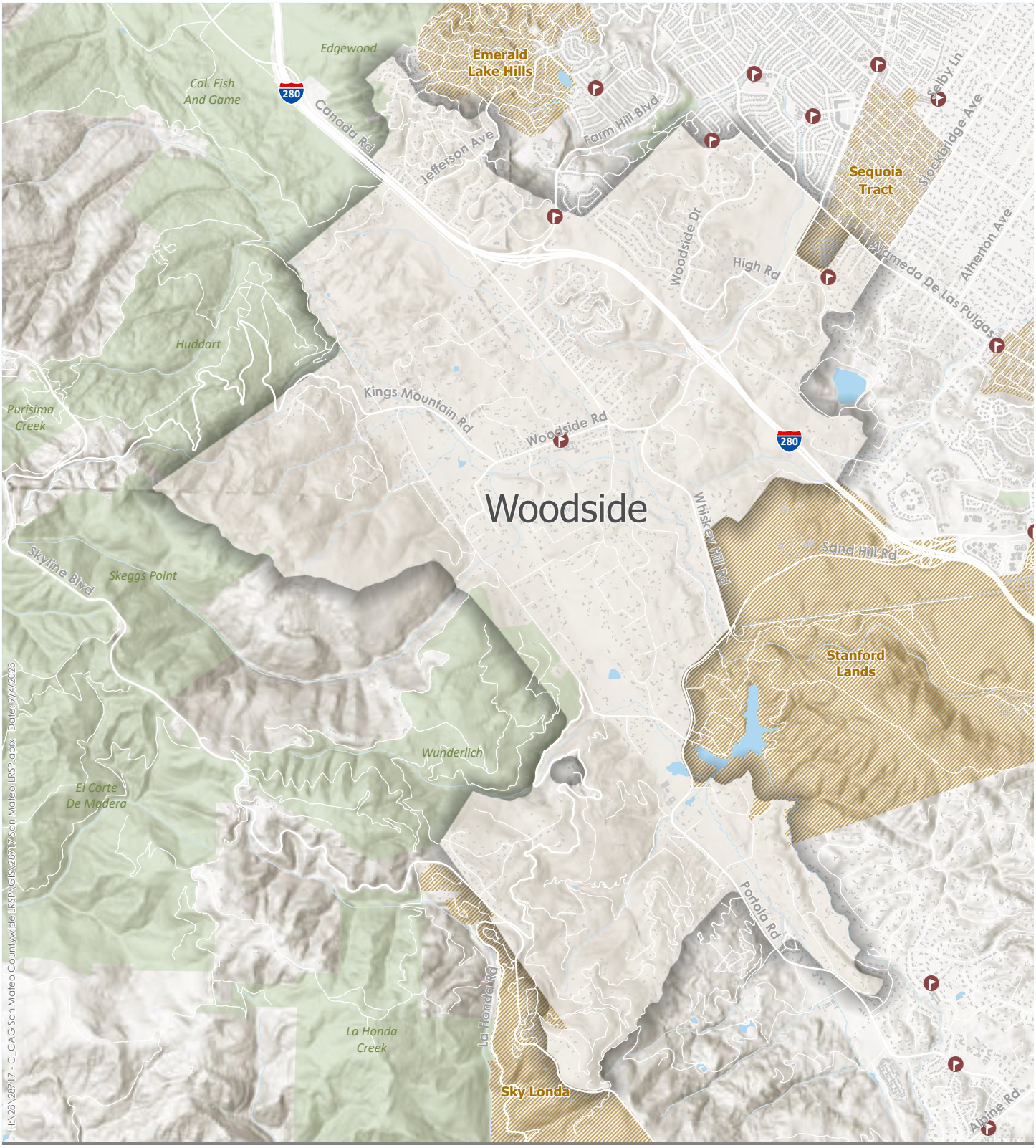
- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN
- C/CAG Equity Focus Aeas

0 0.5 1 Miles

Figure P-19

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of South San Francisco, CA



- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks
- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN

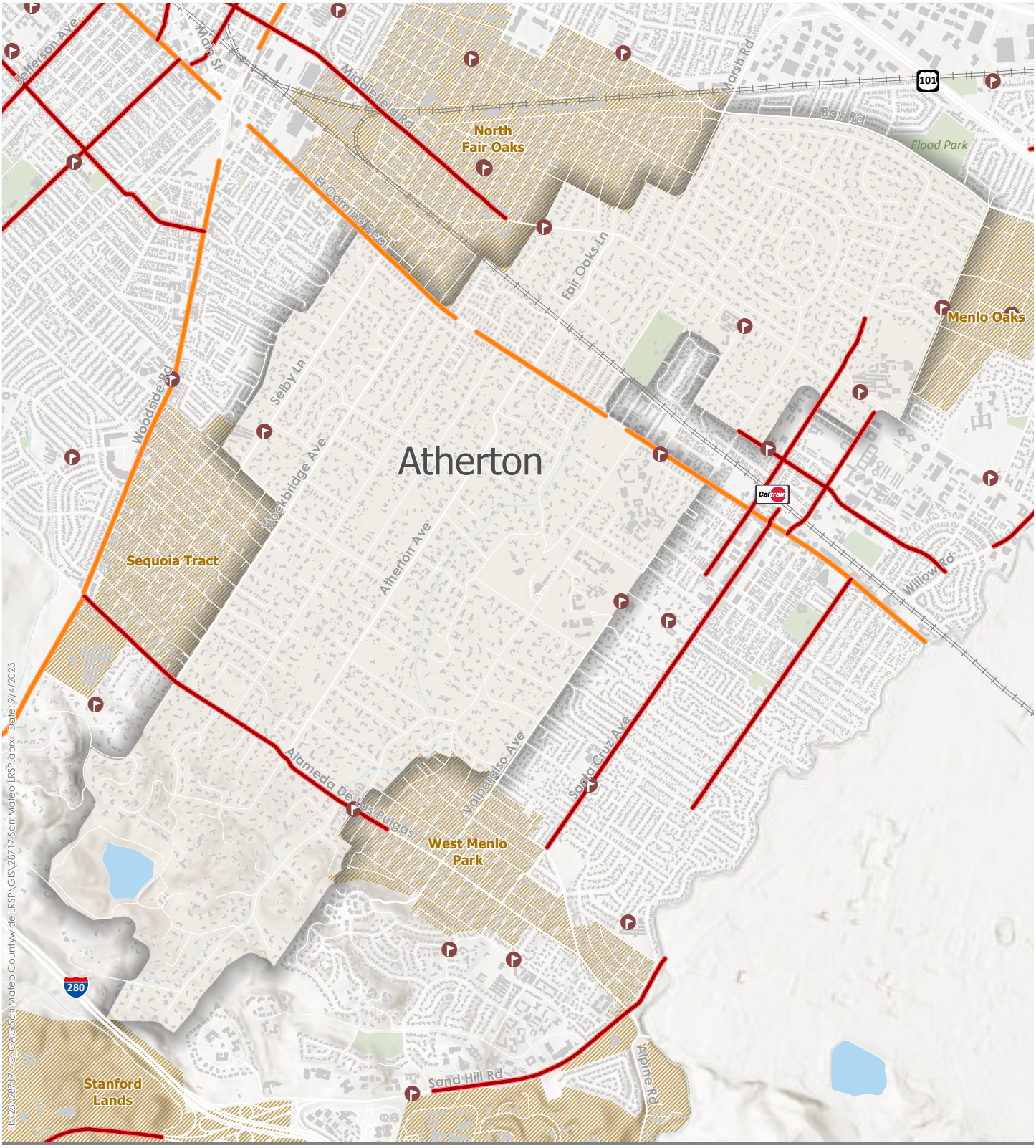
0 0.5 1 Miles

Figure P-20

KITTELSON & ASSOCIATES

Pedestrian High Injury Network (HIN)
City of Woodside, CA

Appendix B
Bicyclist HIN Maps by Jurisdiction



Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

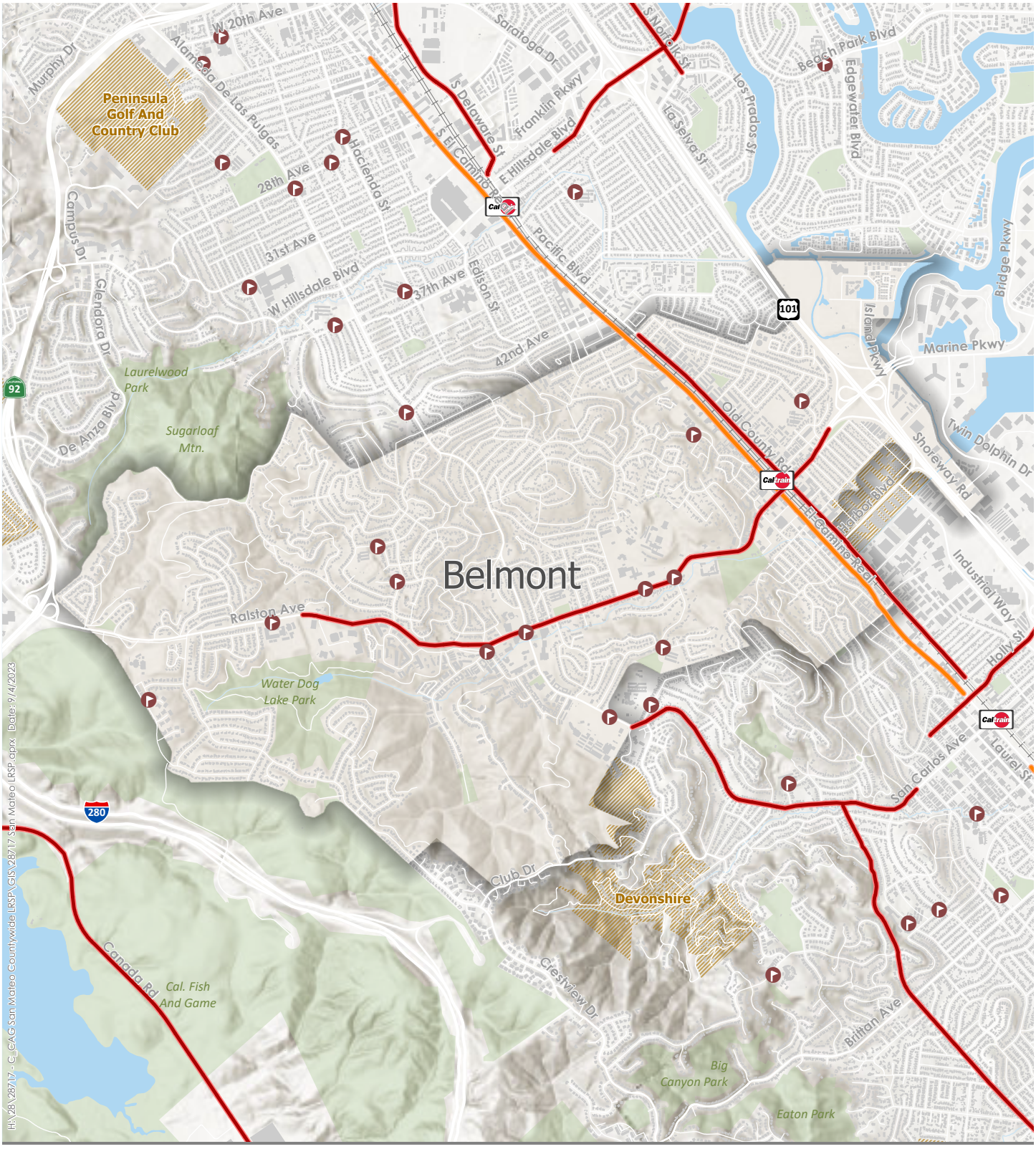
Non-Highway Bicyclist HIN
Highway Bicyclist HIN

0 0.5 Miles

Figure B-1

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Atherton, CA



Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

Non-Highway Bicyclist HIN
Highway Bicyclist HIN

0 0.5 Miles

Figure B-2

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Belmont, CA

Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

Non-Highway Bicyclist HIN
Highway Bicyclist HIN

0 0.5 Miles

Figure B-3

Bicyclist High Injury Network (HIN)
City of Brisbane, CA

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

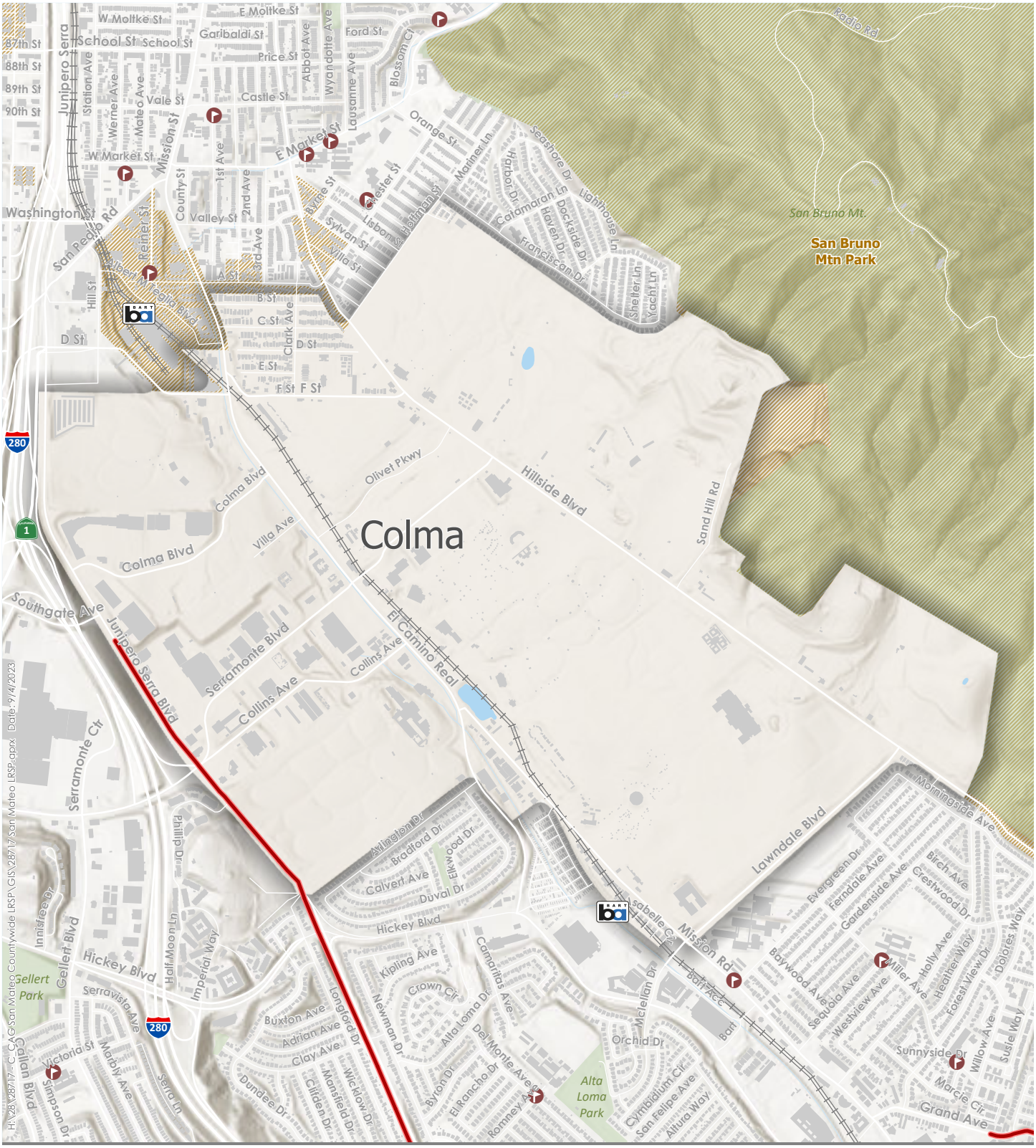
Non-Highway Bicyclist HIN
Highway Bicyclist HIN

0 0.5 Miles

Figure B-4

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Burlingame, CA



- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 Miles

Figure B-5

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Colma, CA

Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

Non-Highway Bicyclist HIN
Highway Bicyclist HIN

0 0.5 1 Miles

Figure B-6

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Daly City, CA

- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 Miles

Figure B-7

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of East Palo Alto, CA

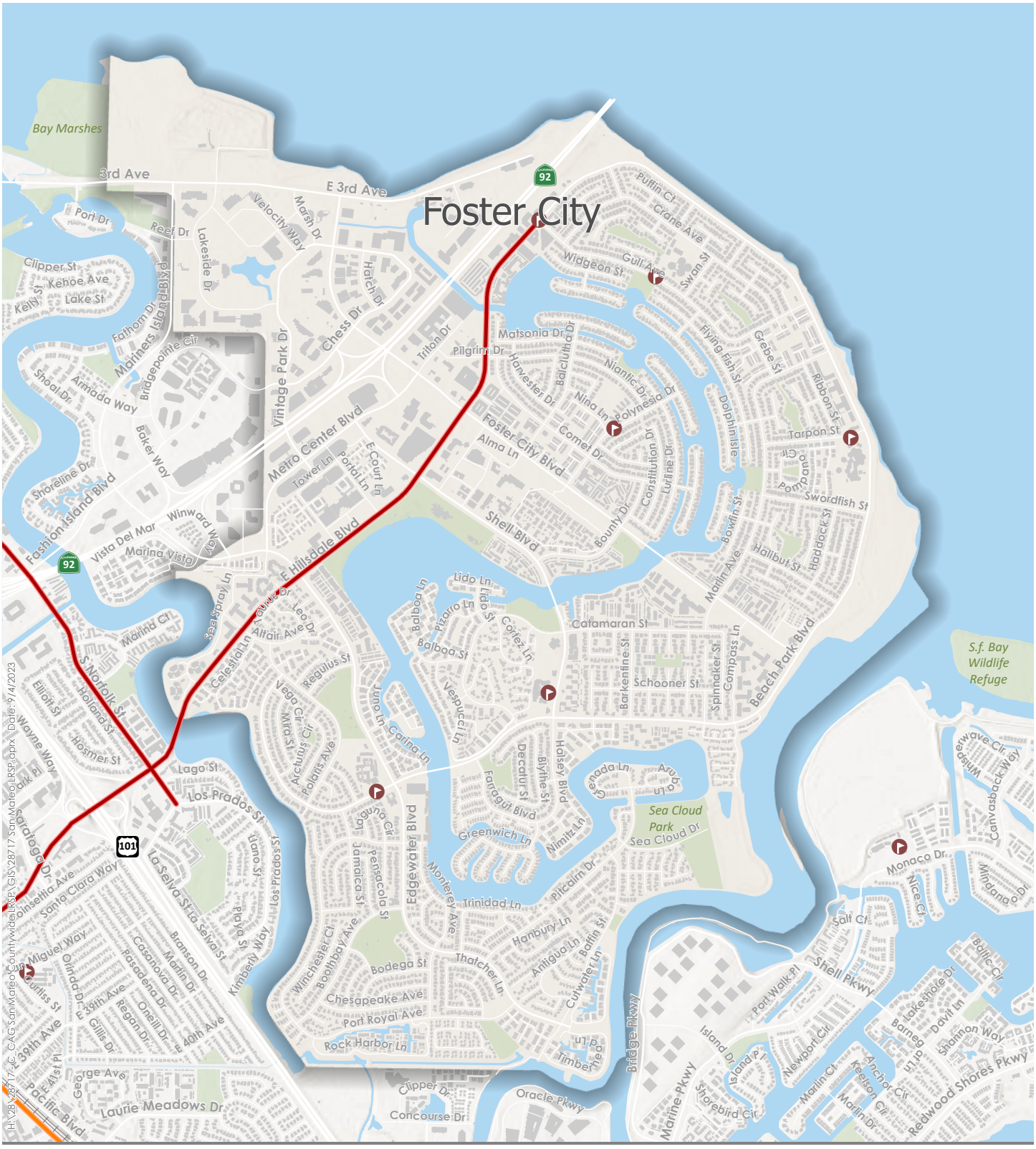


Figure B-8

Bicyclist High Injury Network (HIN)
City of Foster City, CA

KITTELSON & ASSOCIATES

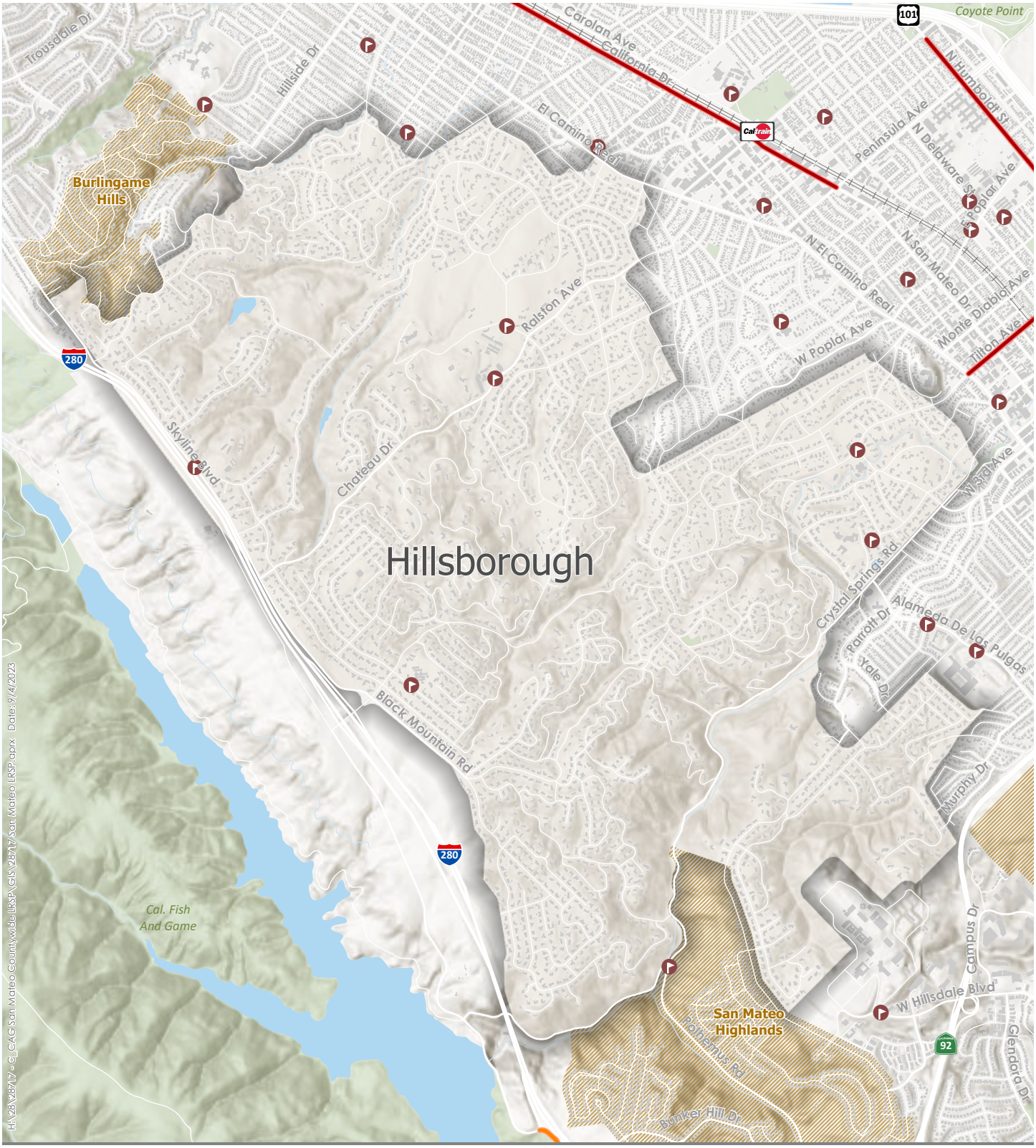
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 1 Miles

Figure B-9

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Half Moon Bay, CA



- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 Miles

Figure B-10

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Hillsborough, CA

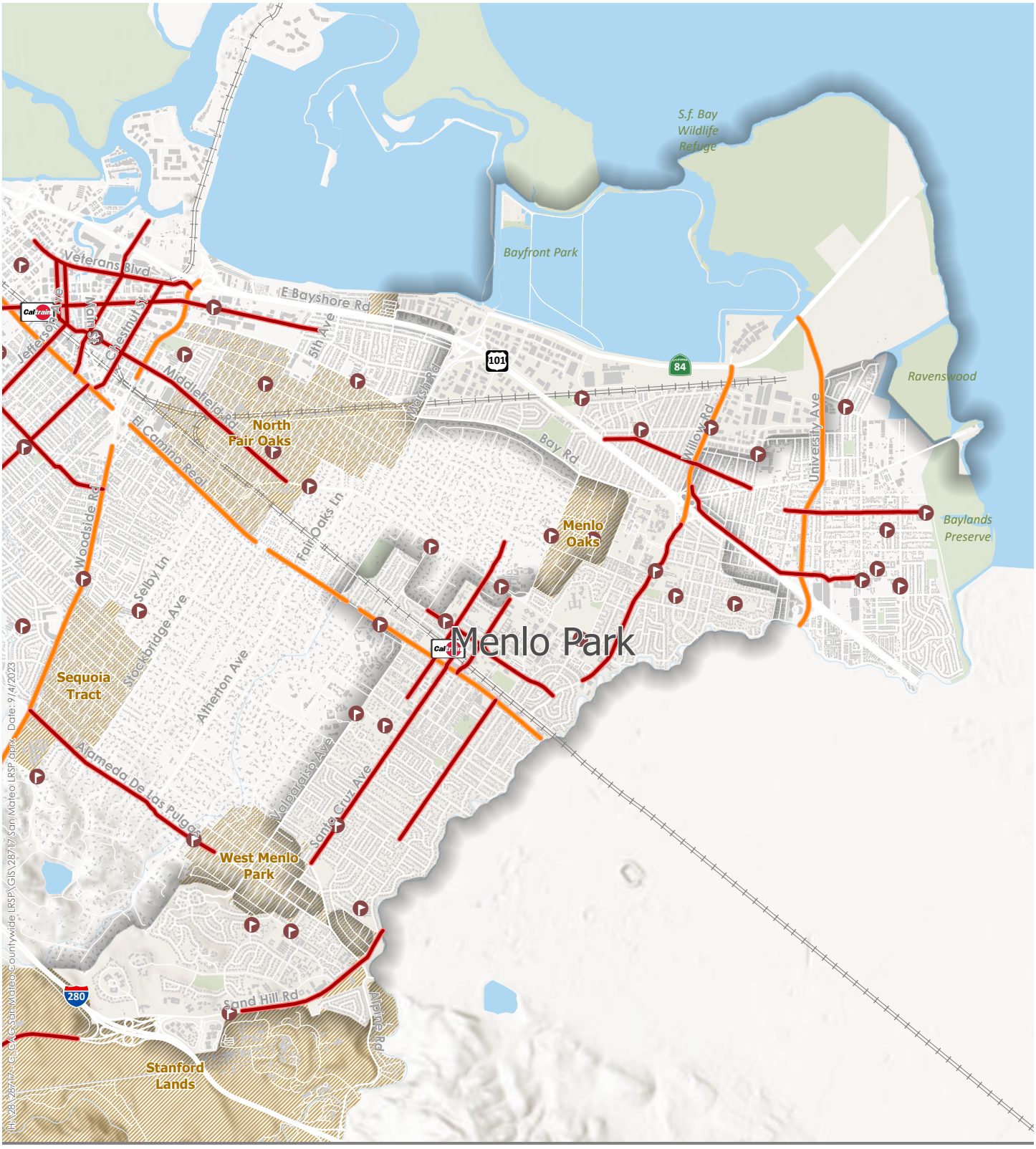


Figure B-11

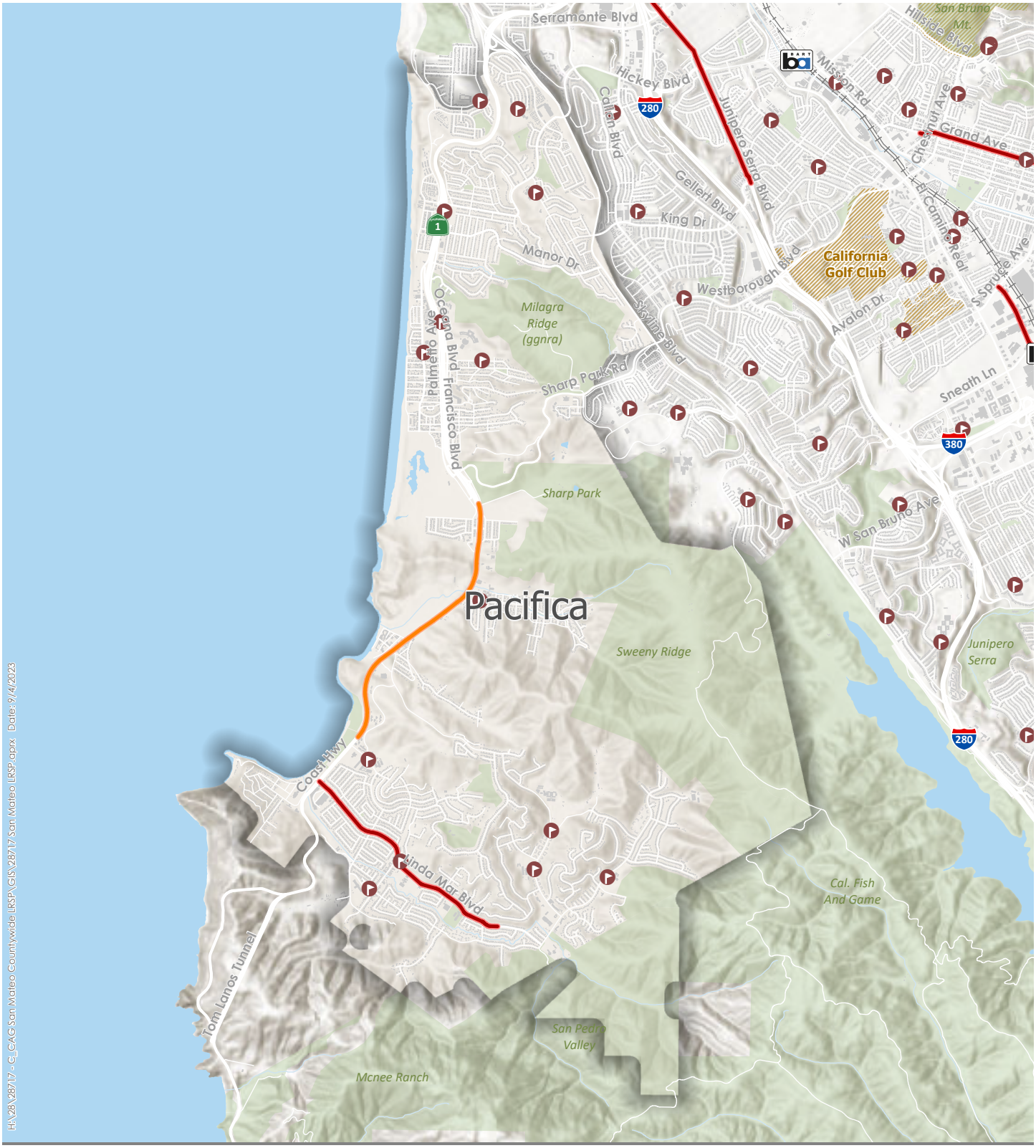
Bicyclist High Injury Network (HIN)
City of Menlo Park, CA

KITTELSON & ASSOCIATES

Figure B-12

Bicyclist High Injury Network (HIN)
City of Millbrae, CA

KITTELSON & ASSOCIATES



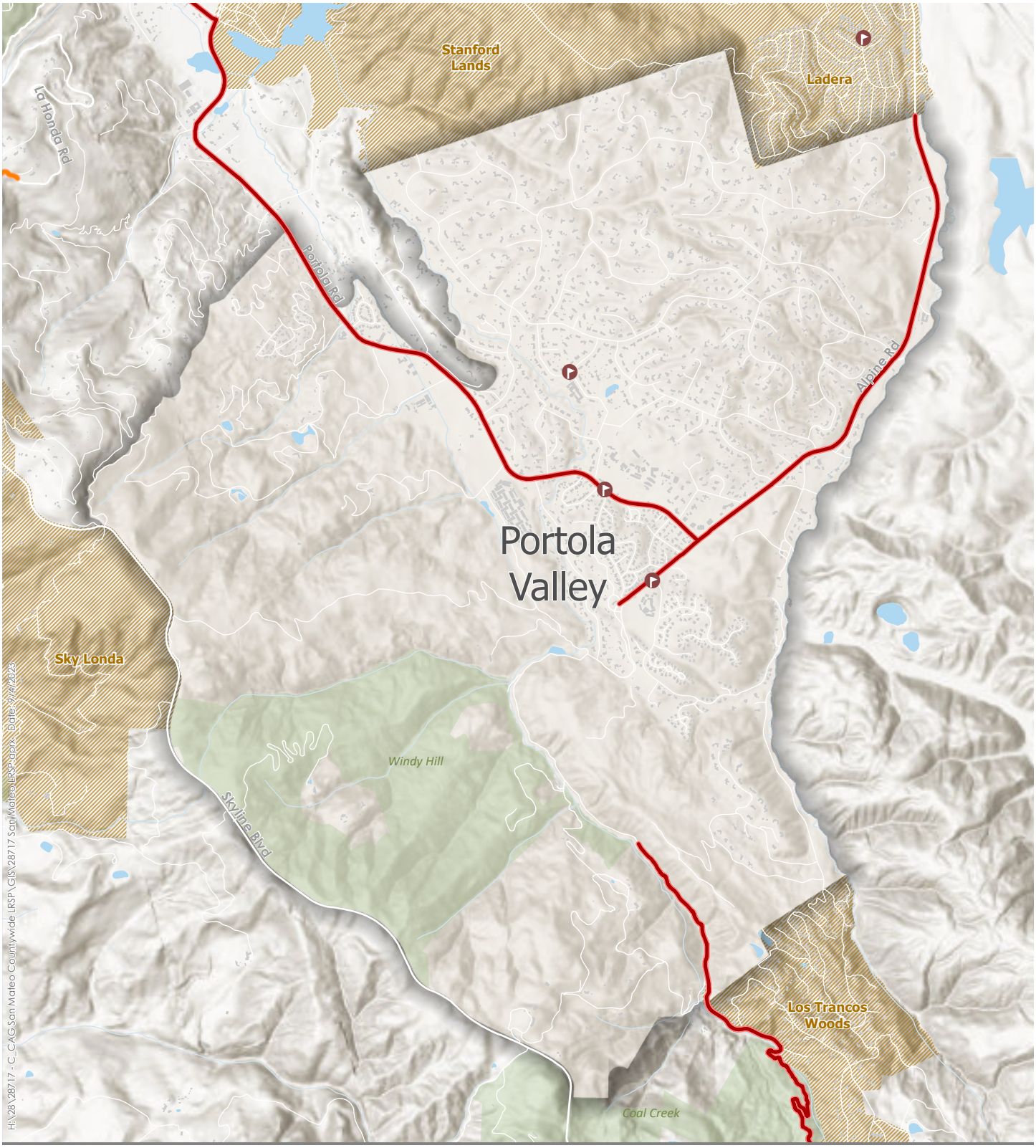
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 1 Miles

Figure B-13

Bicyclist High Injury Network (HIN)
City of Pacifica, CA

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

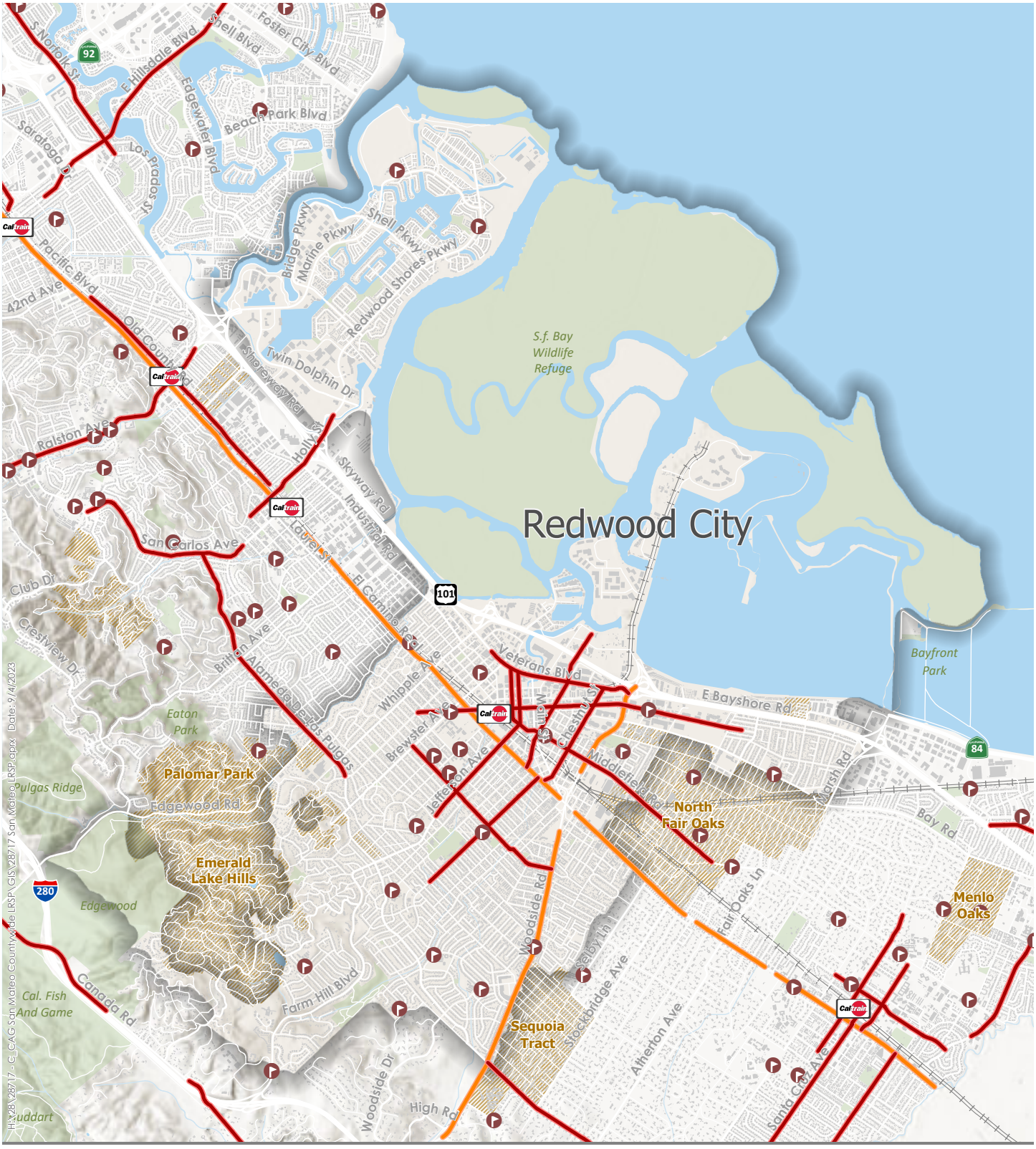
Non-Highway Bicyclist HIN
Highway Bicyclist HIN

0 0.5 Miles

Figure B-14

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Portola Valley, CA



HX:28 V28717 - C_CAG San Mateo Countywide LRSP GIS V28717 San Mateo LRSP.apix Date: 9/4/2023

- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 1 1.5 Miles

Figure B-15

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Redwood City, CA

Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

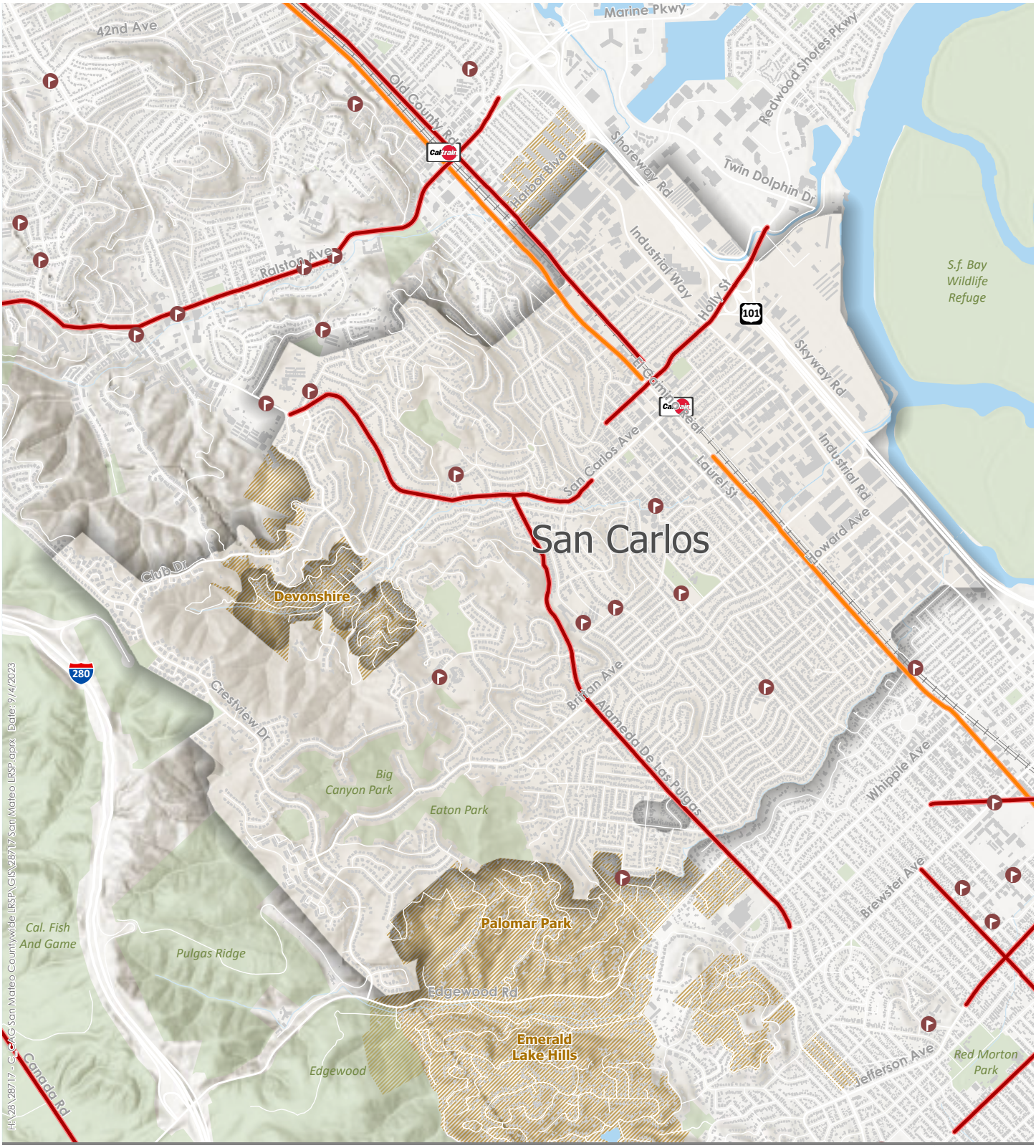
Non-Highway Bicyclist HIN
Highway Bicyclist HIN

0 0.5 Miles

Figure B-16

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of San Bruno, CA



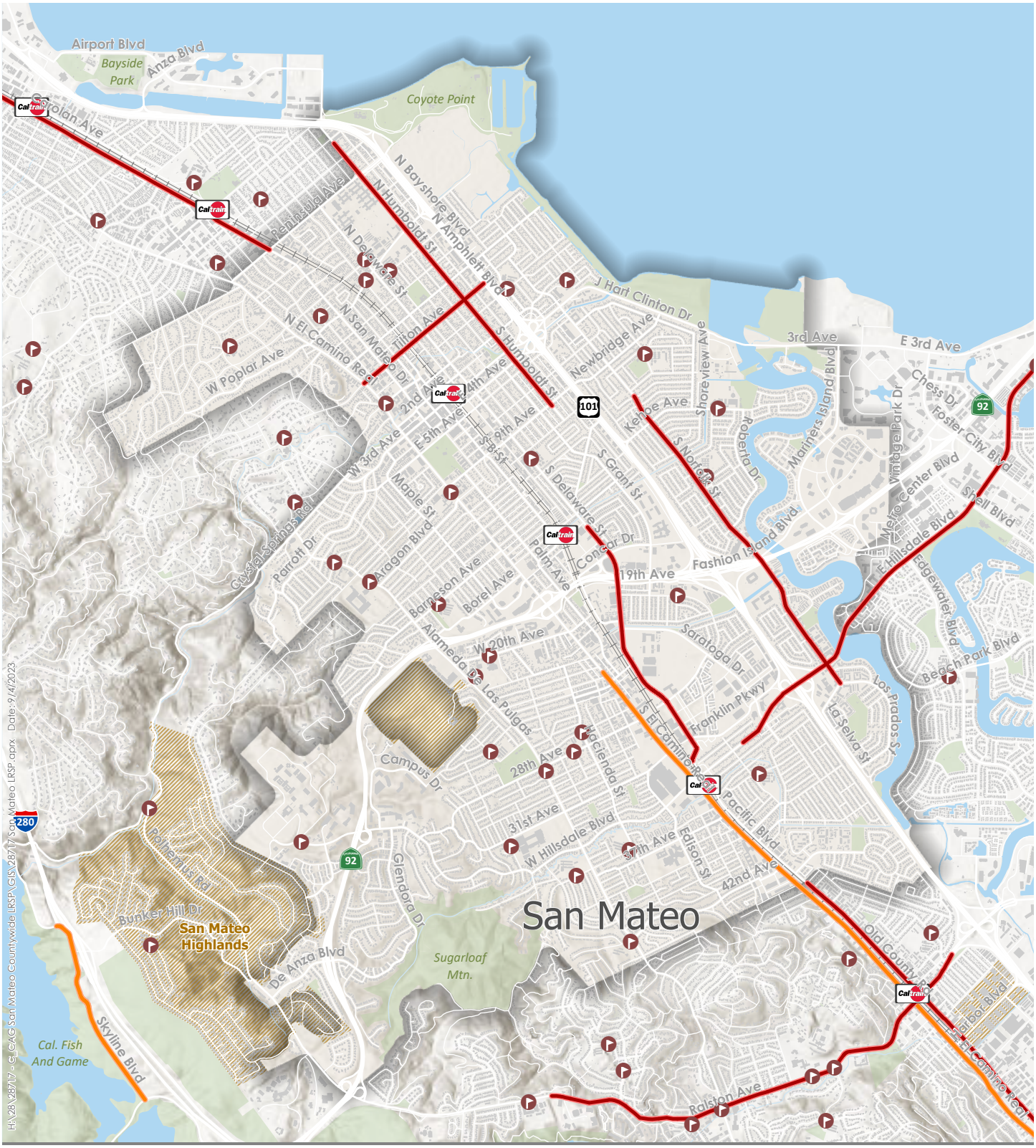
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 Miles

Figure B-17

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of San Carlos, CA



- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 1 Miles

Figure B-18

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of San Mateo, CA

- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN

0 0.5 1 Miles

Figure B-19

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of South San Francisco, CA

Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

Non-Highway Bicyclist HIN
Highway Bicyclist HIN

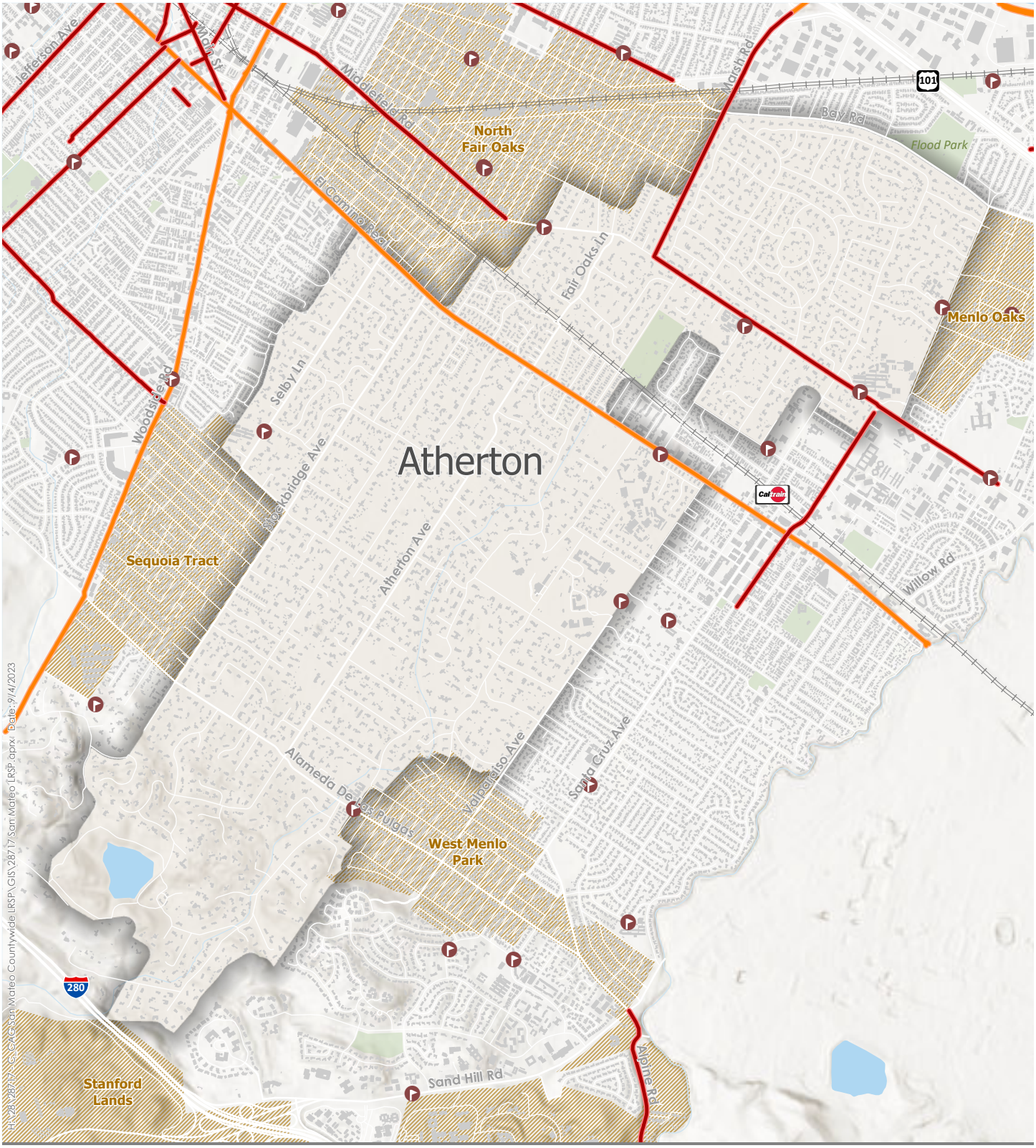
0 0.5 1 Miles

Figure B-20

KITTELSON & ASSOCIATES

Bicyclist High Injury Network (HIN)
City of Woodside, CA

Appendix C
Motor Vehicle HIN Maps by Jurisdiction



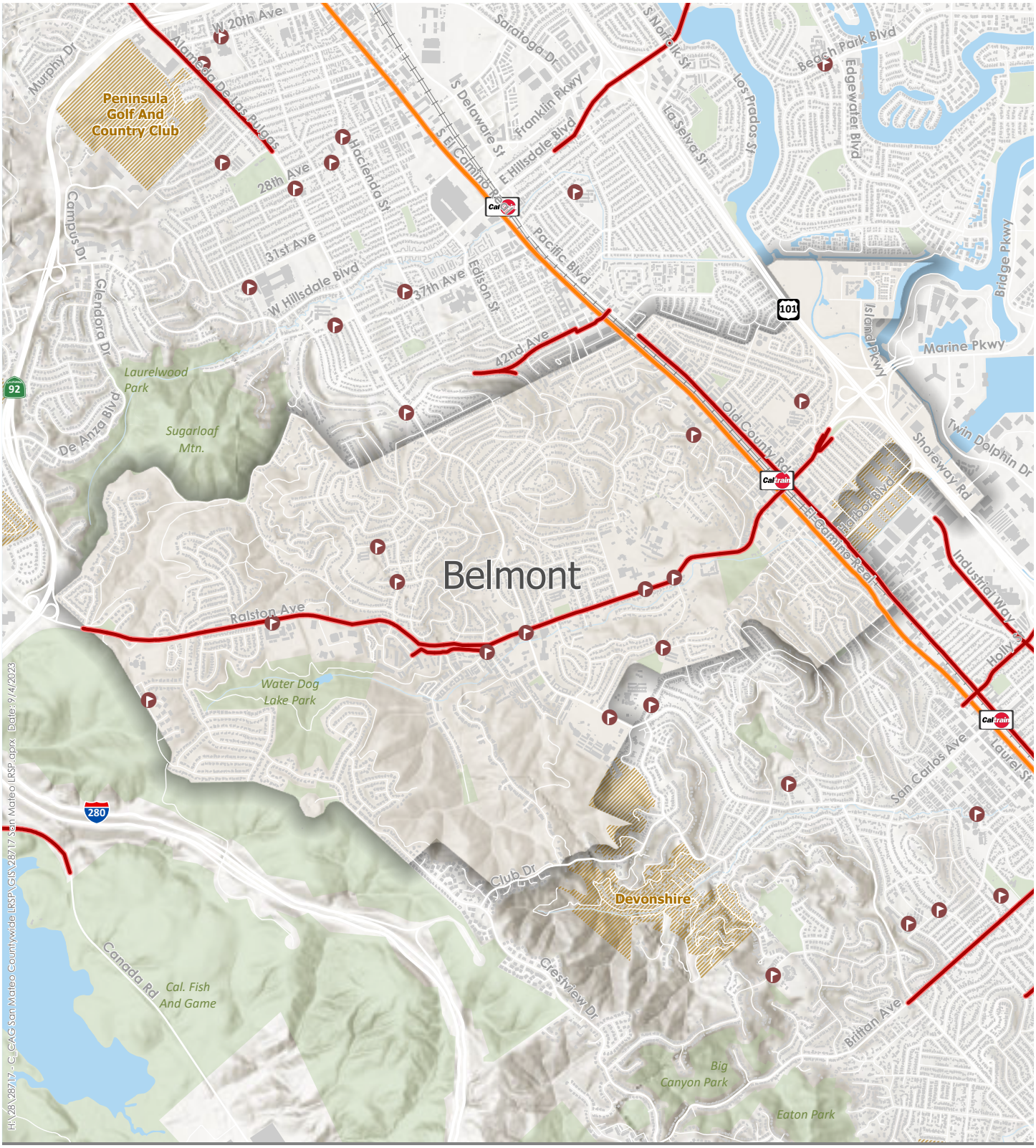
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-1

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Atherton, CA



- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-2

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Belmont, CA

Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

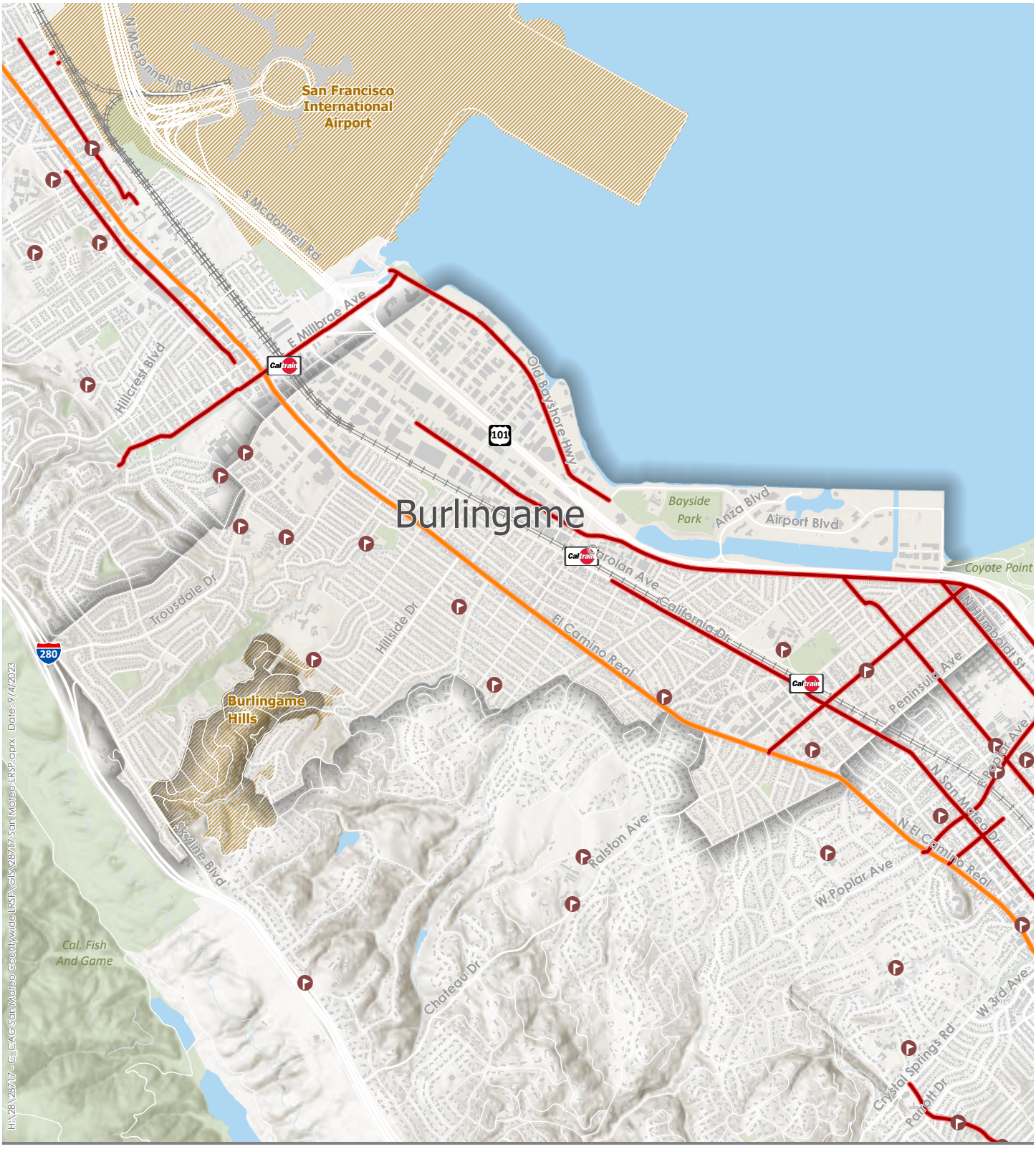
Non-Highway Motor Vehicle HIN
Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-3

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Brisbane, CA



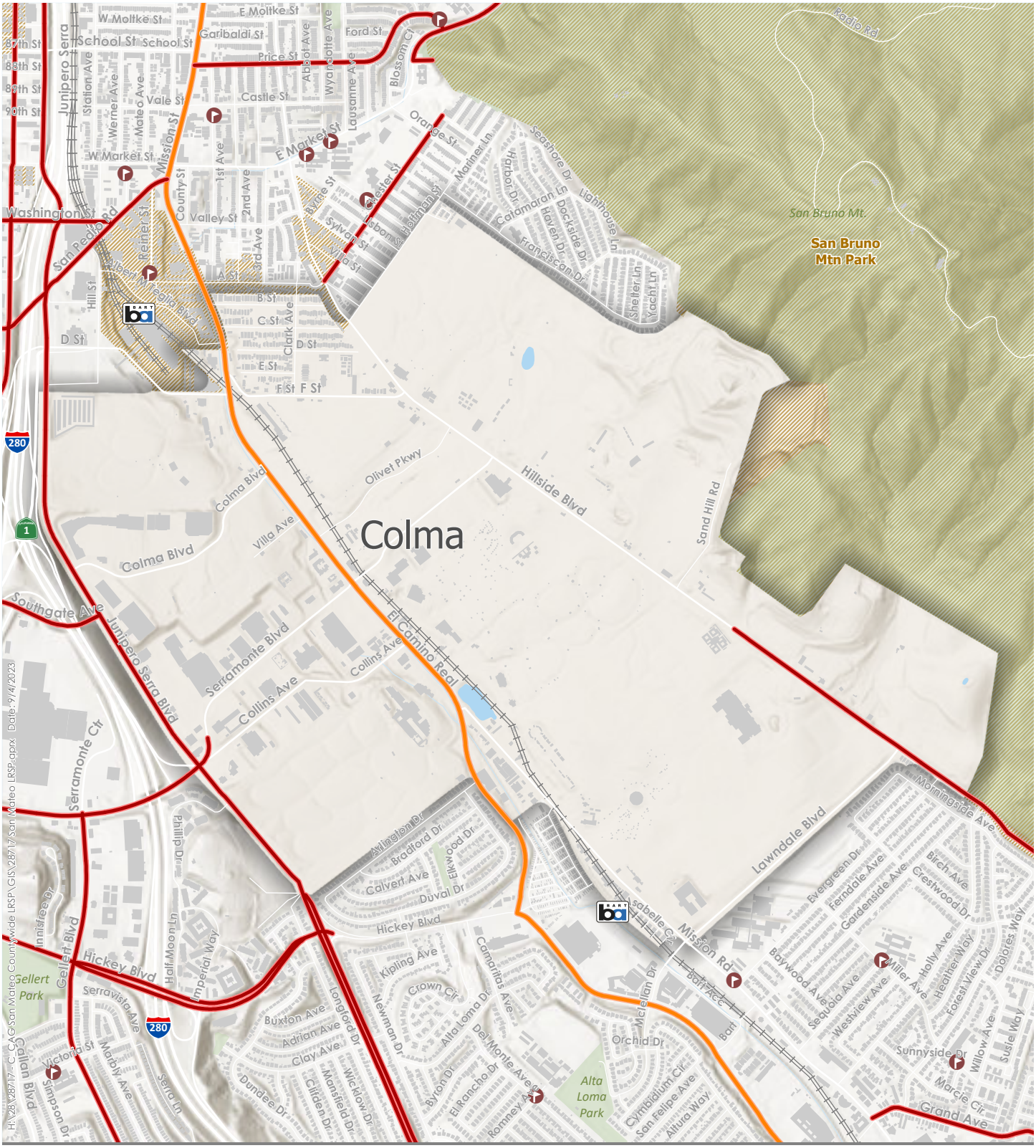
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-4

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Burlingame, CA



Schools
BART Station
Caltrain Station
Parks
Unincorporated Places
Non-Highway Motor Vehicle HIN
Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-5

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Colma, CA

Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

Non-Highway Motor Vehicle HIN
Highway Motor Vehicle HIN

0 0.5 1 Miles

Figure MV-6

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Daly City, CA

- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-7

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of East Palo Alto, CA

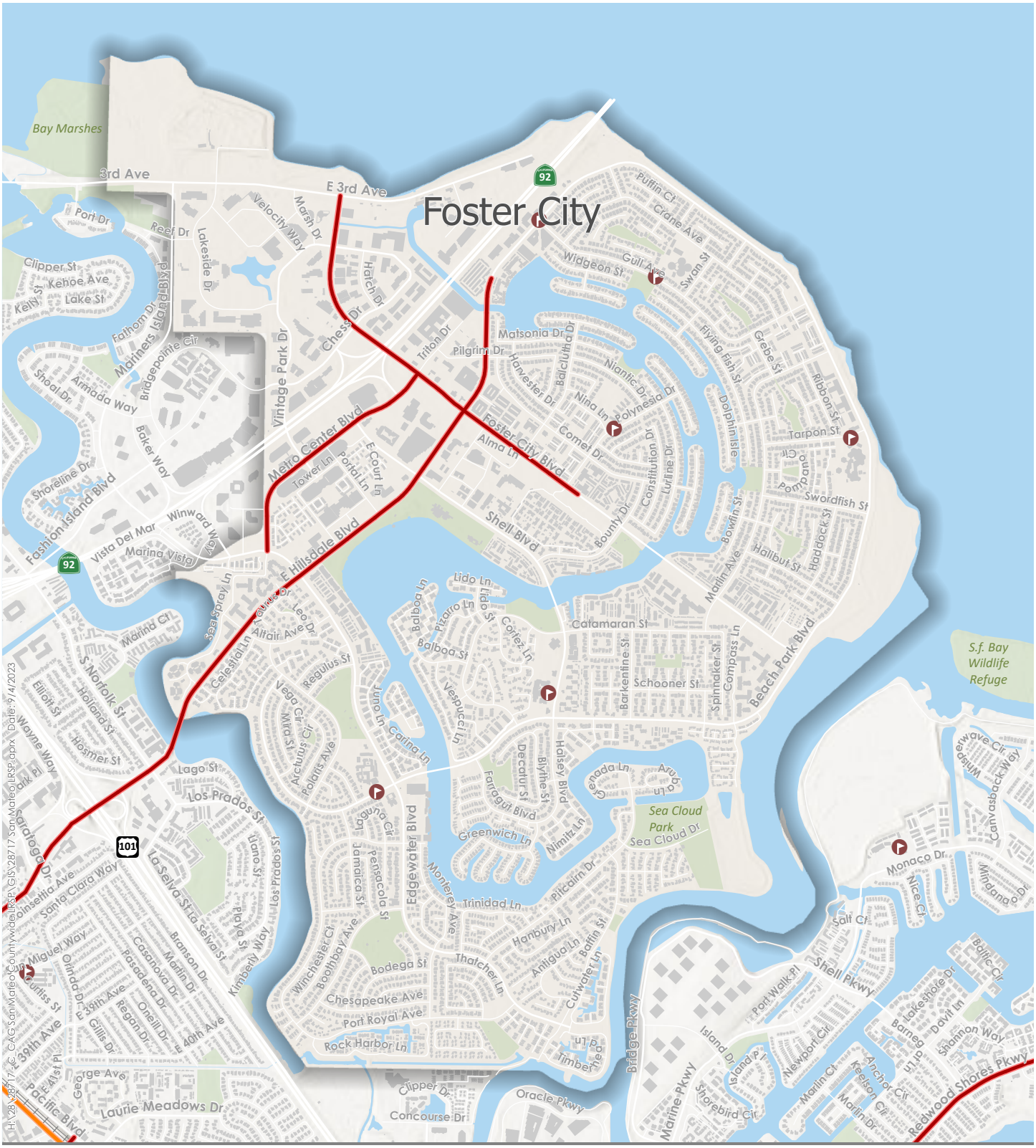
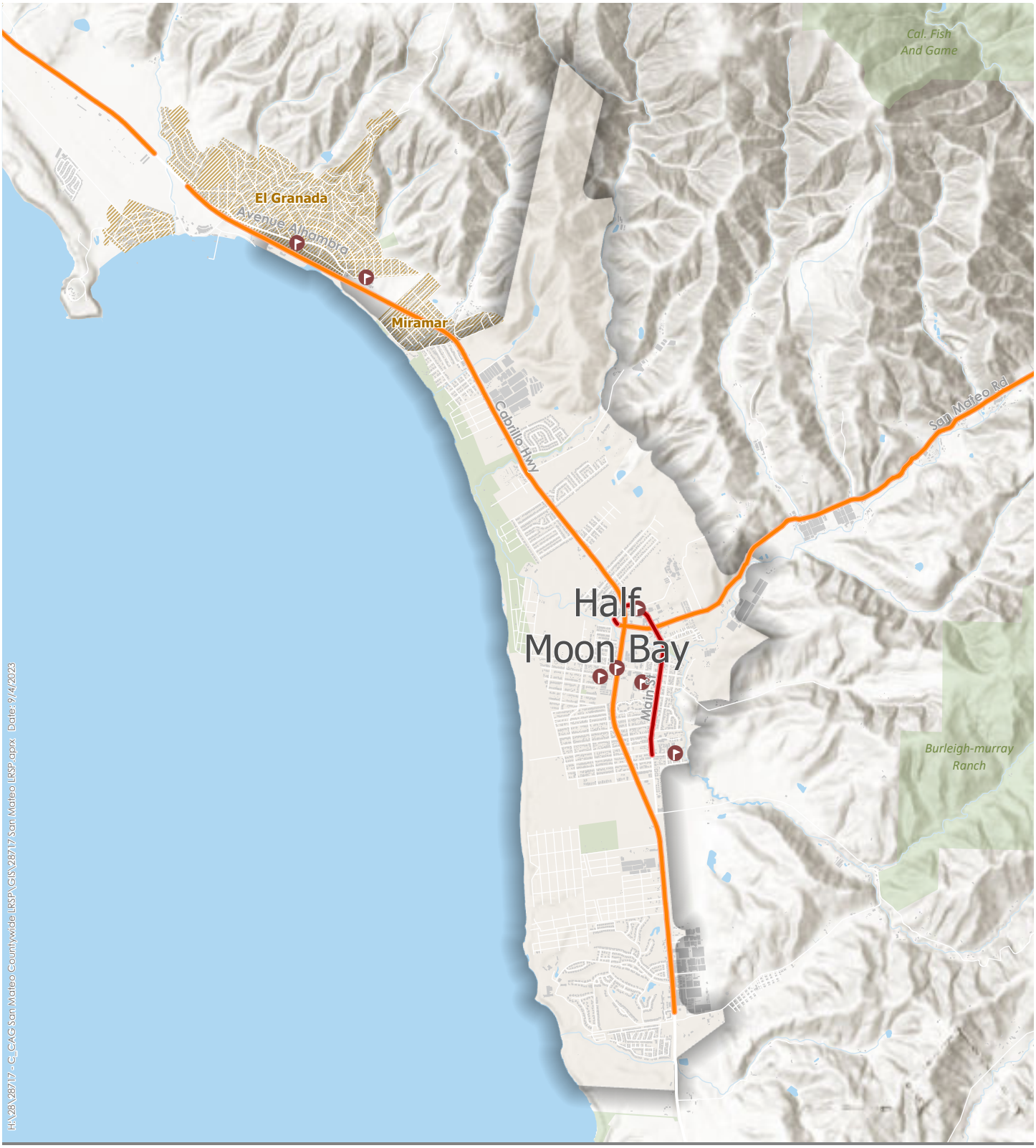


Figure MV-8

Motor Vehicle High Injury Network (HIN)
City of Foster City, CA

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

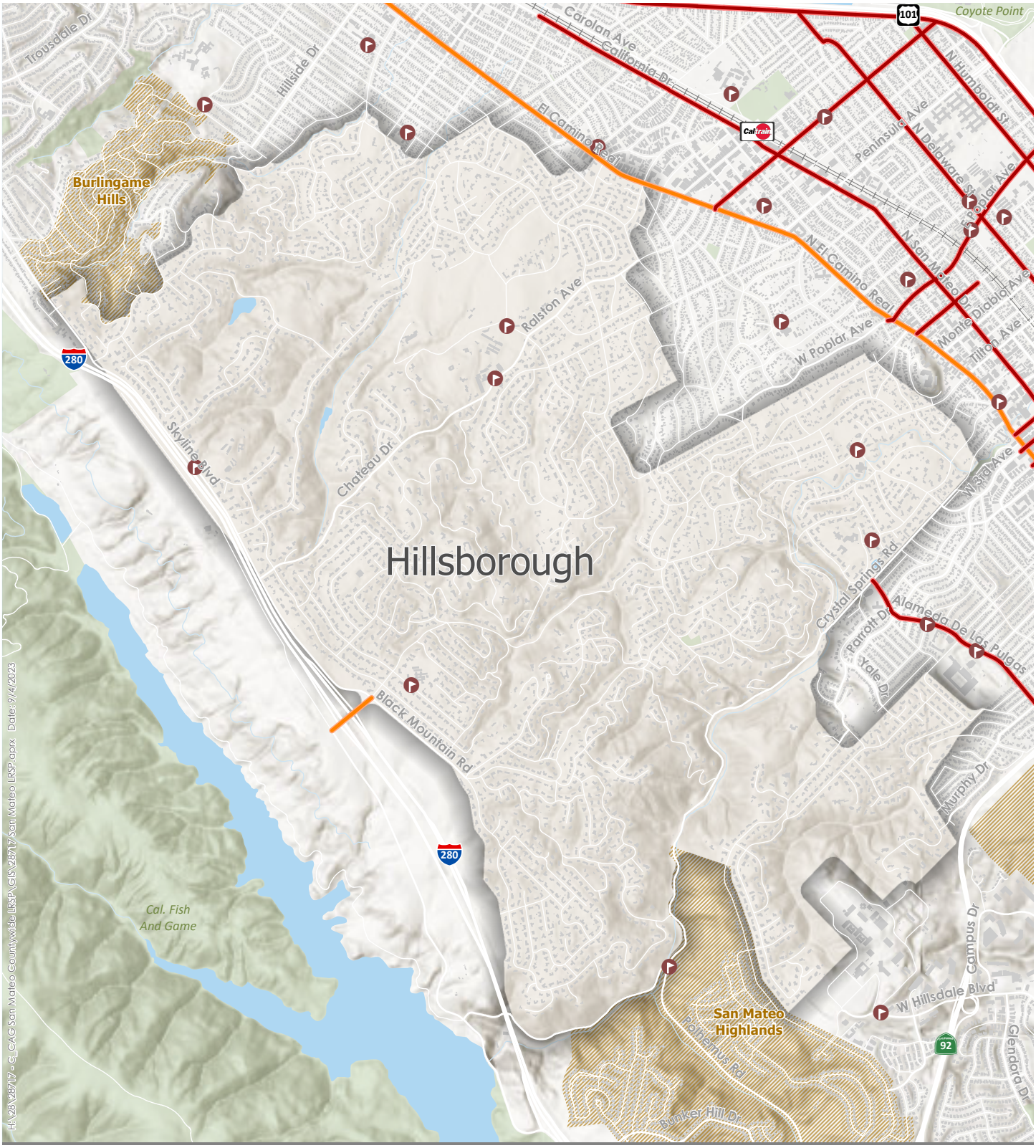
Non-Highway Motor Vehicle HIN
Highway Motor Vehicle HIN

0 0.5 1 Miles

Figure MV-9

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Half Moon Bay, CA



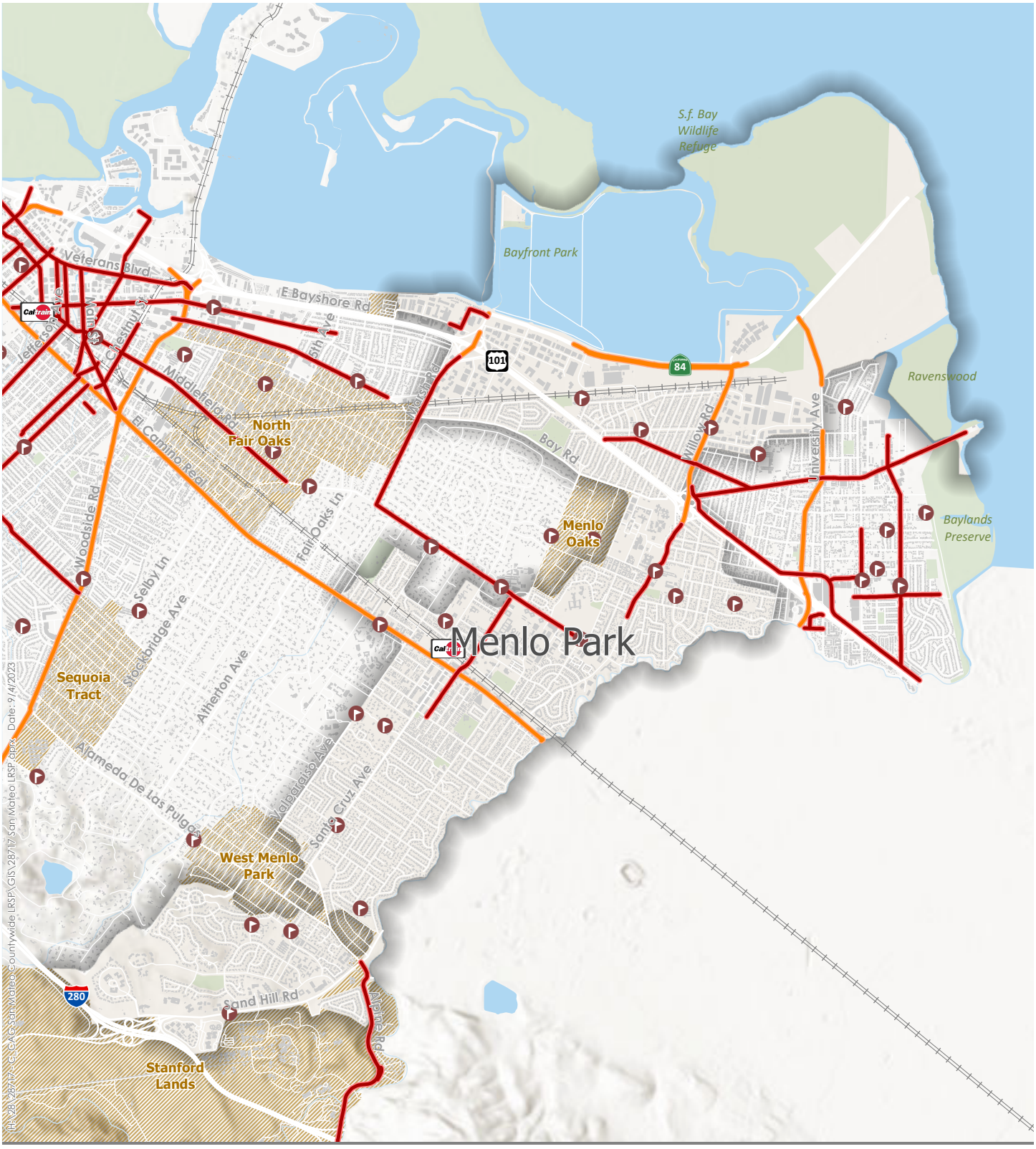
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-10

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Hillsborough, CA



Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

Non-Highway Motor Vehicle HIN
Highway Motor Vehicle HIN

0 0.5 1 Miles

Figure MV-11

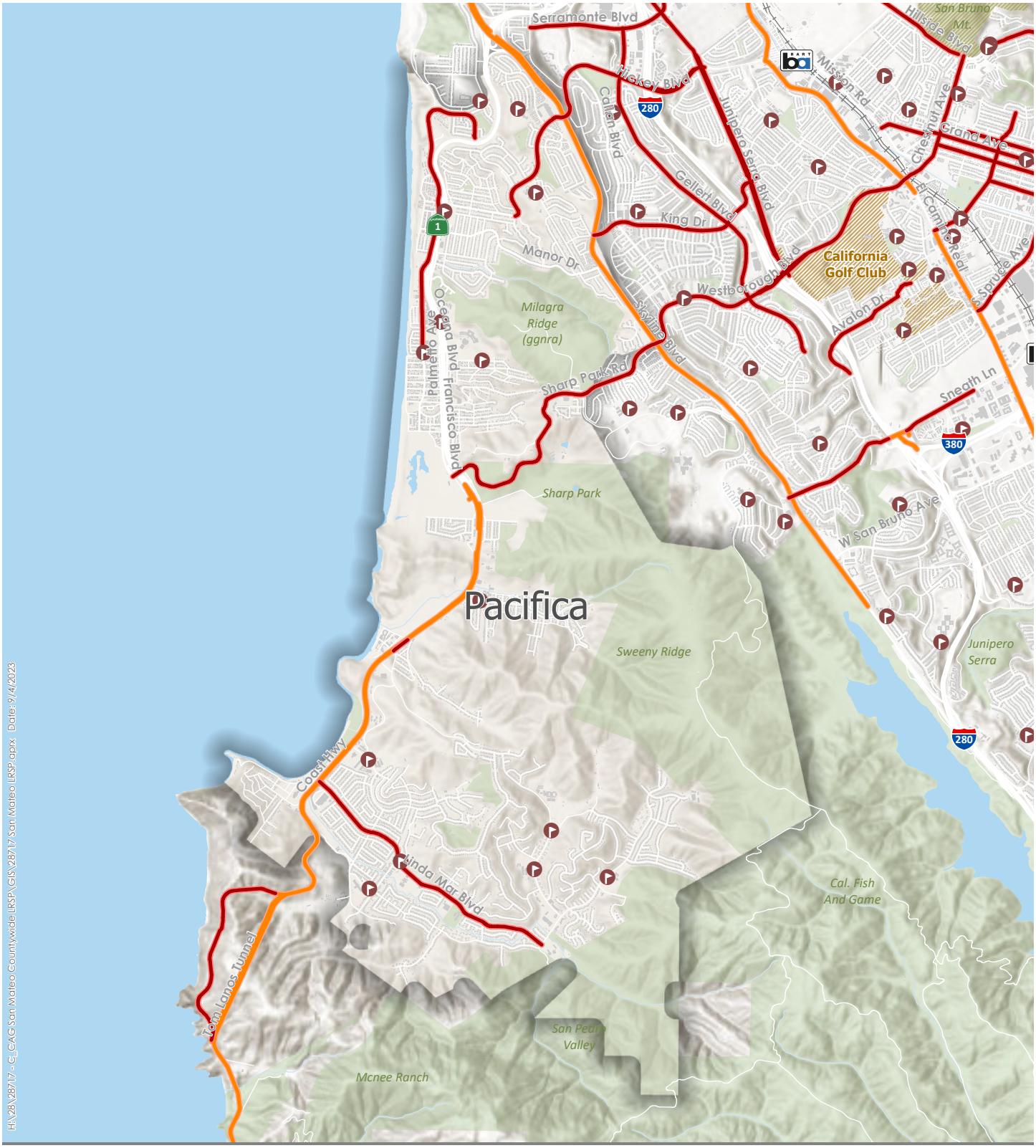
KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Menlo Park, CA

Figure MV-12

Motor Vehicle High Injury Network (HIN)
City of Millbrae, CA

KITTELSON & ASSOCIATES



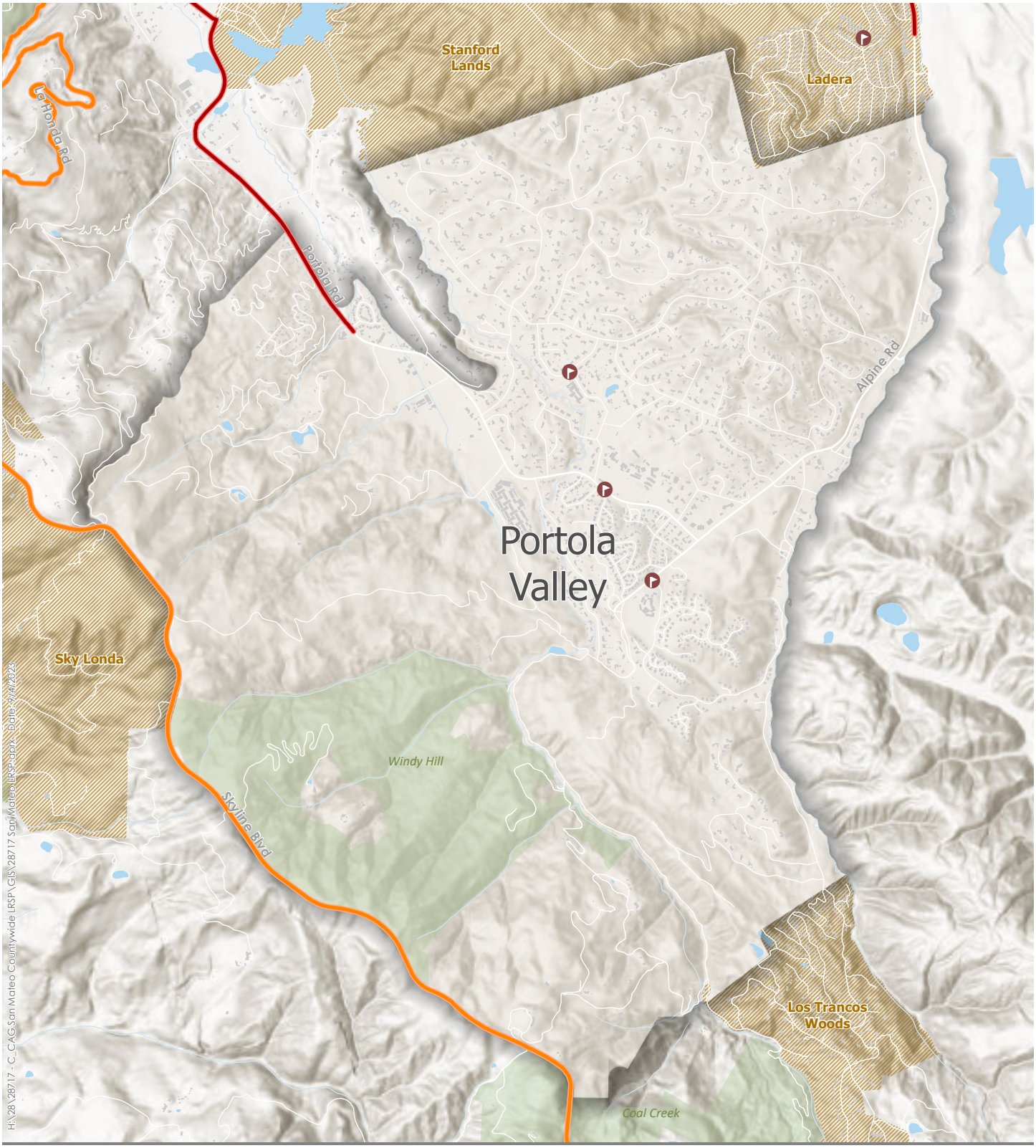
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 1 Miles

Figure MV-13

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Pacifica, CA



Schools
BART Station
Caltrain Station
Parks
Unincorporated Places

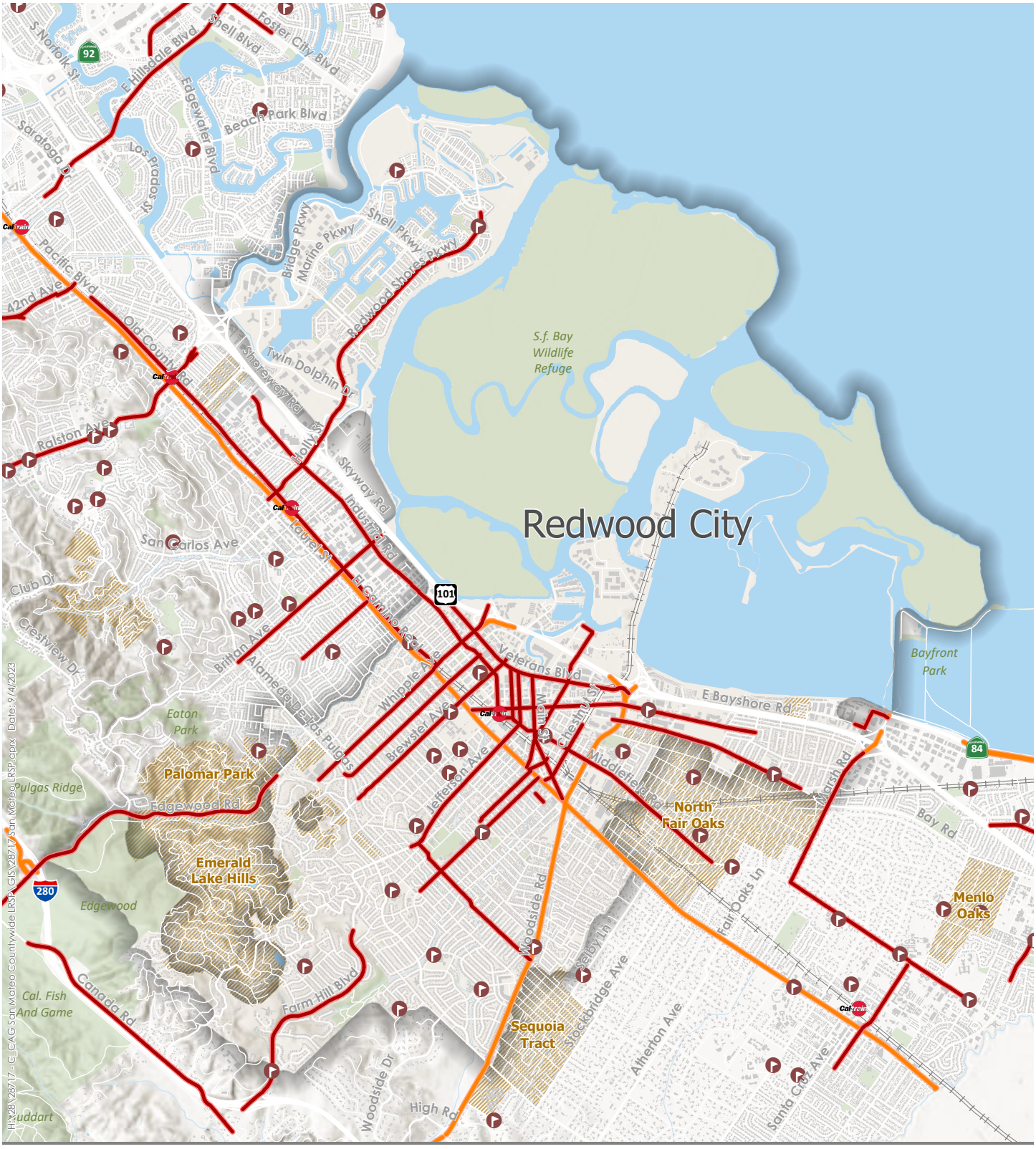
Non-Highway Motor Vehicle HIN
Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-14

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Portola Valley, CA



- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 1 1.5 Miles

Figure MV-15

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Redwood City, CA

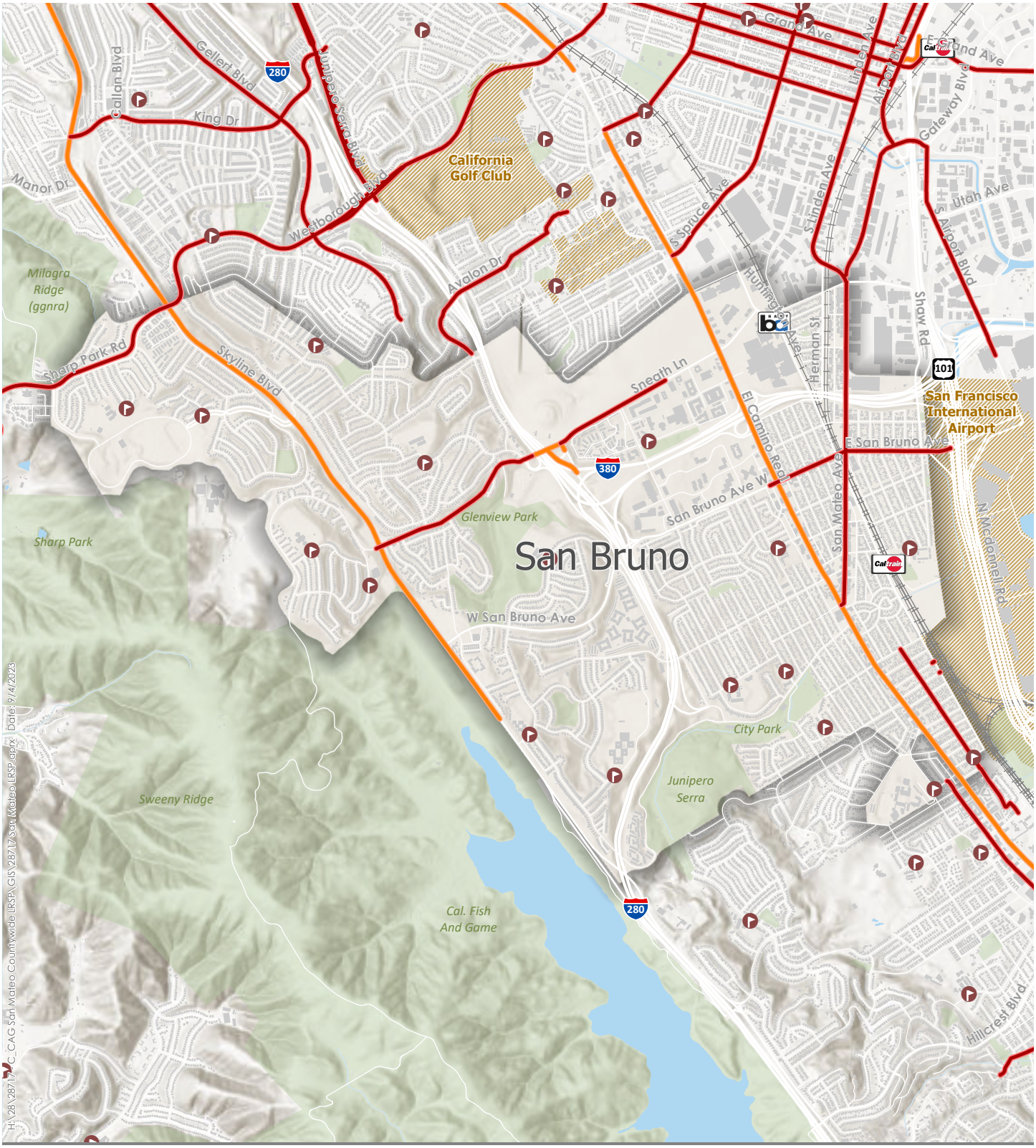
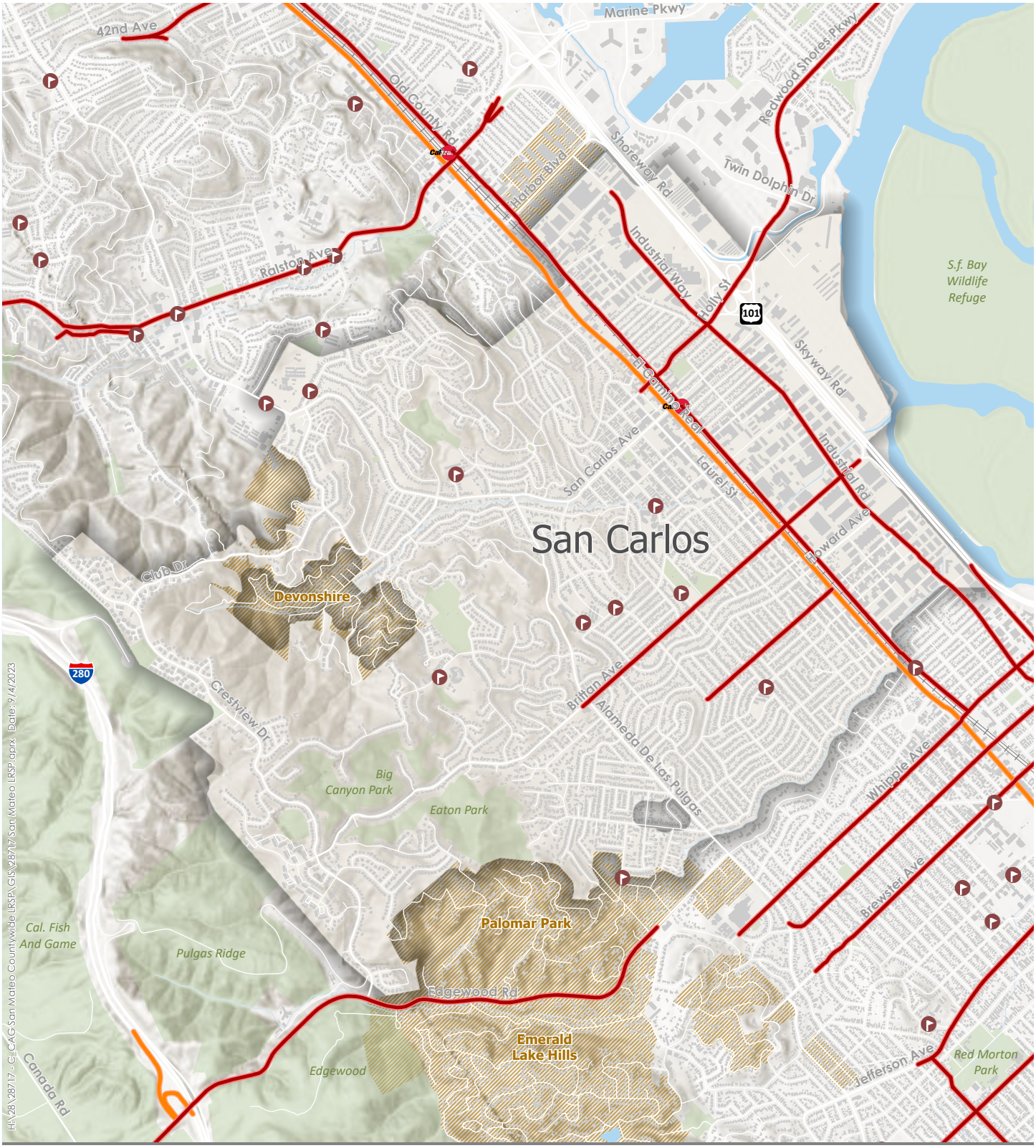


Figure MV-16

Motor Vehicle High Injury Network (HIN)
City of San Bruno, CA

KITTELSON & ASSOCIATES



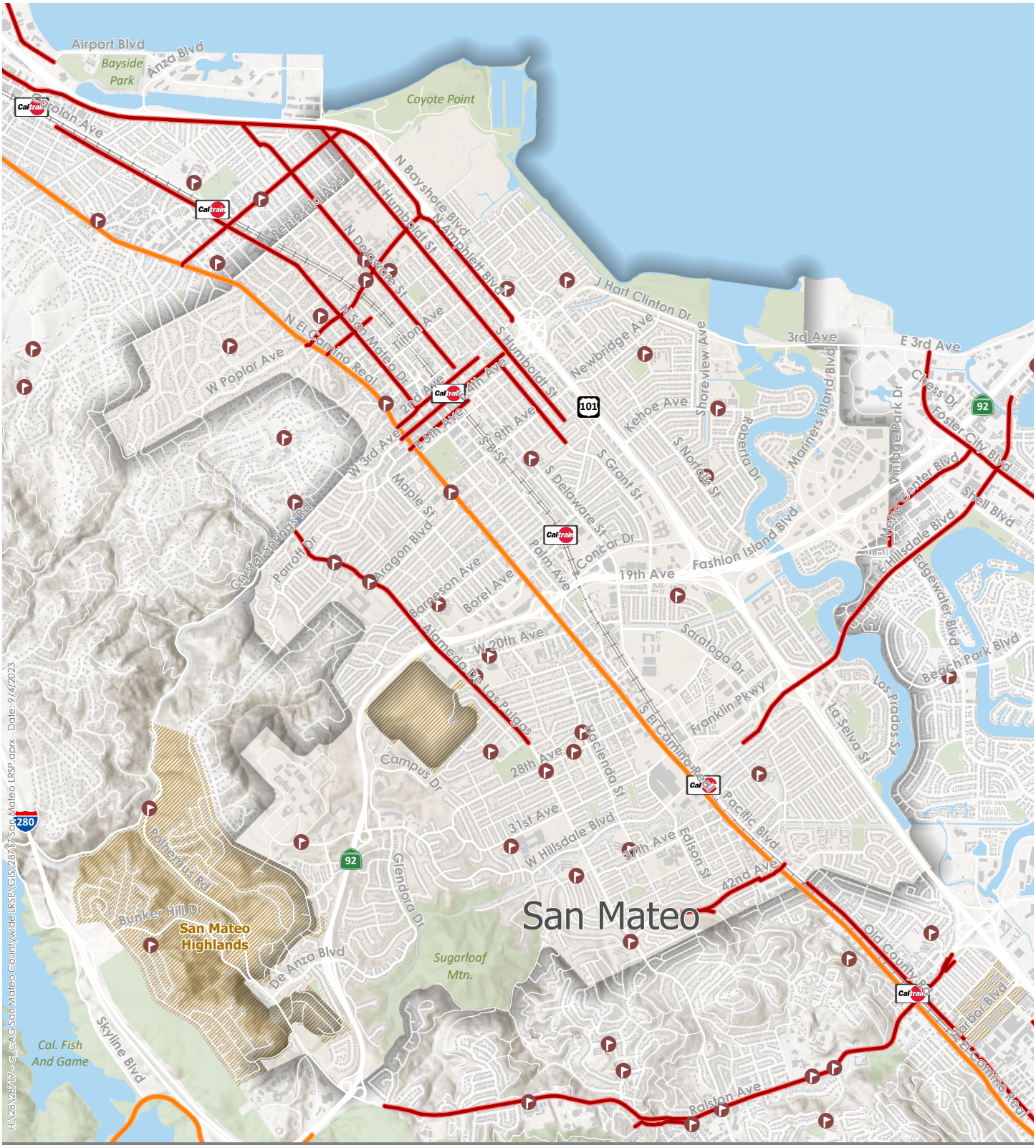
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 Miles

Figure MV-17

Motor Vehicle High Injury Network (HIN)
City of San Carlos, CA

KITTELSON & ASSOCIATES



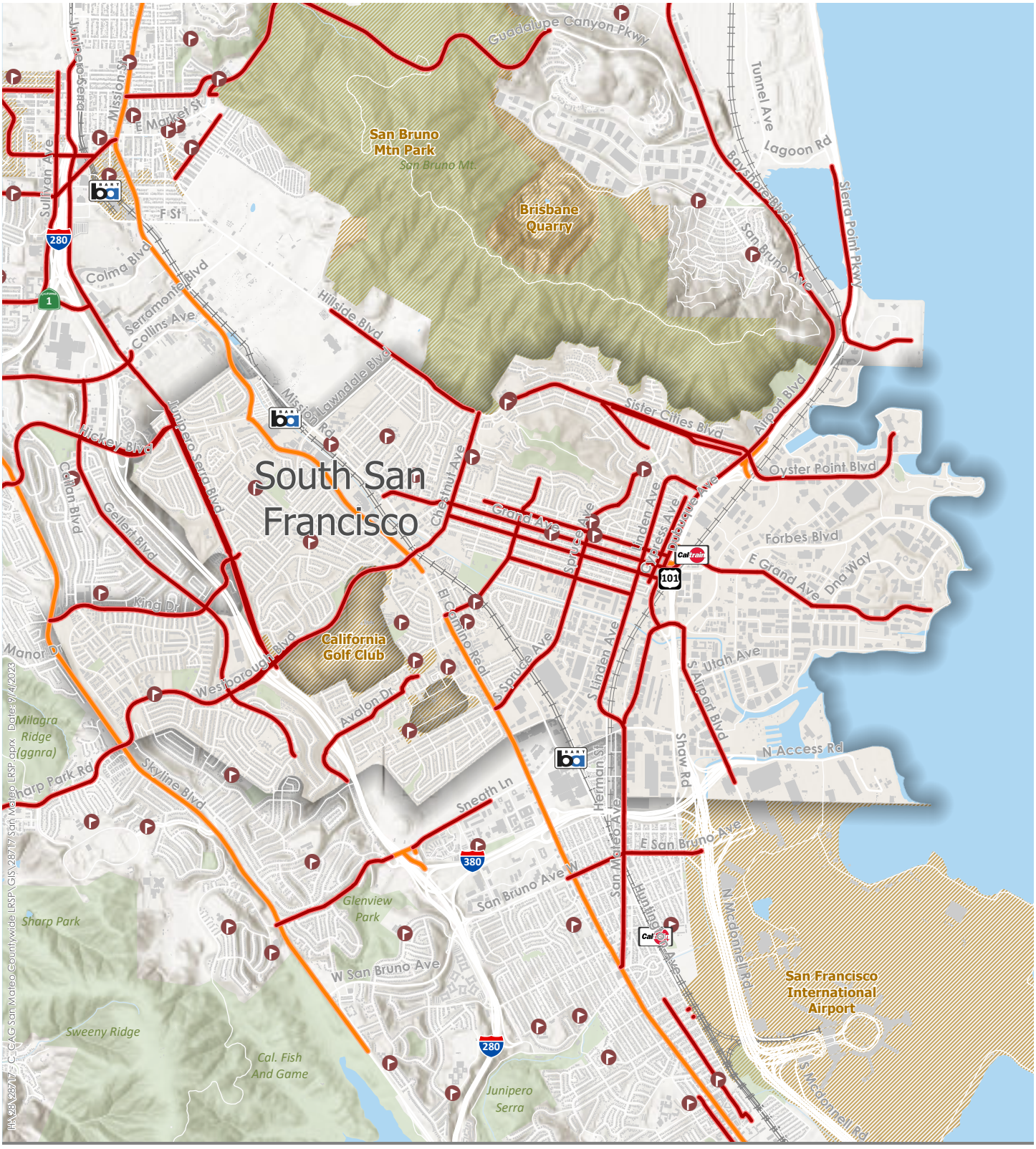
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 1 Miles

Figure MV-18

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of San Mateo, CA



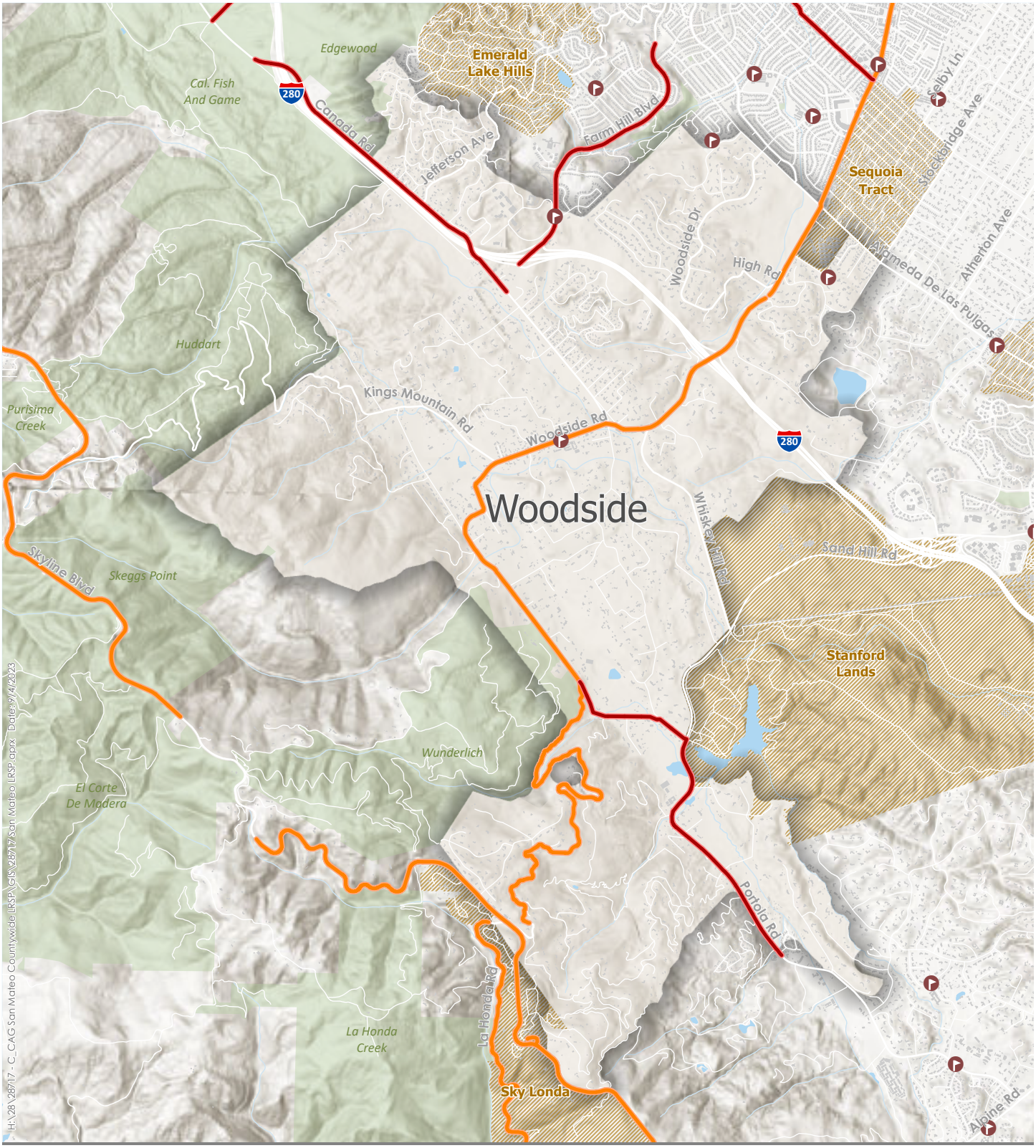
- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

0 0.5 1 Miles

Figure MV-19

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of South San Francisco, CA



- Schools
- BART Station
- Caltrain Station
- Parks
- Unincorporated Places
- Non-Highway Motor Vehicle HIN
- Highway Motor Vehicle HIN

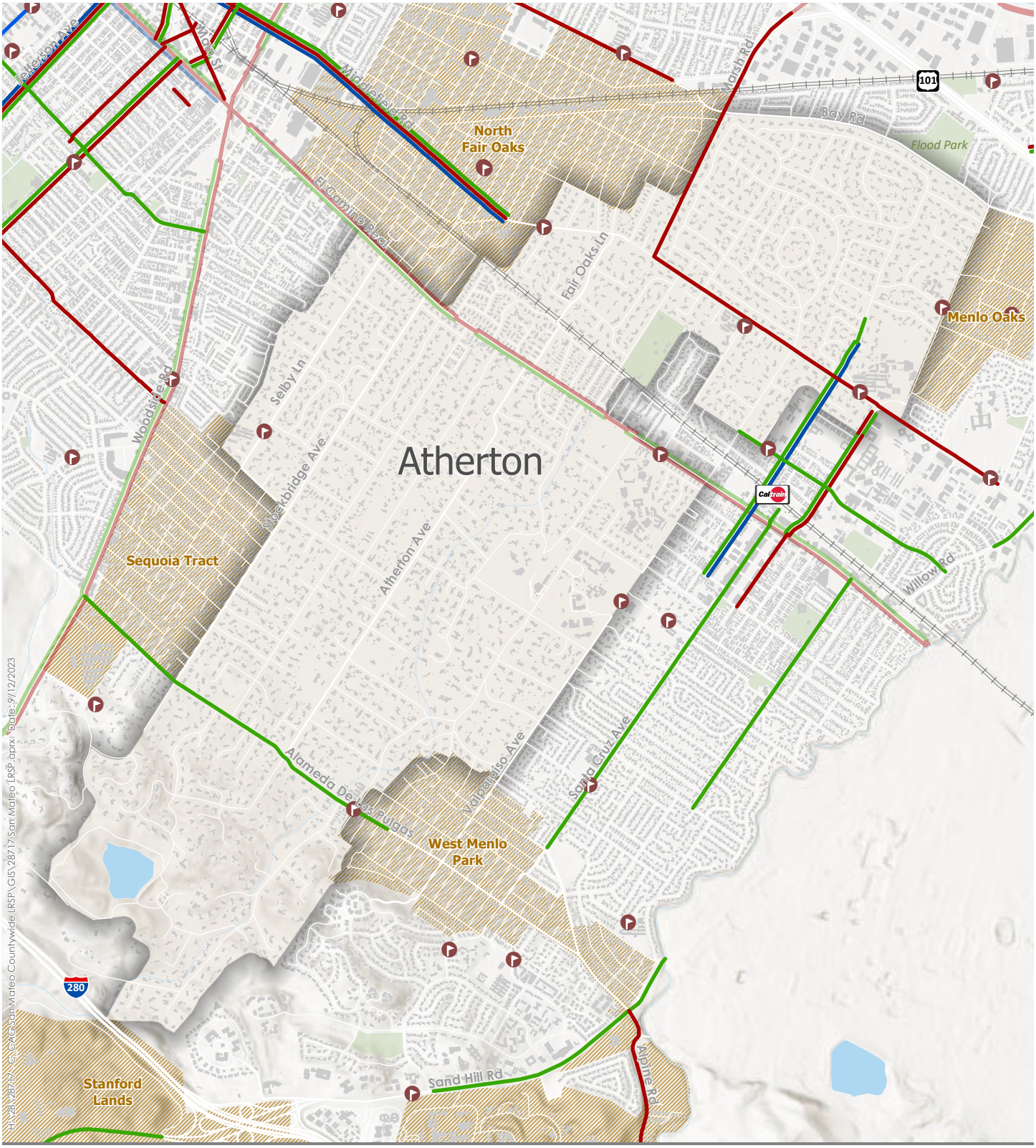
0 0.5 1 Miles

Figure MV-20

KITTELSON & ASSOCIATES

Motor Vehicle High Injury Network (HIN)
City of Woodside, CA

Appendix D
Combined HIN Maps by Jurisdiction



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

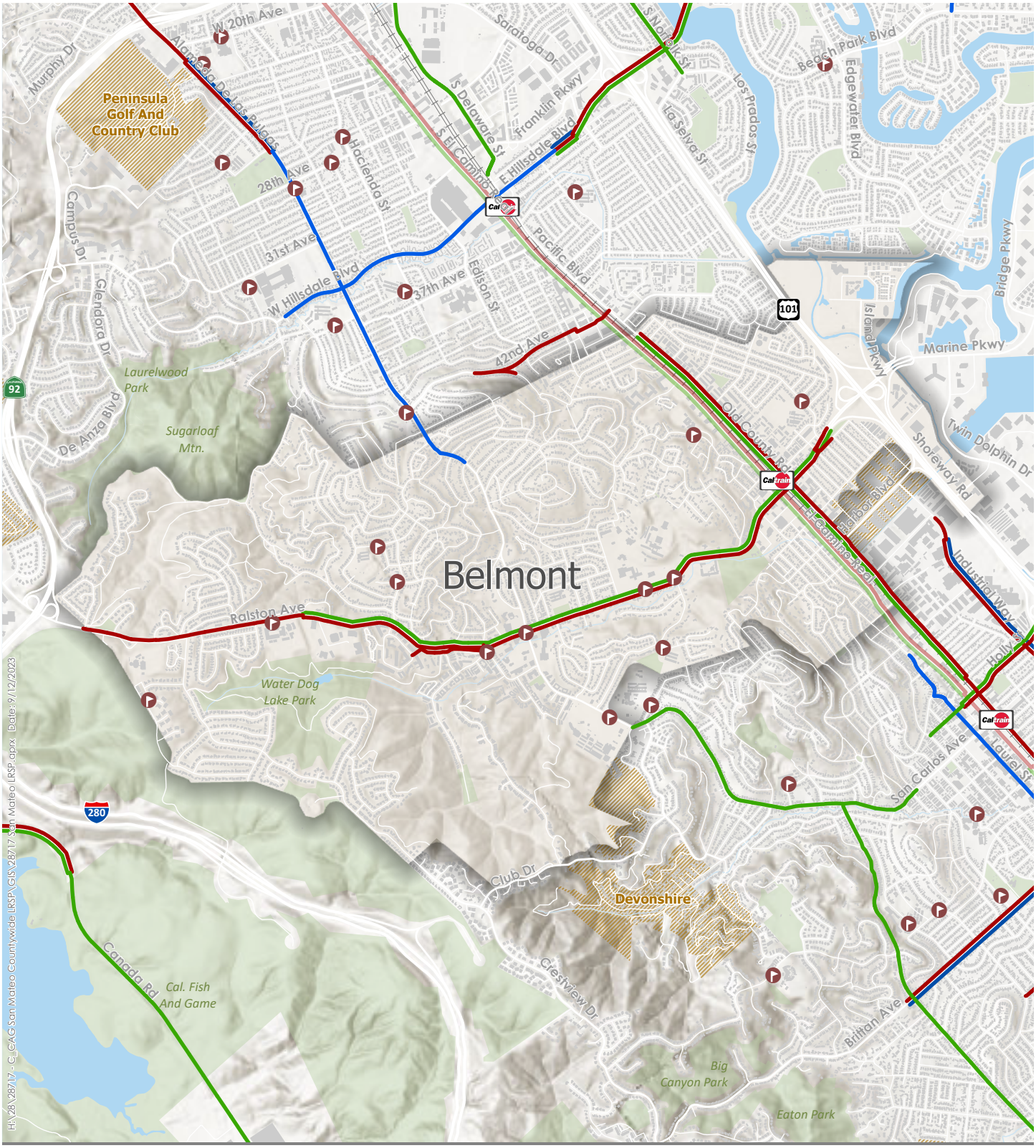
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 Miles

Figure C-1

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Atherton, CA

KITTELSON & ASSOCIATES



- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks

Non-Highway HIN

- Motor Vehicle
- Bicycle
- Pedestrian

Highway HIN

- Motor Vehicle
- Bicycle
- Pedestrian

0 0.5 Miles

Figure C-2

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) City of Belmont, CA

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 Miles

Figure C-3

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Brisbane, CA

KITTELSON & ASSOCIATES

- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks

Non-Highway HIN
- Motor Vehicle
- Bicycle
- Pedestrian

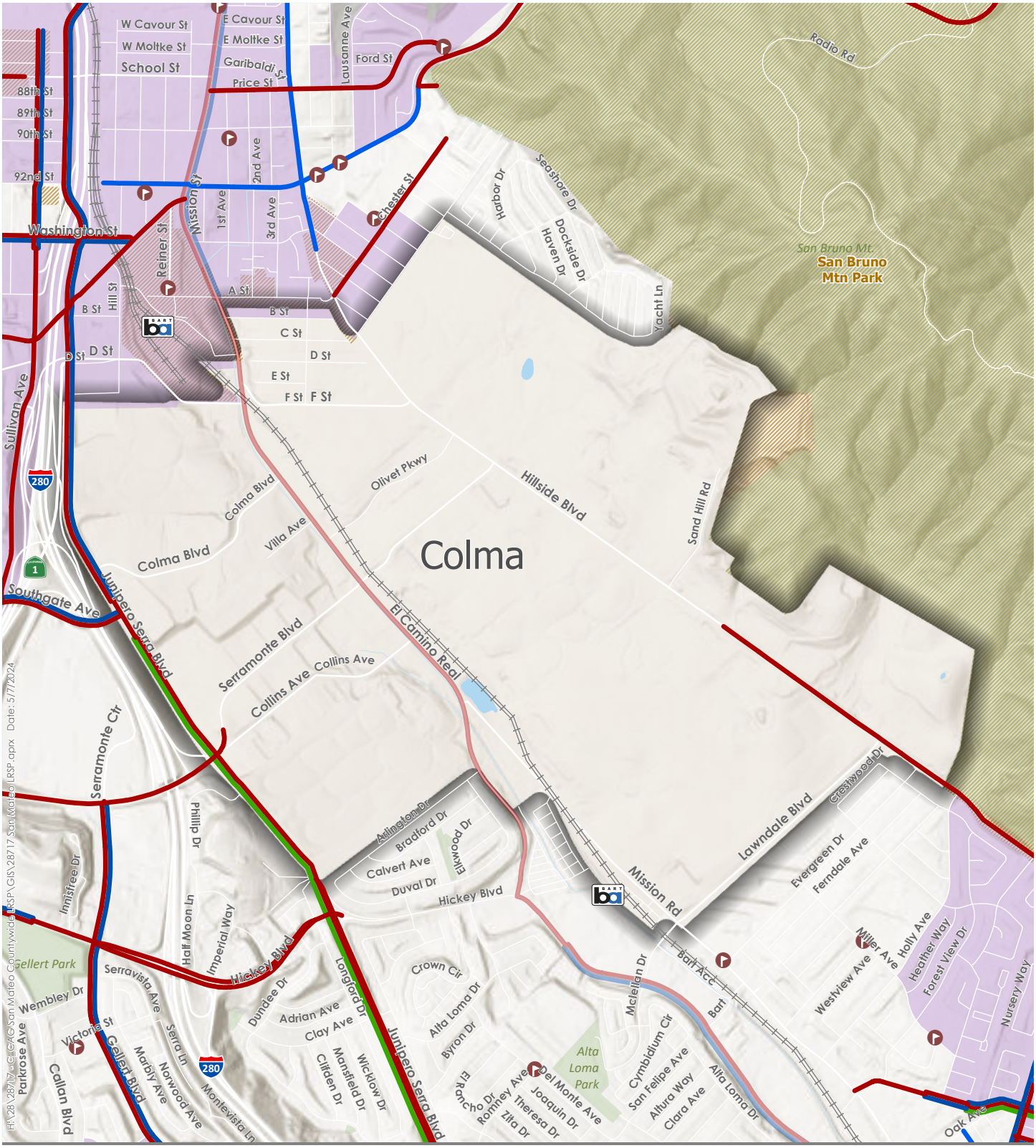
Highway HIN
- Motor Vehicle
- Bicycle
- Pedestrian

0 0.5 Miles

Figure C-4

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Burlingame, CA

KITTELSON & ASSOCIATES



- Schools
- BART Station
- Caltrain Station
- Unincorporated Places

Local HIN

- Motor Vehicle
- Bicycle
- Pedestrian
- Parks
- C/CAG Equity Focus Aeas

Highway HIN

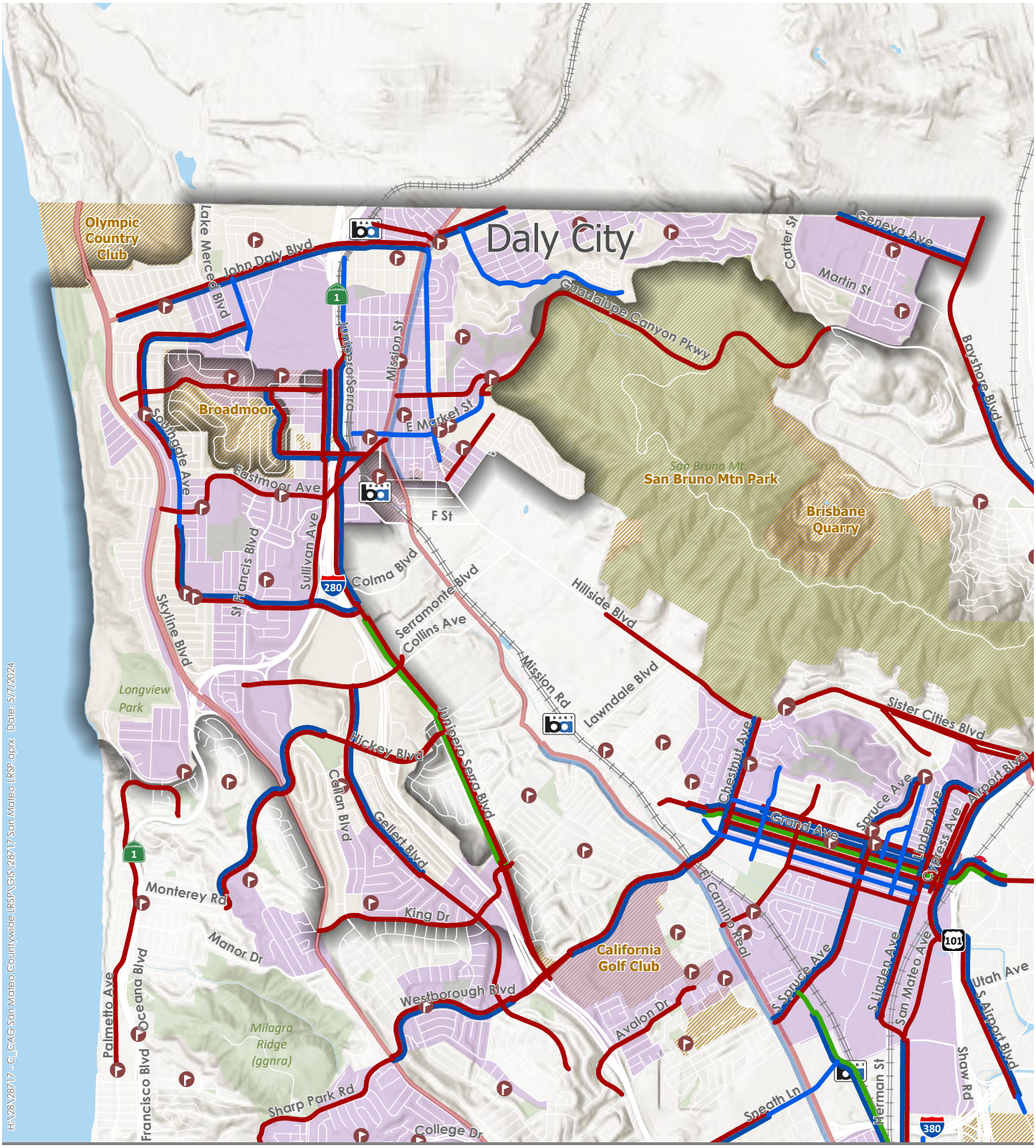
- Motor Vehicle
- Bicycle
- Pedestrian

0 0.5 Miles

KITTELSON & ASSOCIATES

Figure C-5

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Town of Colma, CA



H:\28\28717_C_CAG San Mateo Countywide LRSP\GIS\28717 San Mateo LRSP.aprx Date: 5/7/2024

- Schools
- BART Station
- Caltrain Station
- Unincorporated Places

Local HIN

- Motor Vehicle
- Bicycle
- Pedestrian
- Parks
- C/CAG Equity Focus Aeas

Highway HIN

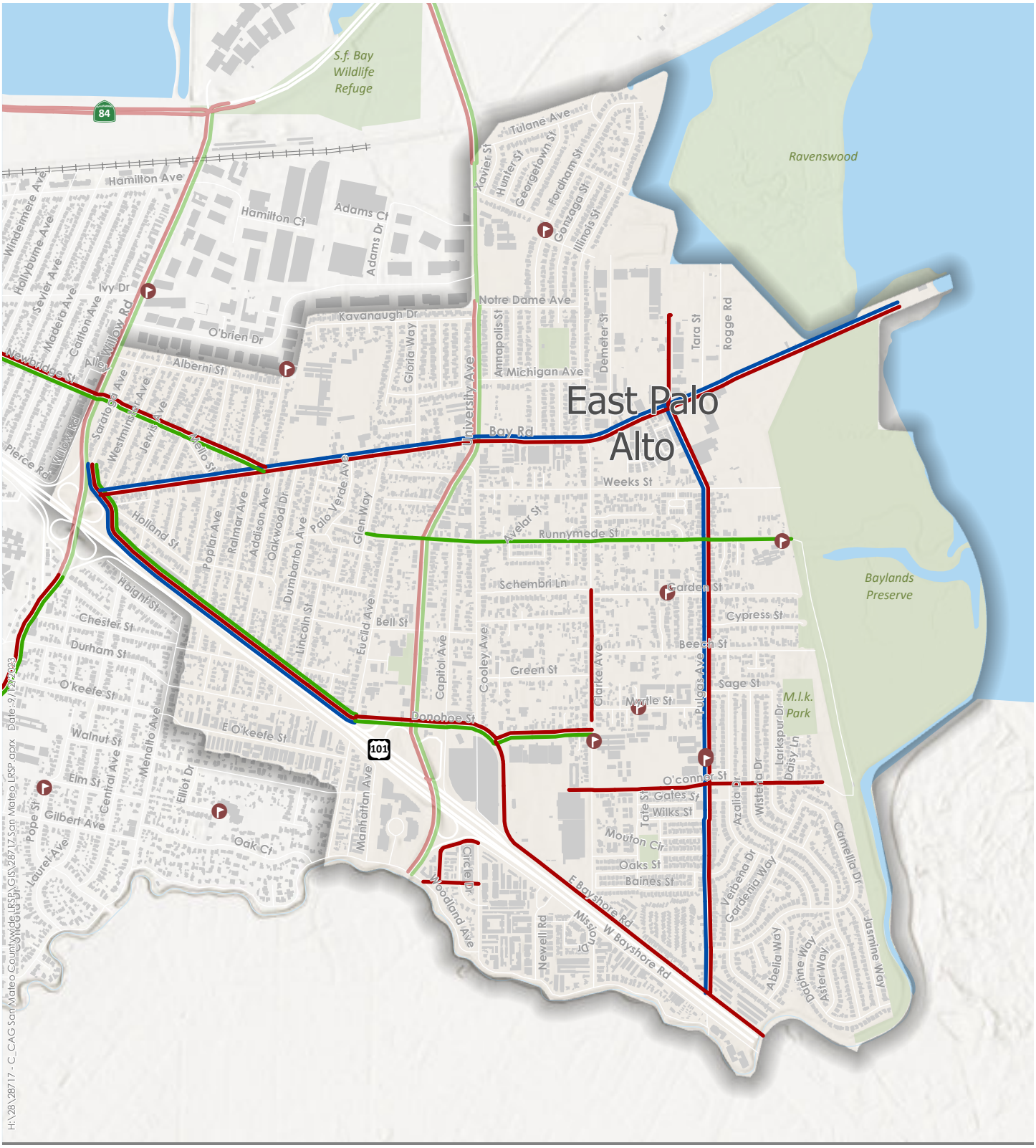
- Motor Vehicle
- Bicycle
- Pedestrian

0 0.5 1 Miles

KITTELSON & ASSOCIATES

Figure C-6

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) of Daly City, CA



- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks

Non-Highway HIN
- Motor Vehicle
- Bicycle
- Pedestrian

Highway HIN
- Motor Vehicle
- Bicycle
- Pedestrian

0 0.5 Miles

Figure C-7

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of East Palo Alto, CA

KITTELSON & ASSOCIATES

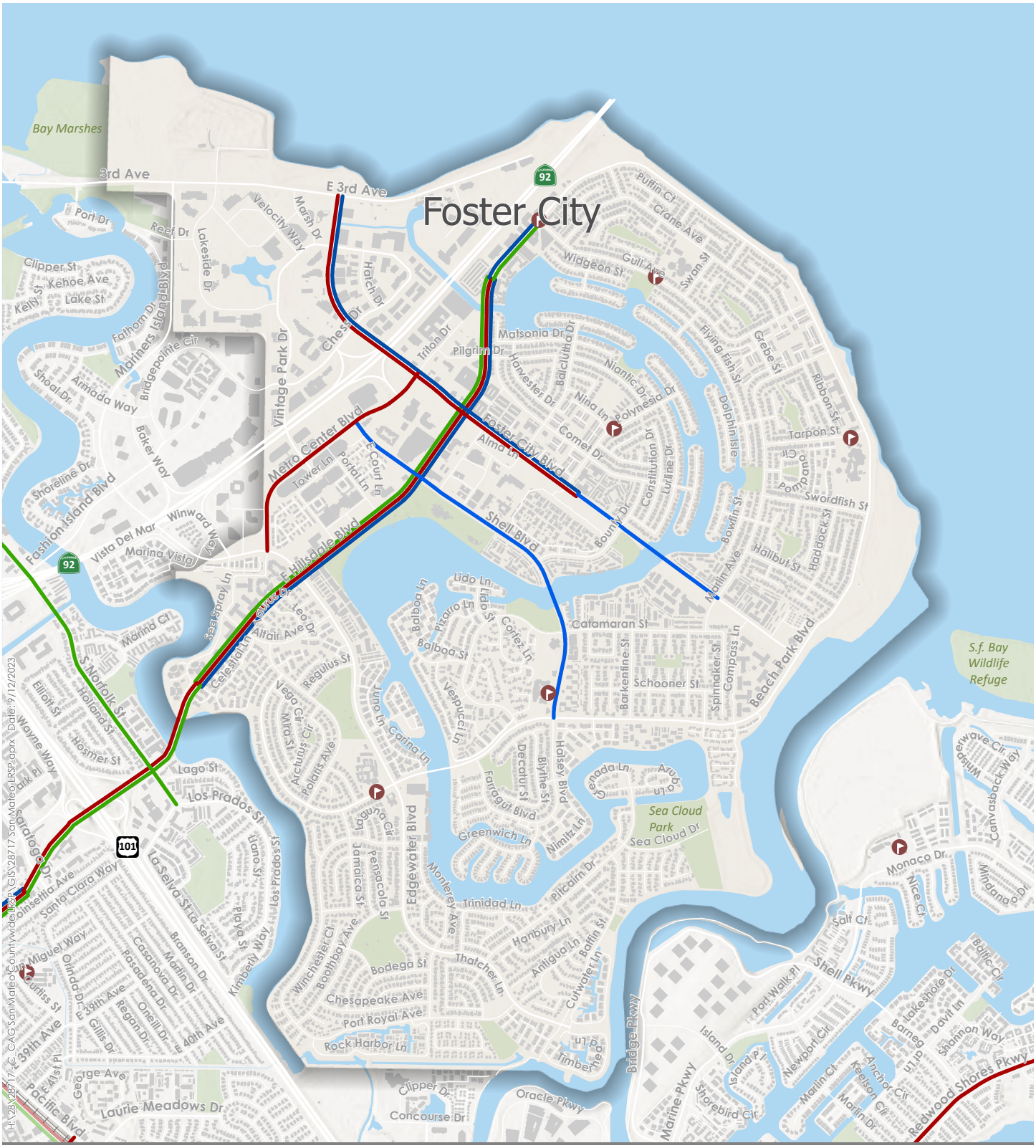


Figure C-8

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Foster City, CA

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

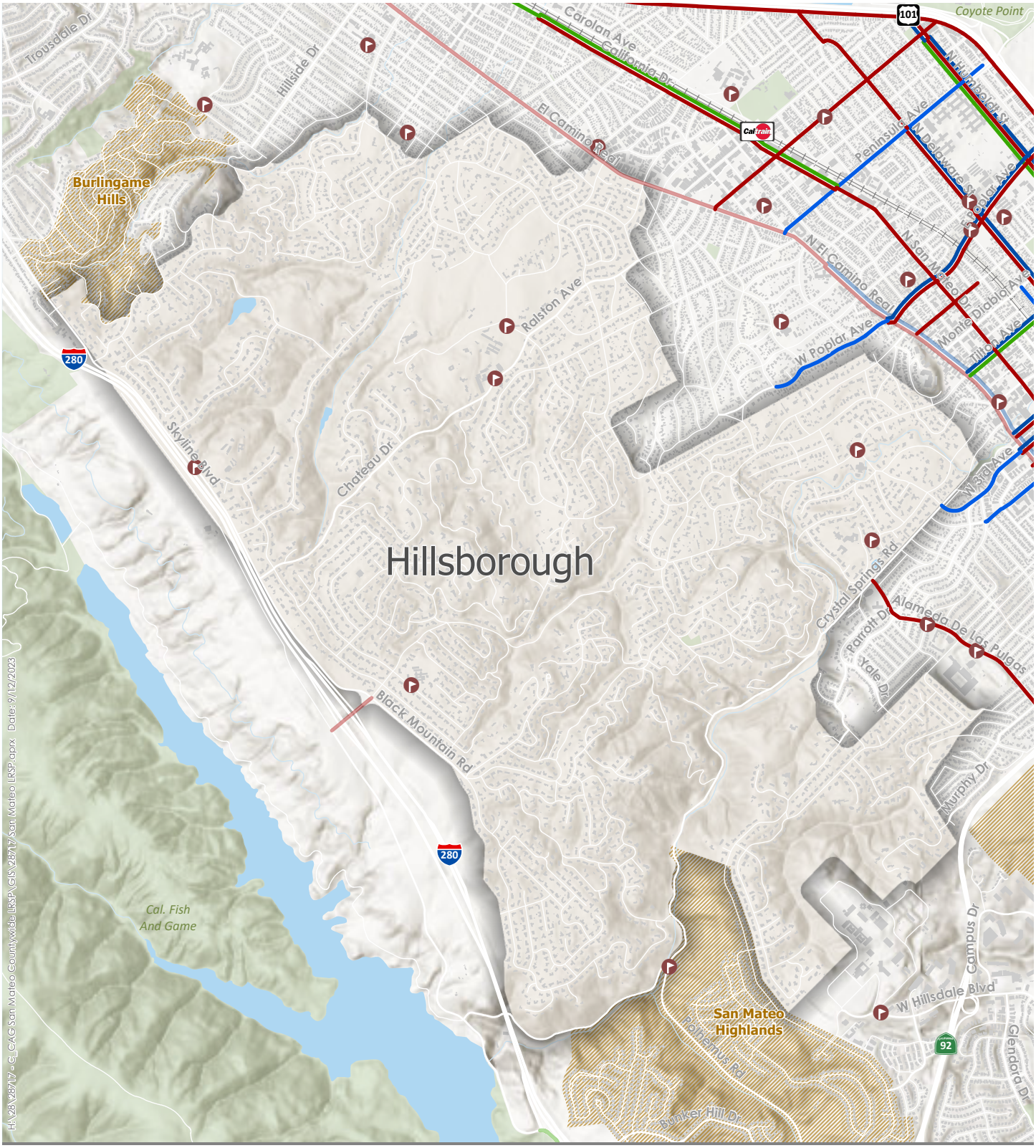
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 1 Miles

Figure C-9

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Half Moon Bay, CA

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 Miles

Figure C-10

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Hillsborough, CA

KITTELSON & ASSOCIATES

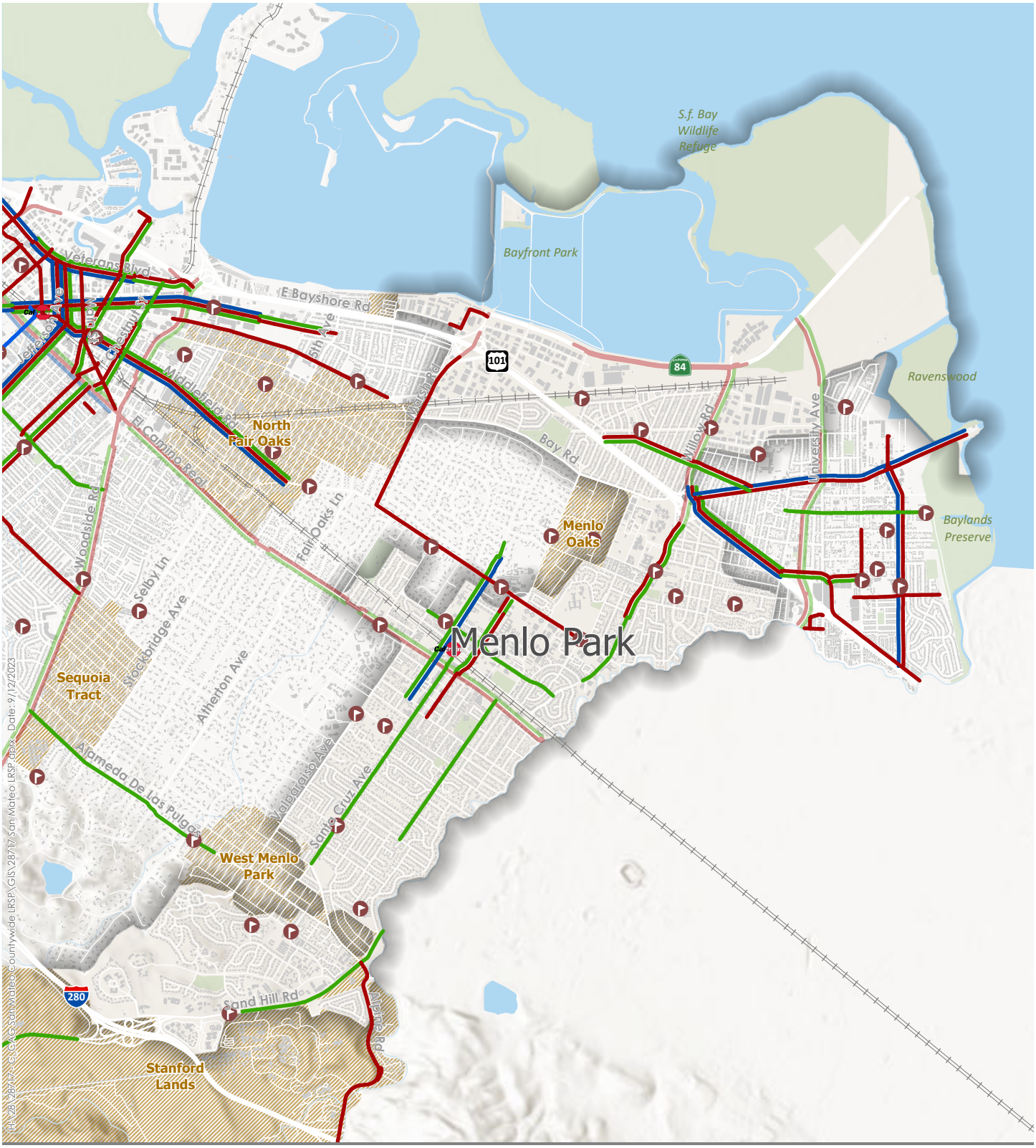


Figure C-11

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Menlo Park, CA

KITTELSON & ASSOCIATES

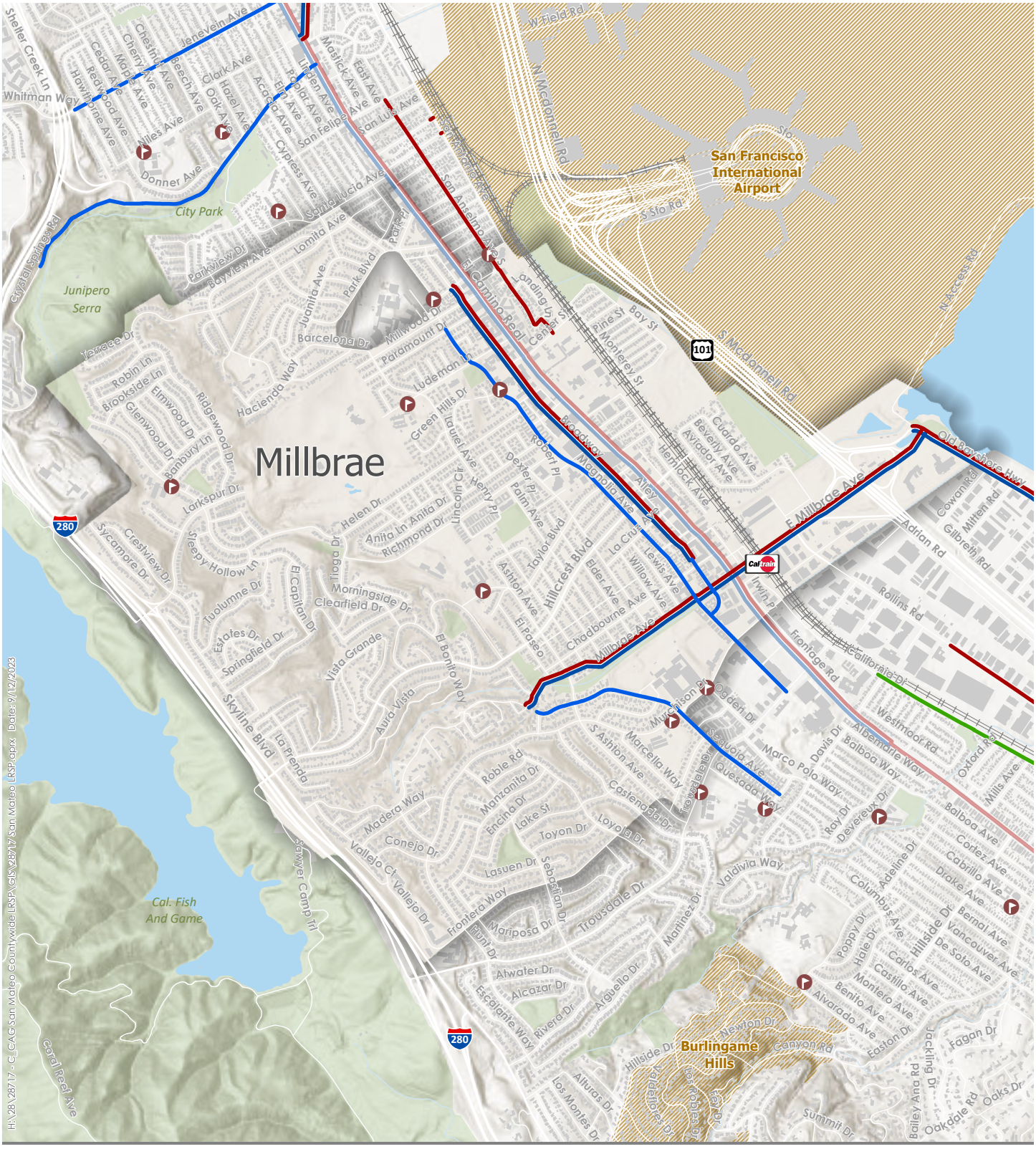
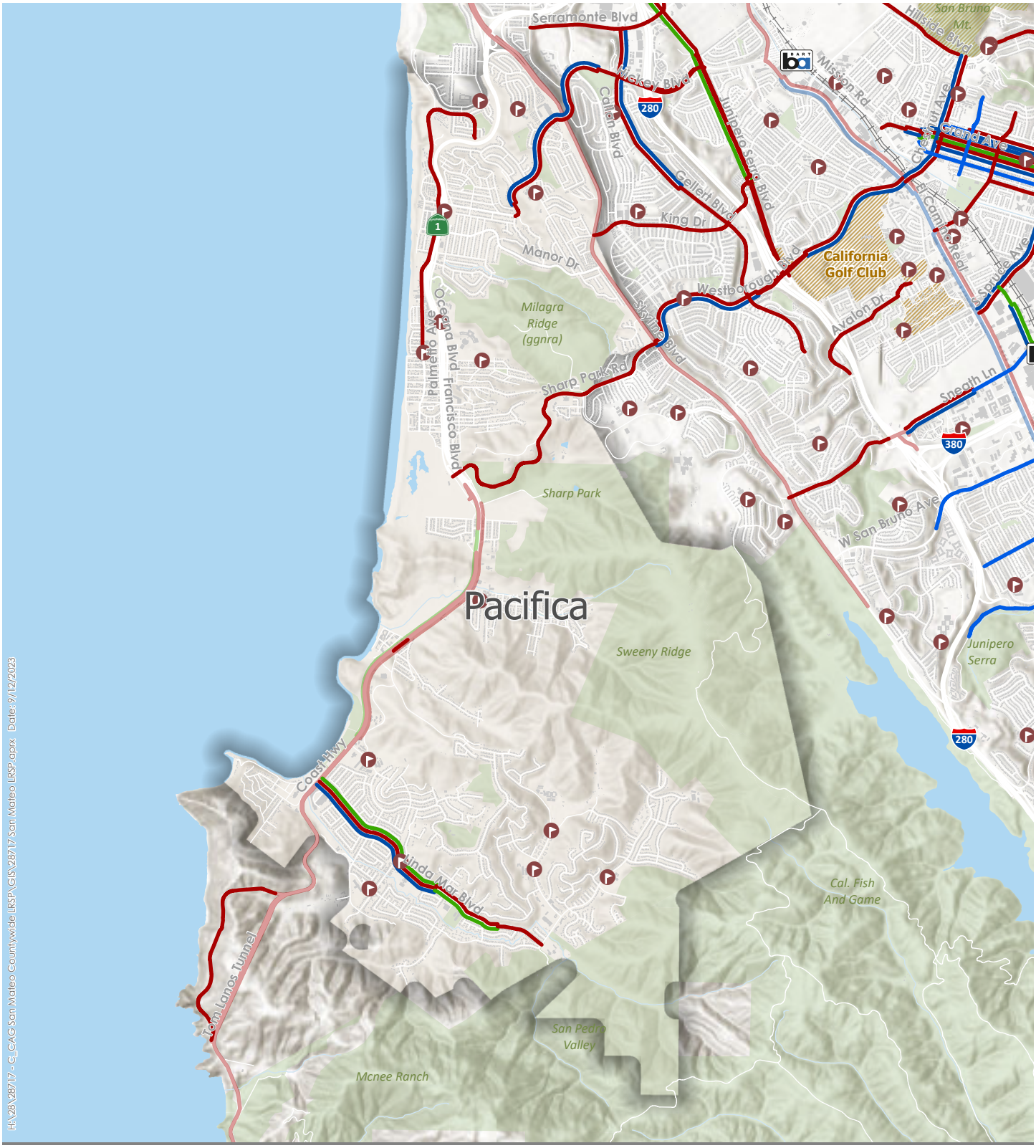


Figure C-12

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Millbrae, CA

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

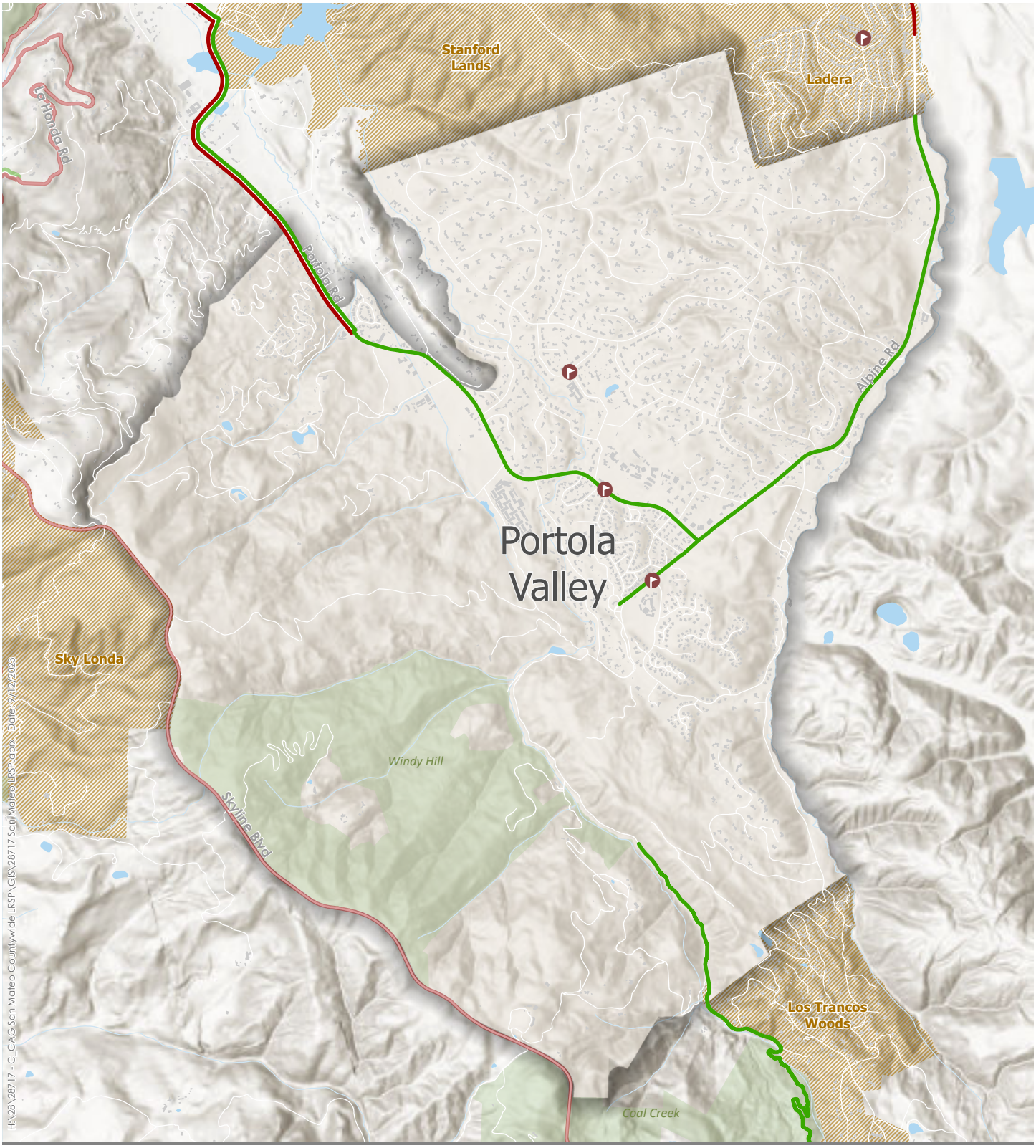
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 1 Miles

Figure C-13

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Pacifica, CA

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 Miles

Figure C-14

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Portola Valley, CA

KITTELSON & ASSOCIATES

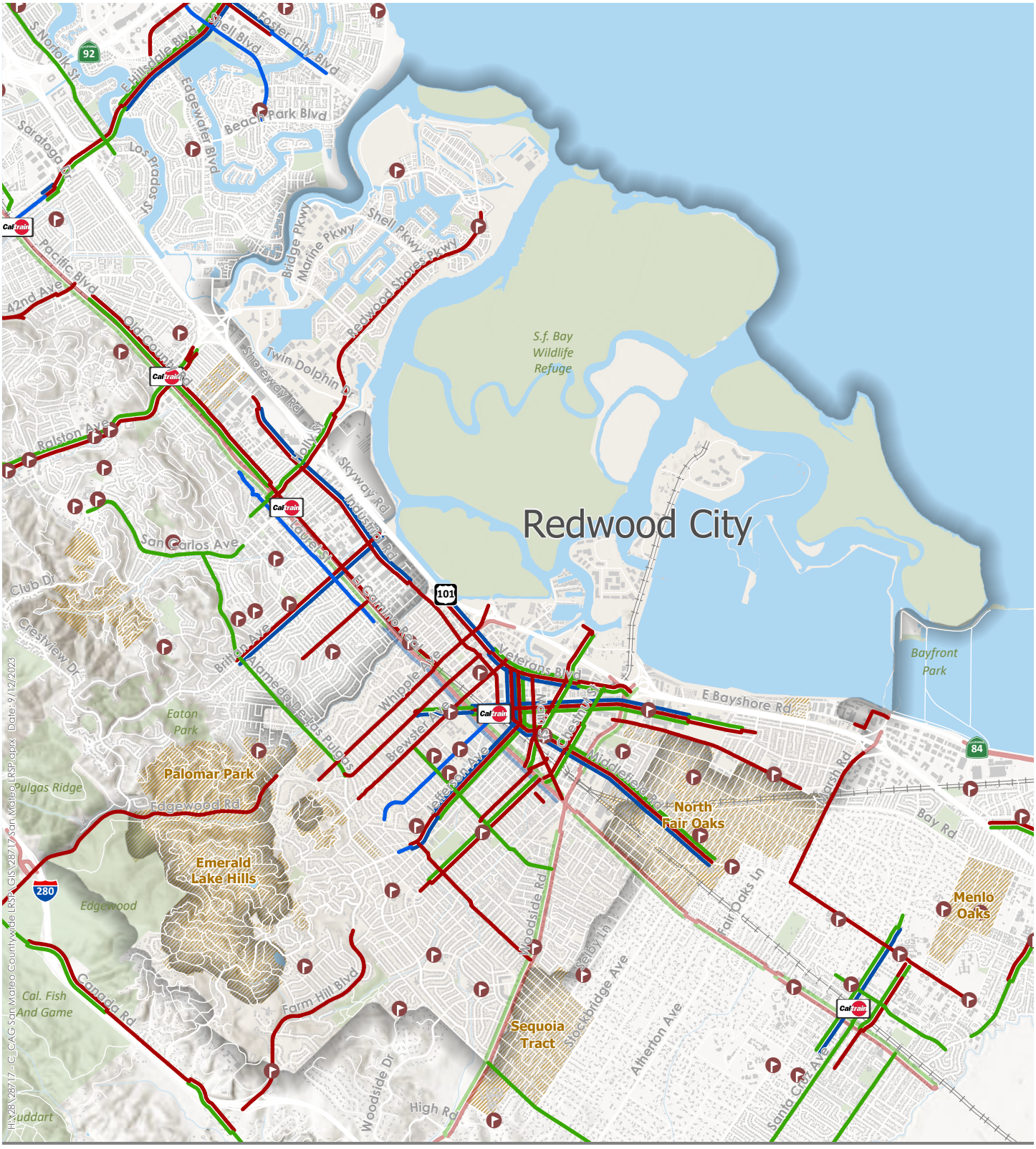
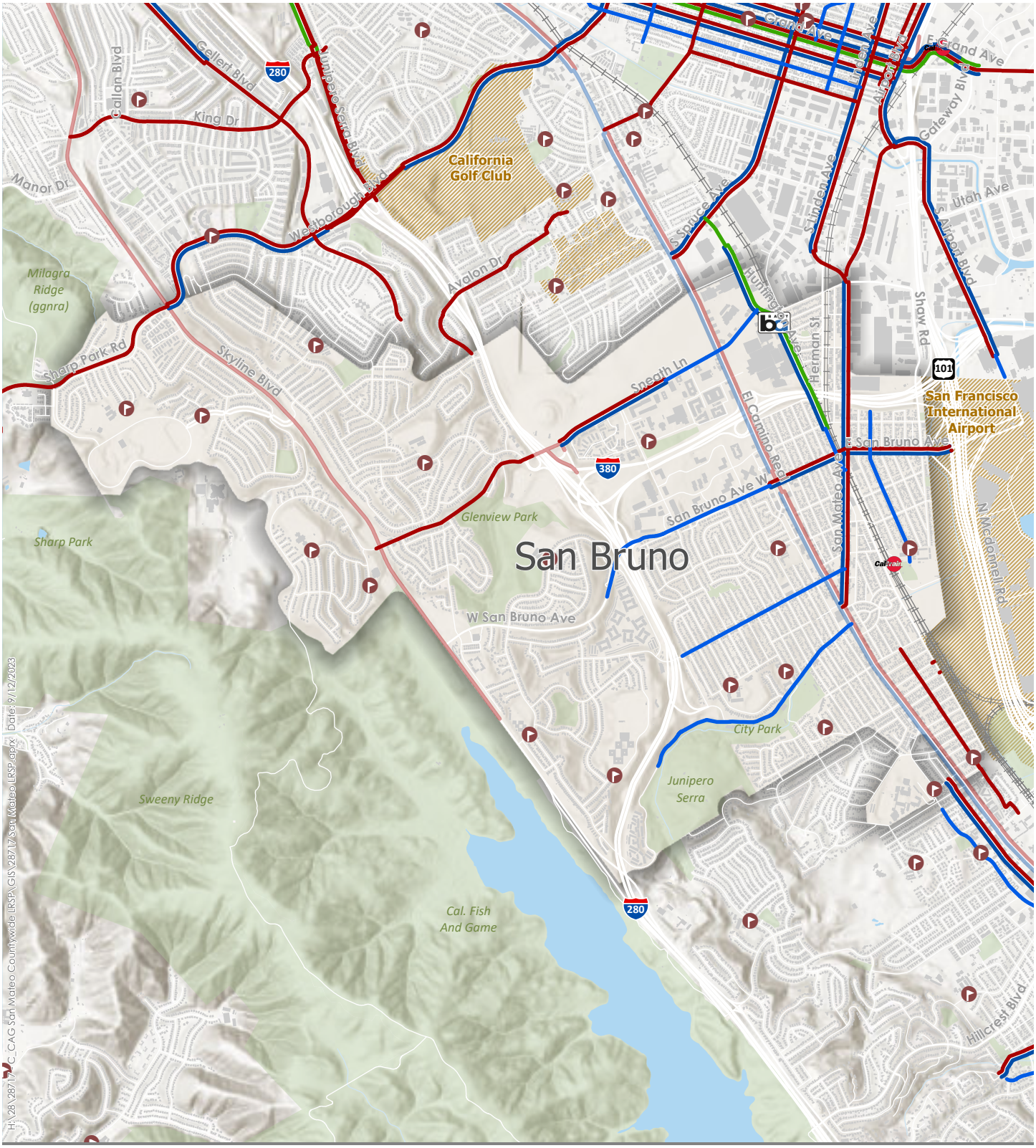


Figure C-15

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of Redwood City, CA

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 Miles

Figure C-16

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of San Bruno, CA

KITTELSON & ASSOCIATES

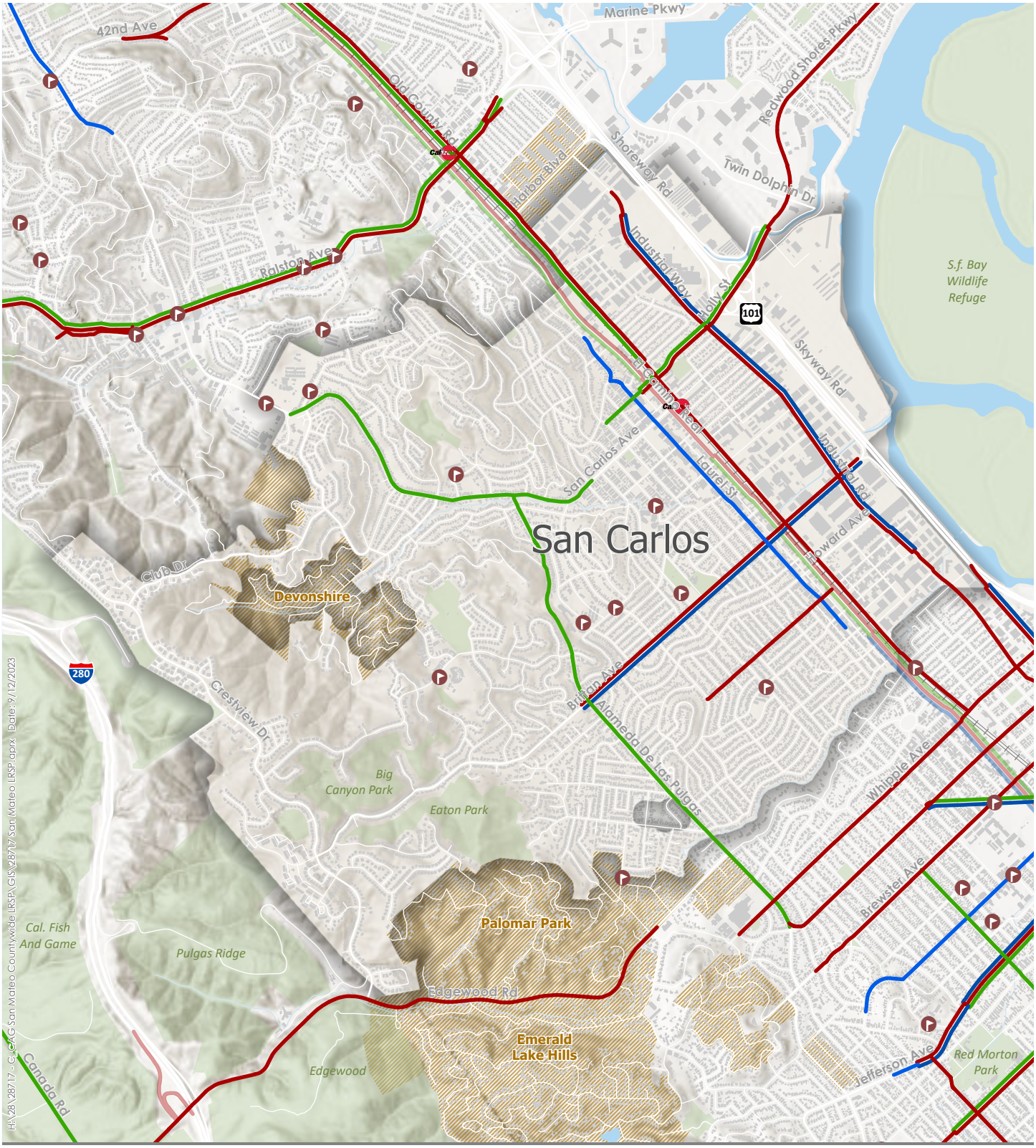
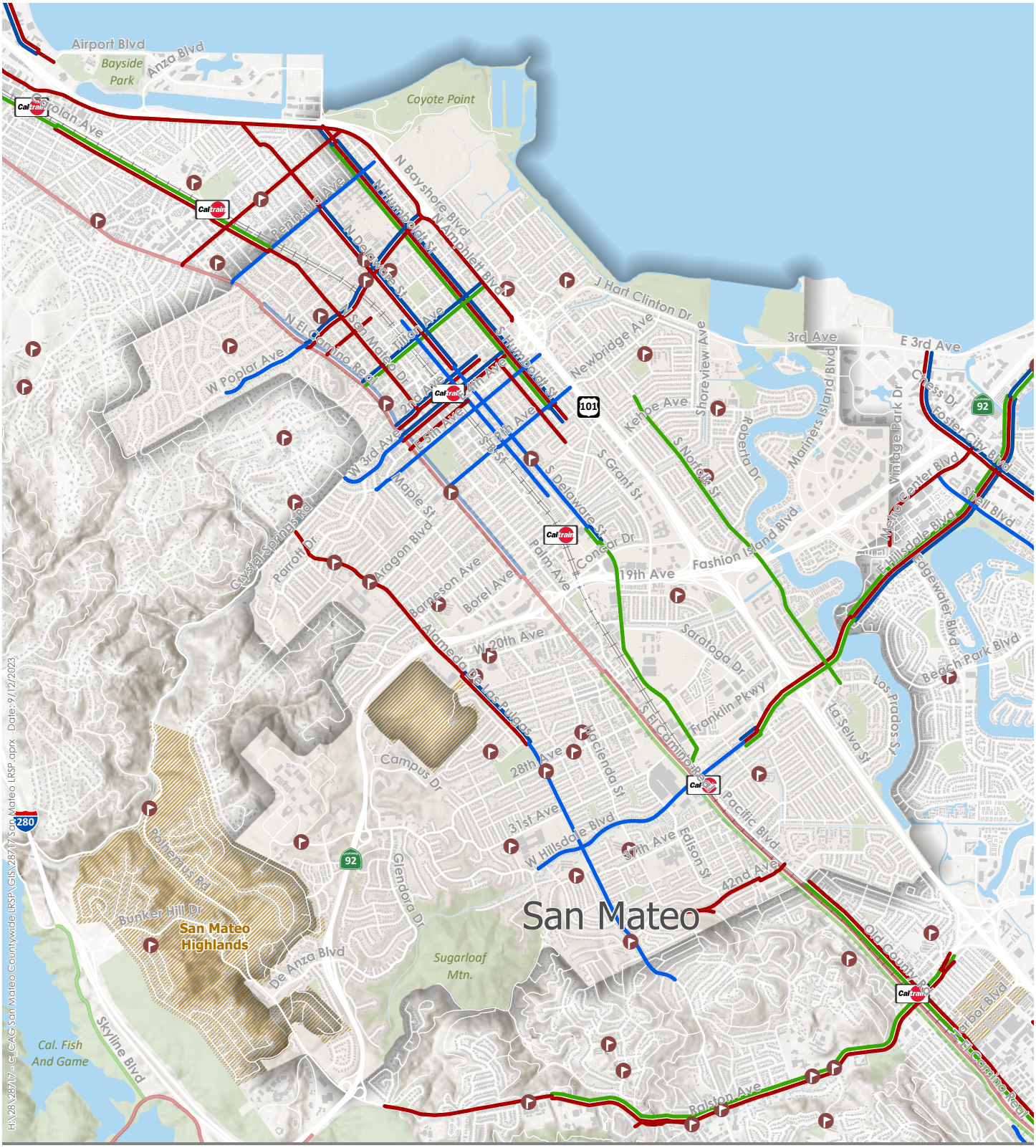


Figure C-17

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
City of San Carlos, CA

KITTELSON & ASSOCIATES



- Schools
- BART Station
- Caltrain Station
- Unincorporated Places
- Parks

Non-Highway HIN

- Motor Vehicle
- Bicycle
- Pedestrian

Highway HIN

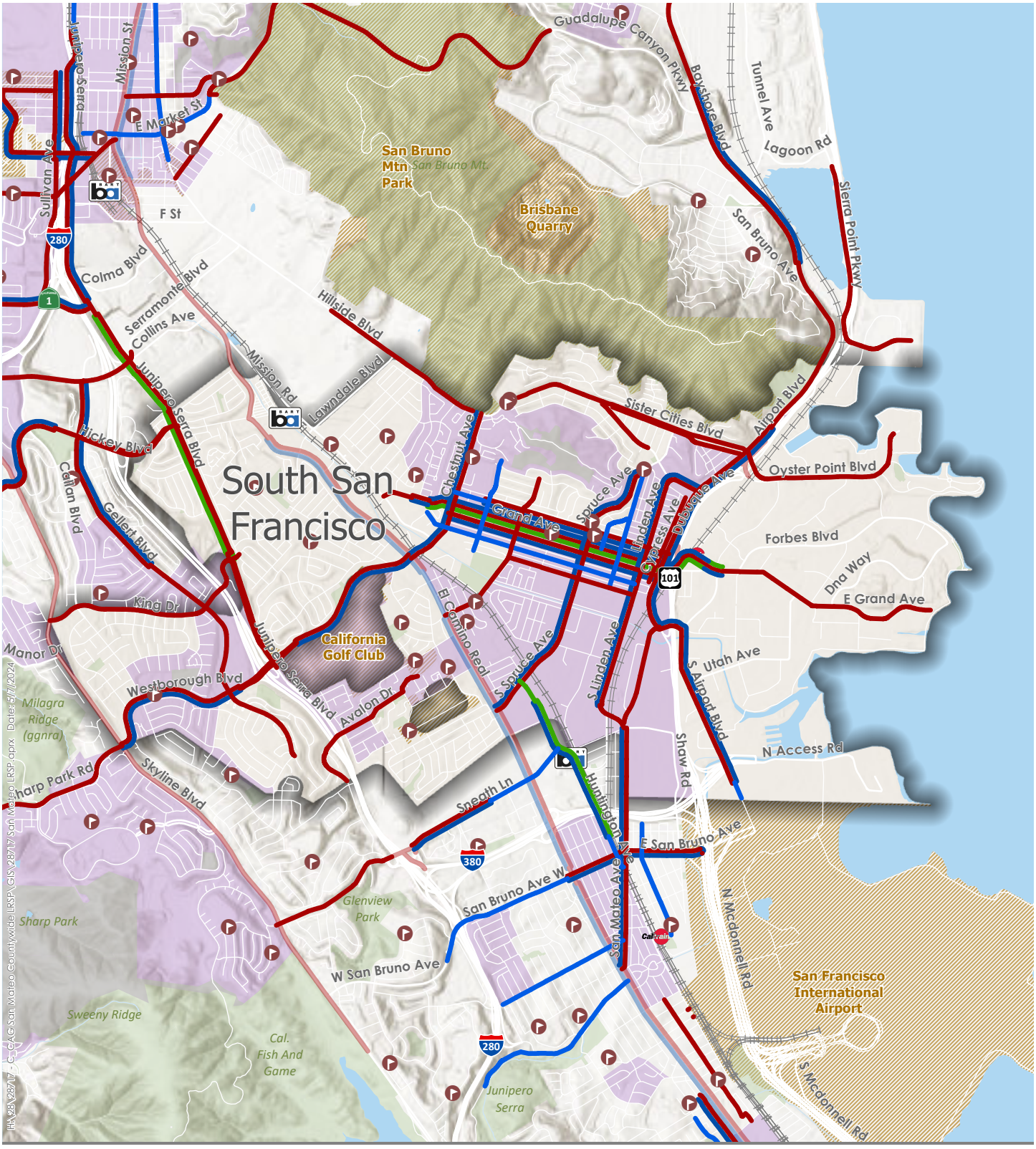
- Motor Vehicle
- Bicycle
- Pedestrian

0 0.5 1 Miles

Figure C-18

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) City of San Mateo, CA

KITTELSON & ASSOCIATES



Schools

BART Station

Caltrain Station

Unincorporated Places

Local HIN

Motor Vehicle

Bicycle

Pedestrian

Parks

C/CAG Equity Focus Aeas

Highway HIN

Motor Vehicle

Bicycle

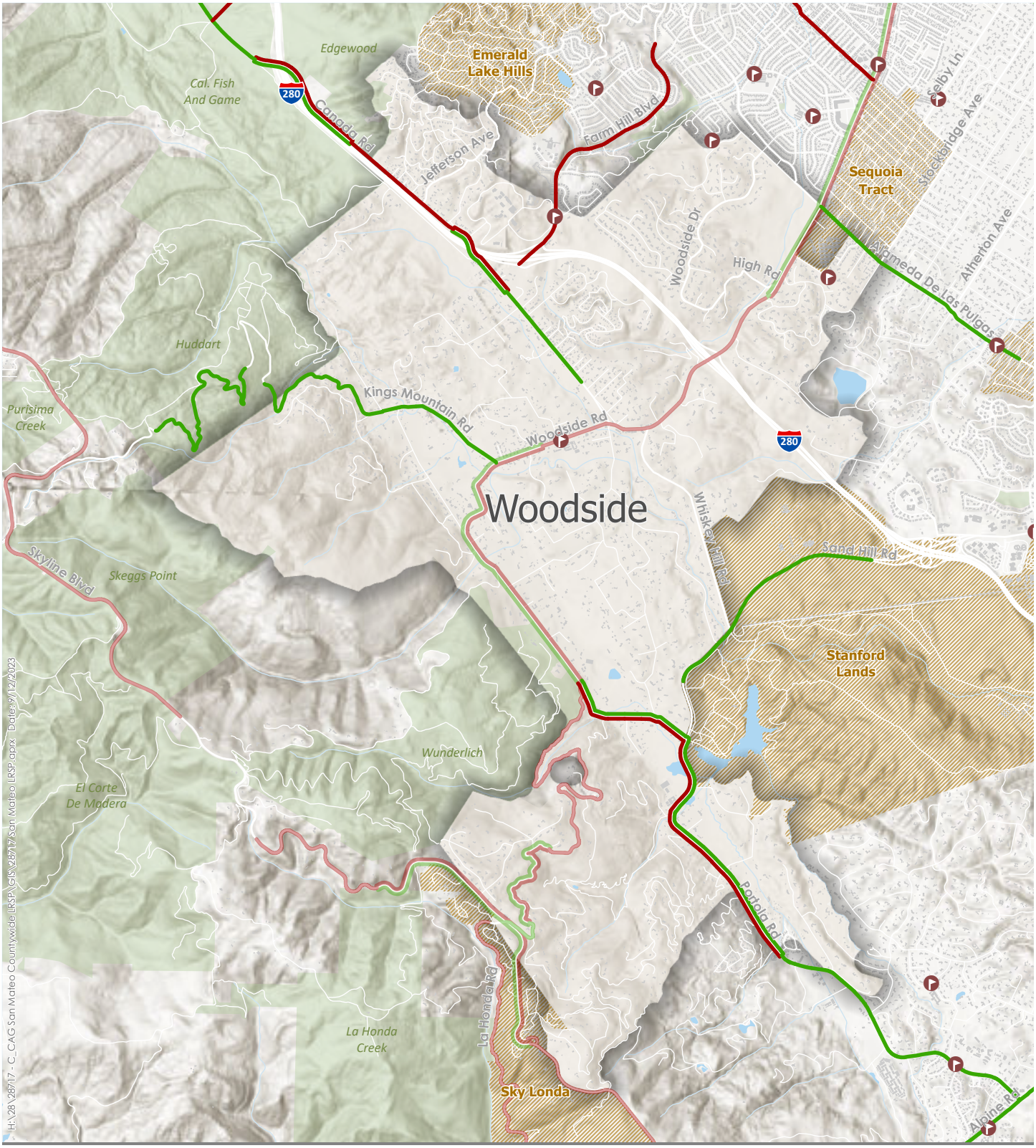
Pedestrian

0 0.5 1 Miles

KITTELSON & ASSOCIATES

Figure C-19

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) of South San Francisco, CA



Schools
BART Station
Caltrain Station
Unincorporated Places
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.5 1 Miles

KITTELSON & ASSOCIATES

Figure C-20

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) City of Woodside, CA

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

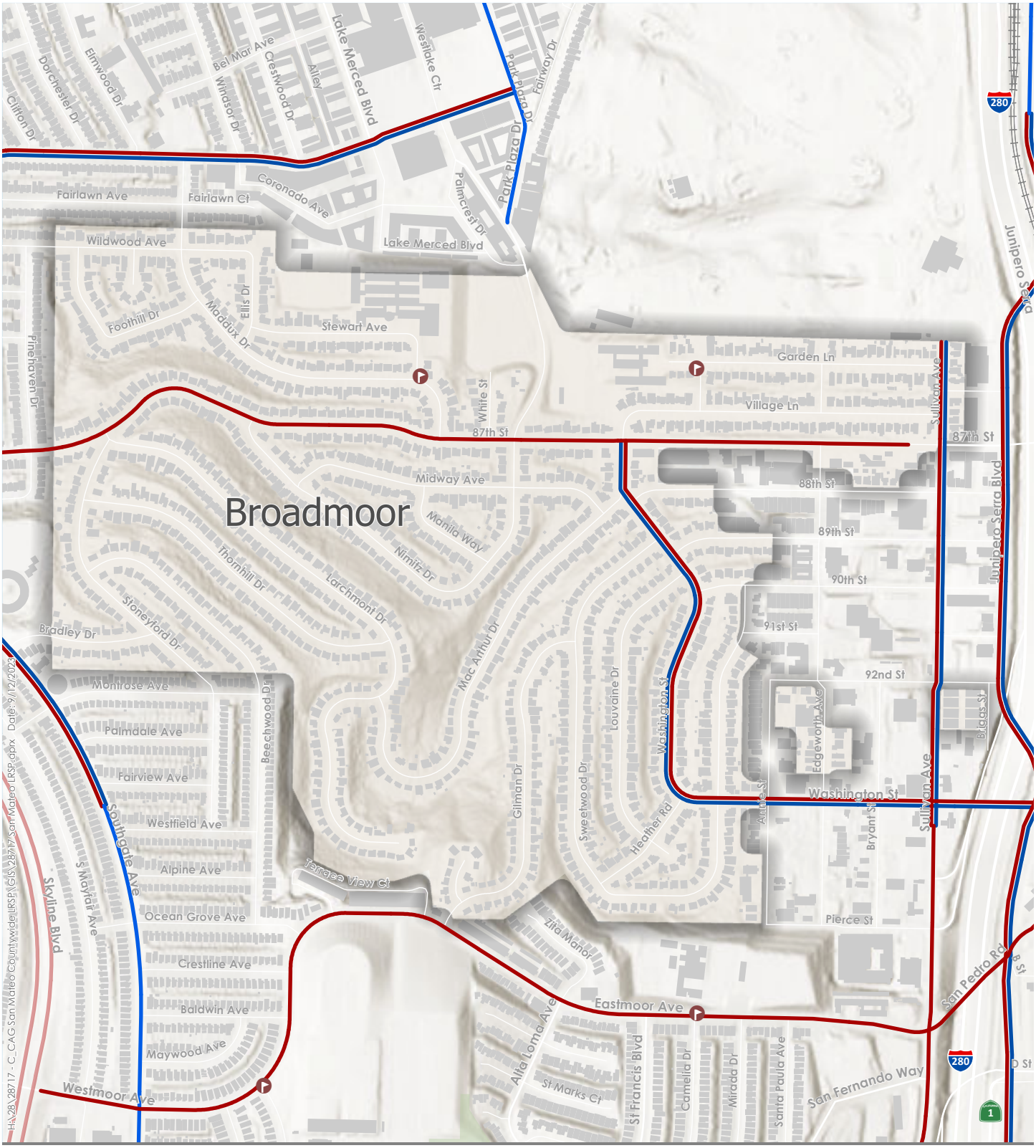
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.04 0.08 0.12 0.16 0.2 Miles

Figure C-21

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Brisbane Quarry

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.04 0.08 0.12 0.16 0.2 Miles

Figure C-22

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Broadmoor

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.035 0.07 0.11 0.14 0.18 Miles

Figure C-23

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Burlingame Hills

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

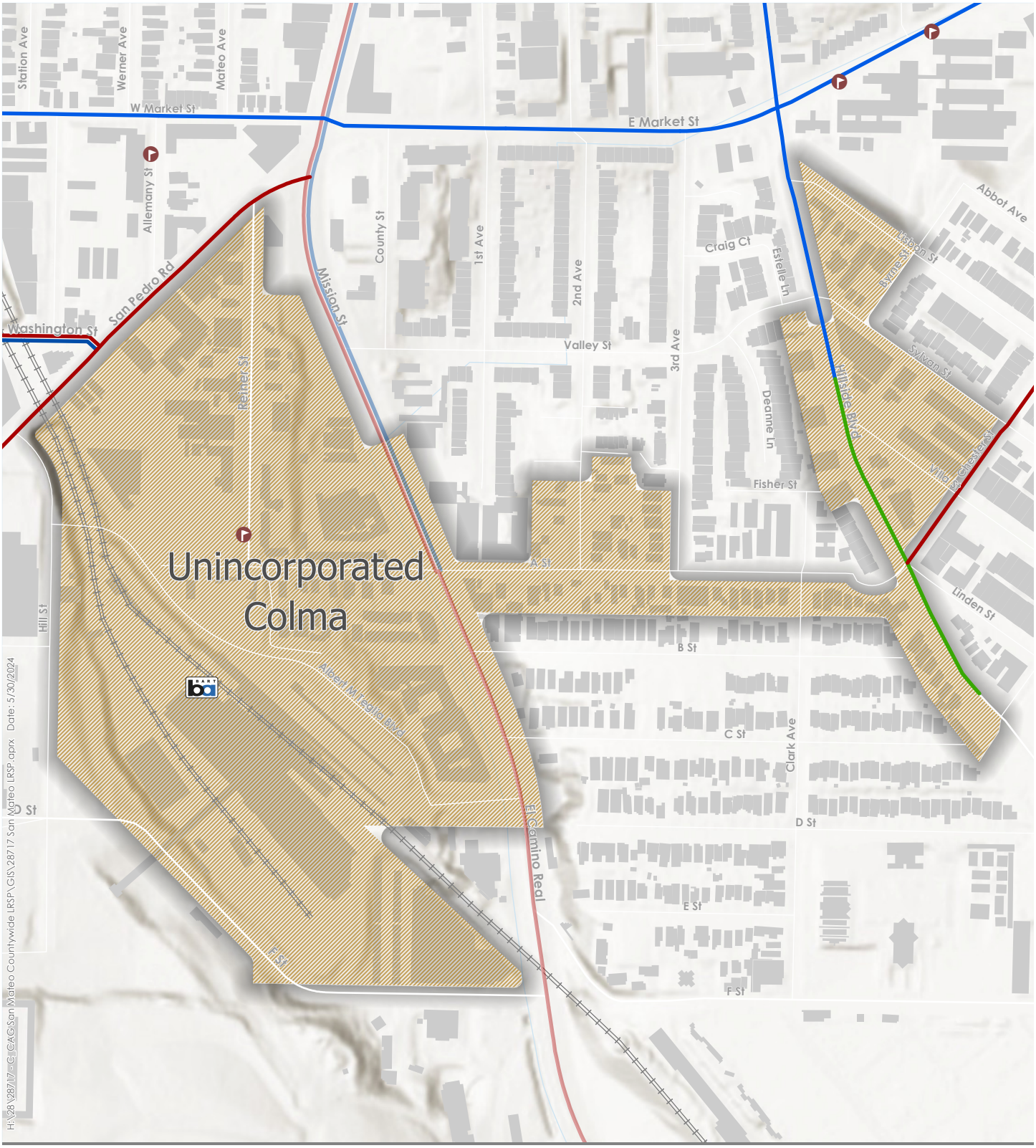
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.04 0.08 0.12 0.16 0.2 Miles

Figure C-24

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - California Golf Club

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.02 0.04 0.06 0.08 0.1 Miles

Figure C-25

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Unincorporated Colma

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.0150.030.0450.060.075 Miles

Figure C-26

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Country Club Park

KITTELSON & ASSOCIATES

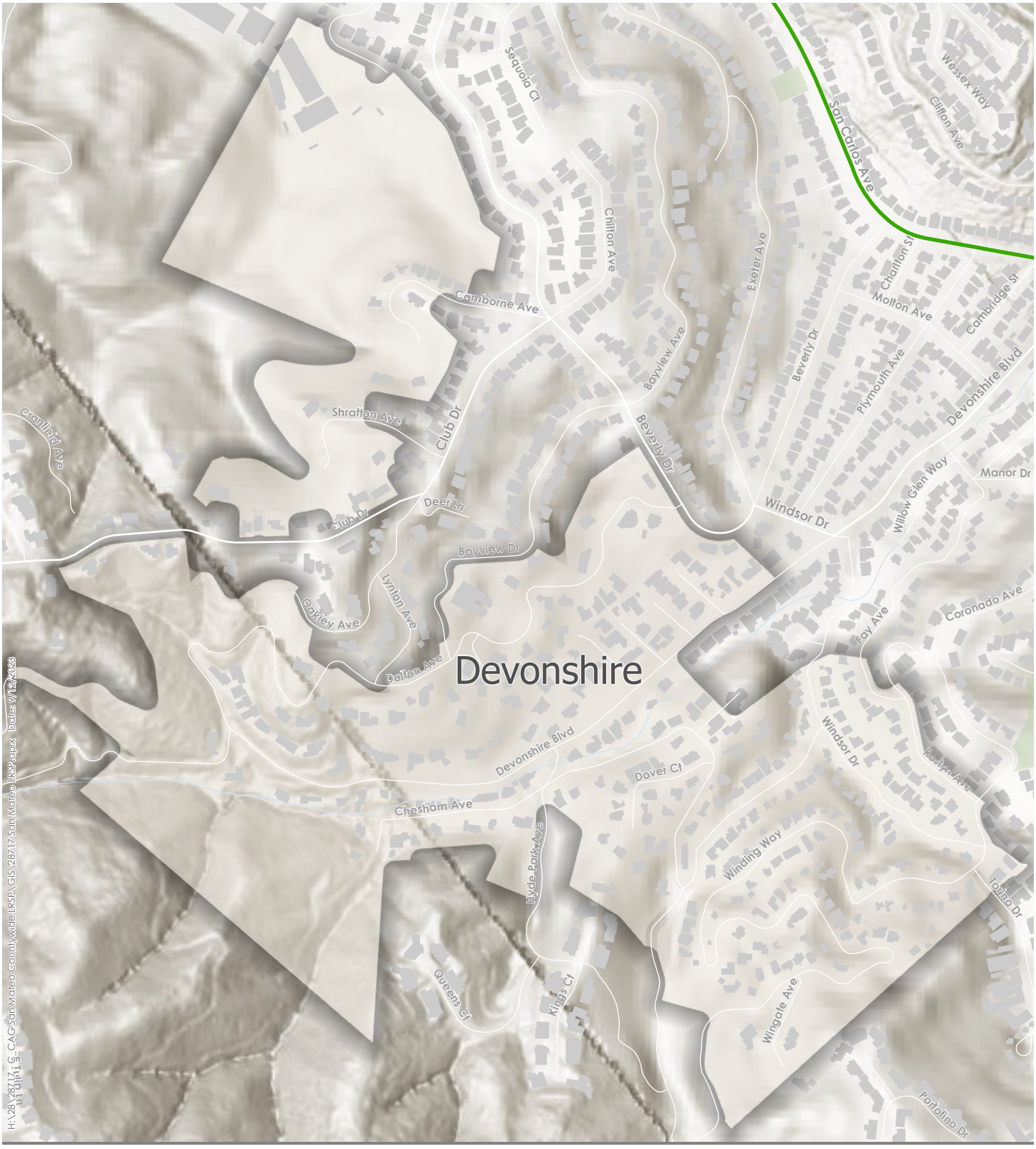


Figure C-27

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Devonshire

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.065 0.13 0.2 0.26 0.33 Miles

Figure C-28

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - El Granada

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.07 0.14 0.21 0.28 0.35 Miles

Figure C-29

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Emerald Lake Hills

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.0150.030.0450.060.075 Miles

Figure C-30

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Harbor/industrial

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.0085 0.017 0.026 0.034 0.043 Miles

Figure C-31

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Kensington Square

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.07 0.14 0.21 0.28 0.35 Miles

Figure C-32

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - La Honda

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

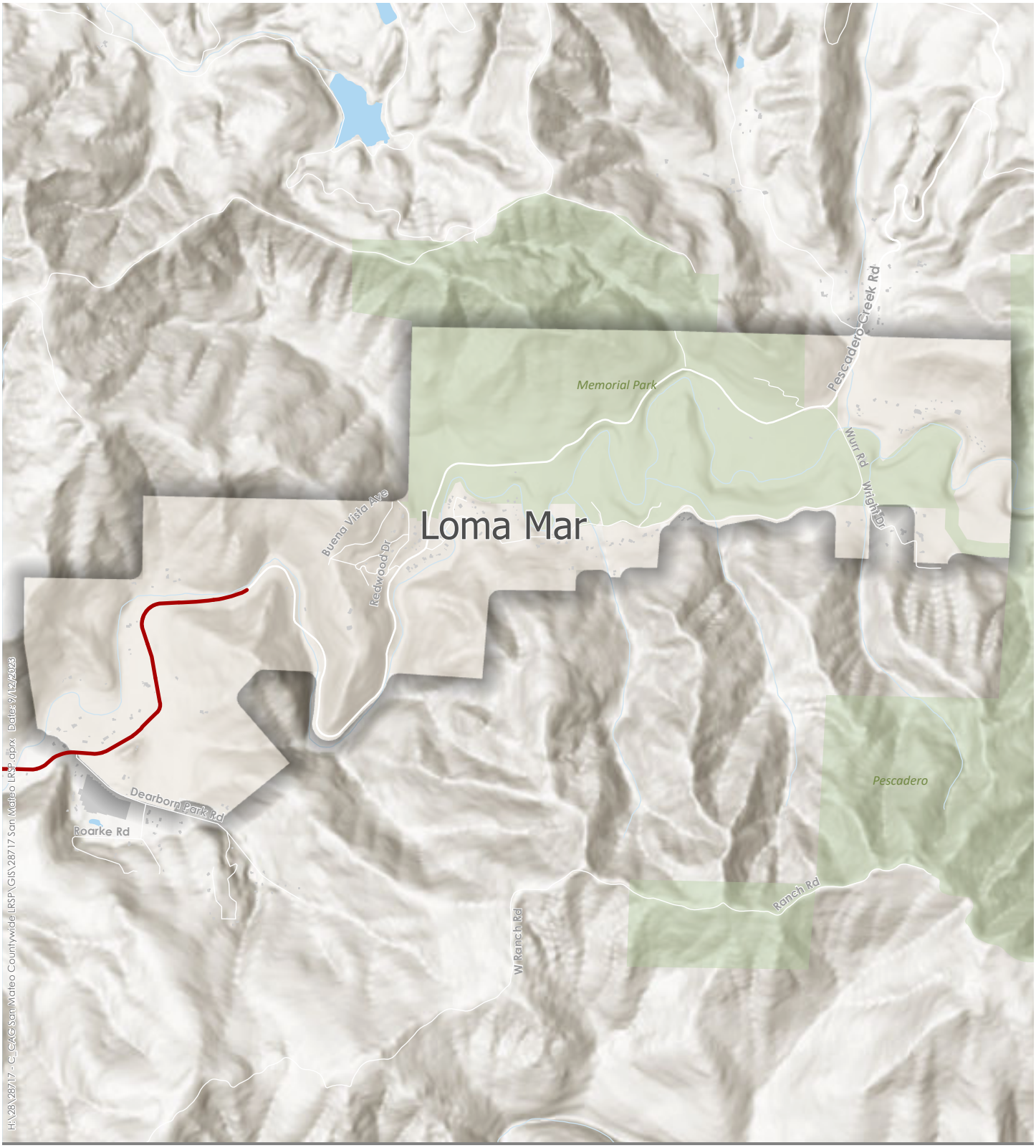
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.035 0.07 0.11 0.14 0.18 Miles

Figure C-33

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Ladera

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.1 0.2 0.3 0.4 0.5 Miles

Figure C-34

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Loma Mar

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

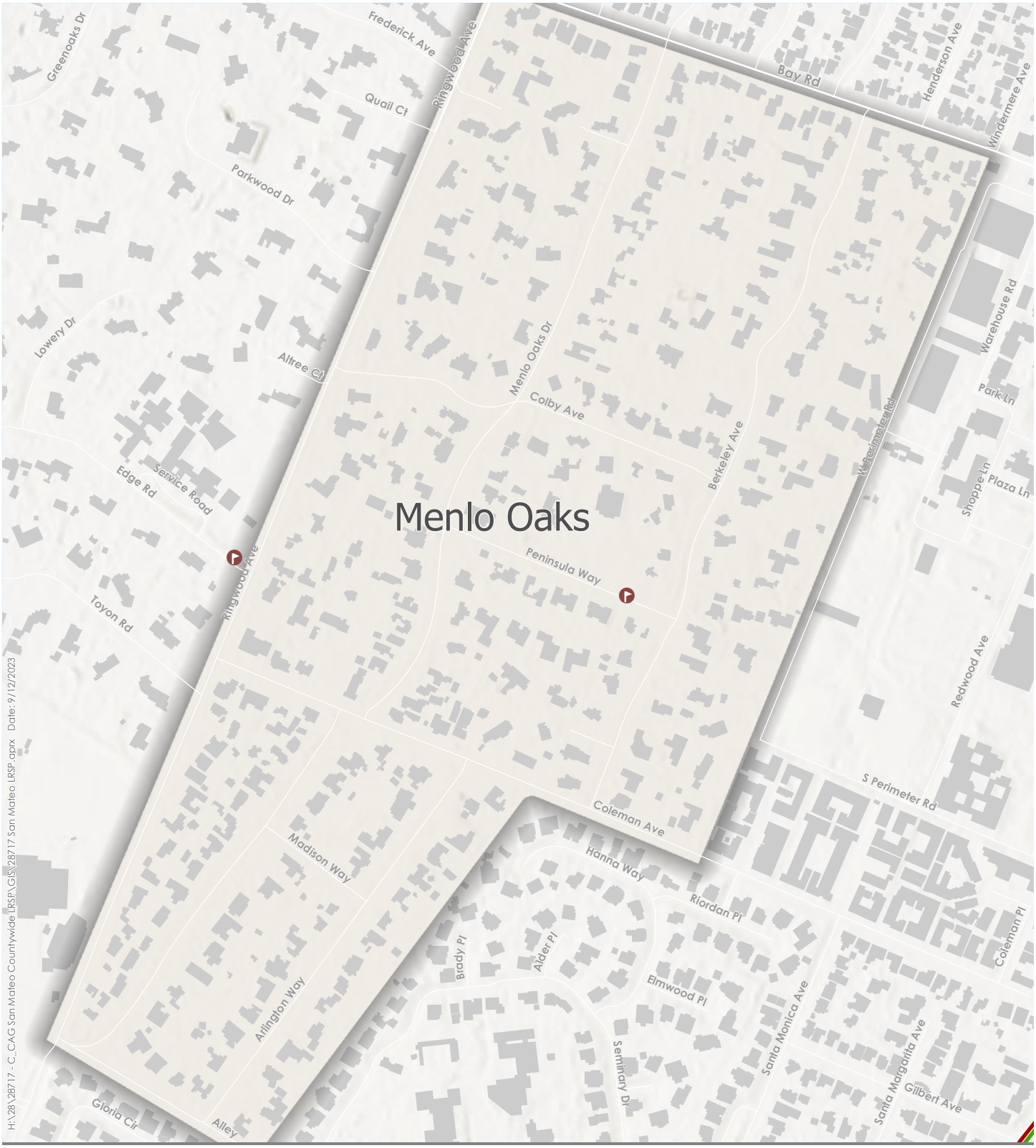
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.05 0.1 0.15 0.2 0.25 Miles

Figure C-35

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Los Trancos Woods

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

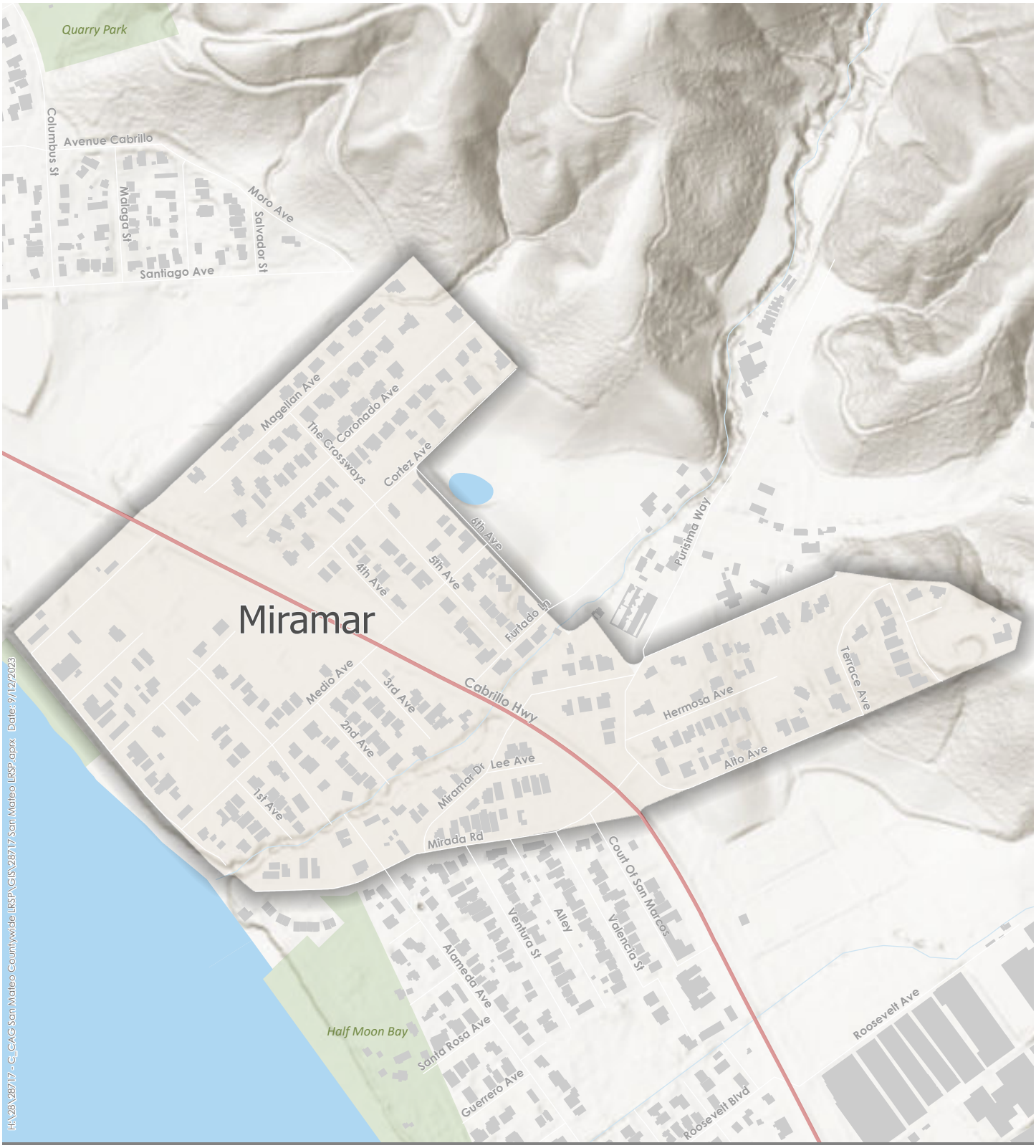
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.025 0.05 0.075 0.1 0.13 Miles

Figure C-36

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Menlo Oaks

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

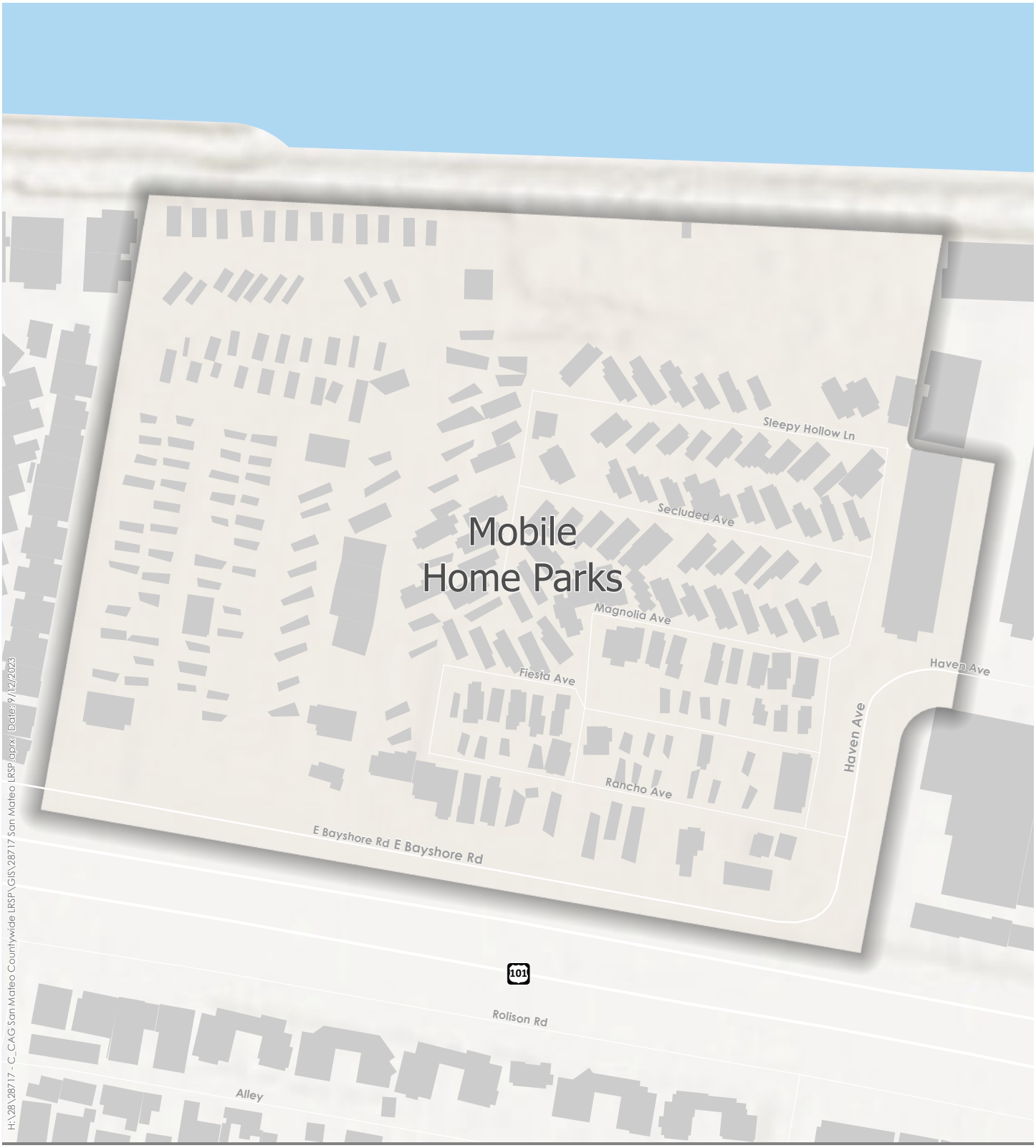
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.03 0.06 0.09 0.12 0.15 Miles

Figure C-37

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Miramar

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

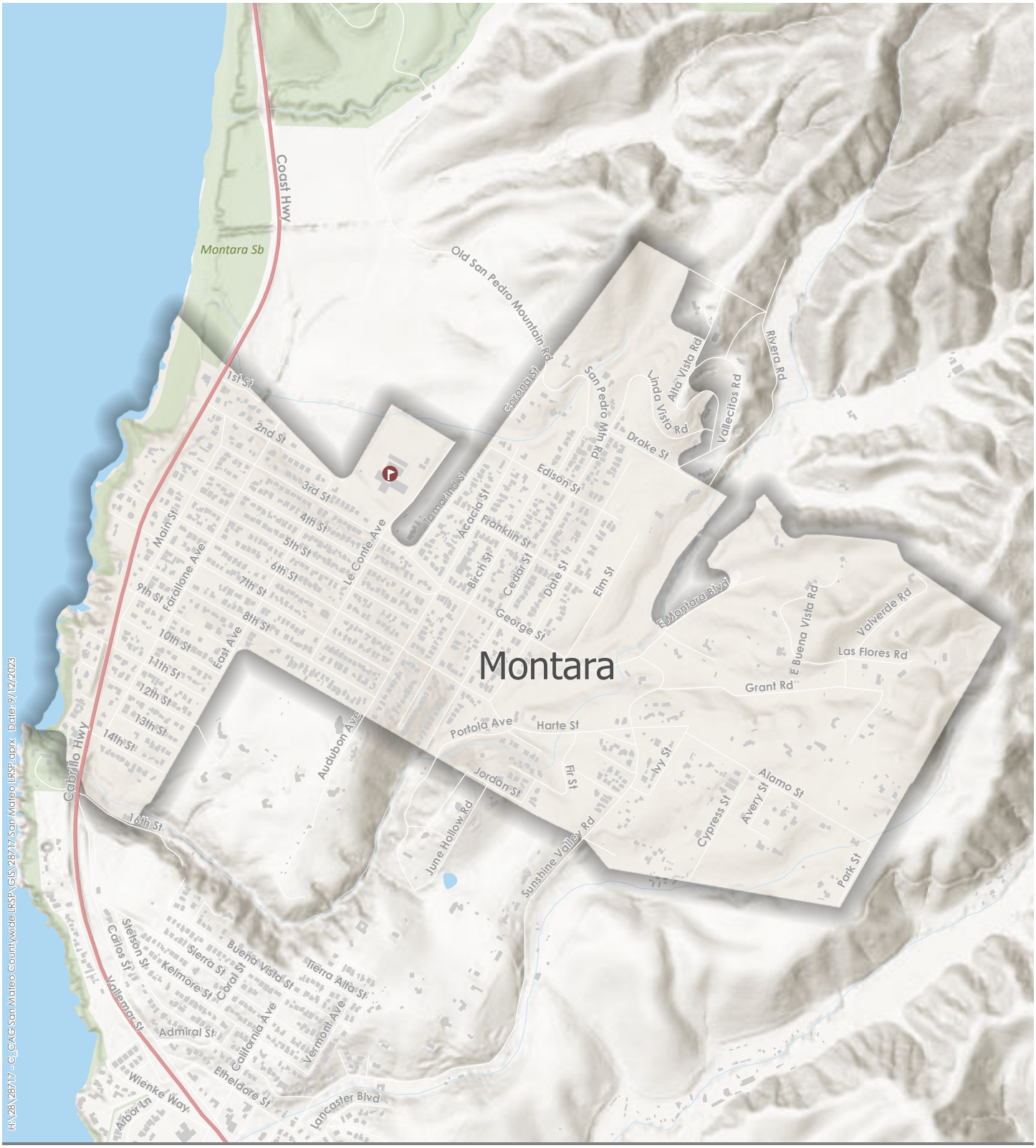
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.0085 0.017 0.026 0.034 0.043 Miles

Figure C-38

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Mobile Home Parks

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.065 0.13 0.2 0.26 0.33 Miles

Figure C-39

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Montara

KITTELSON & ASSOCIATES

Figure C-40

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Moss Beach

KITTELSON & ASSOCIATES

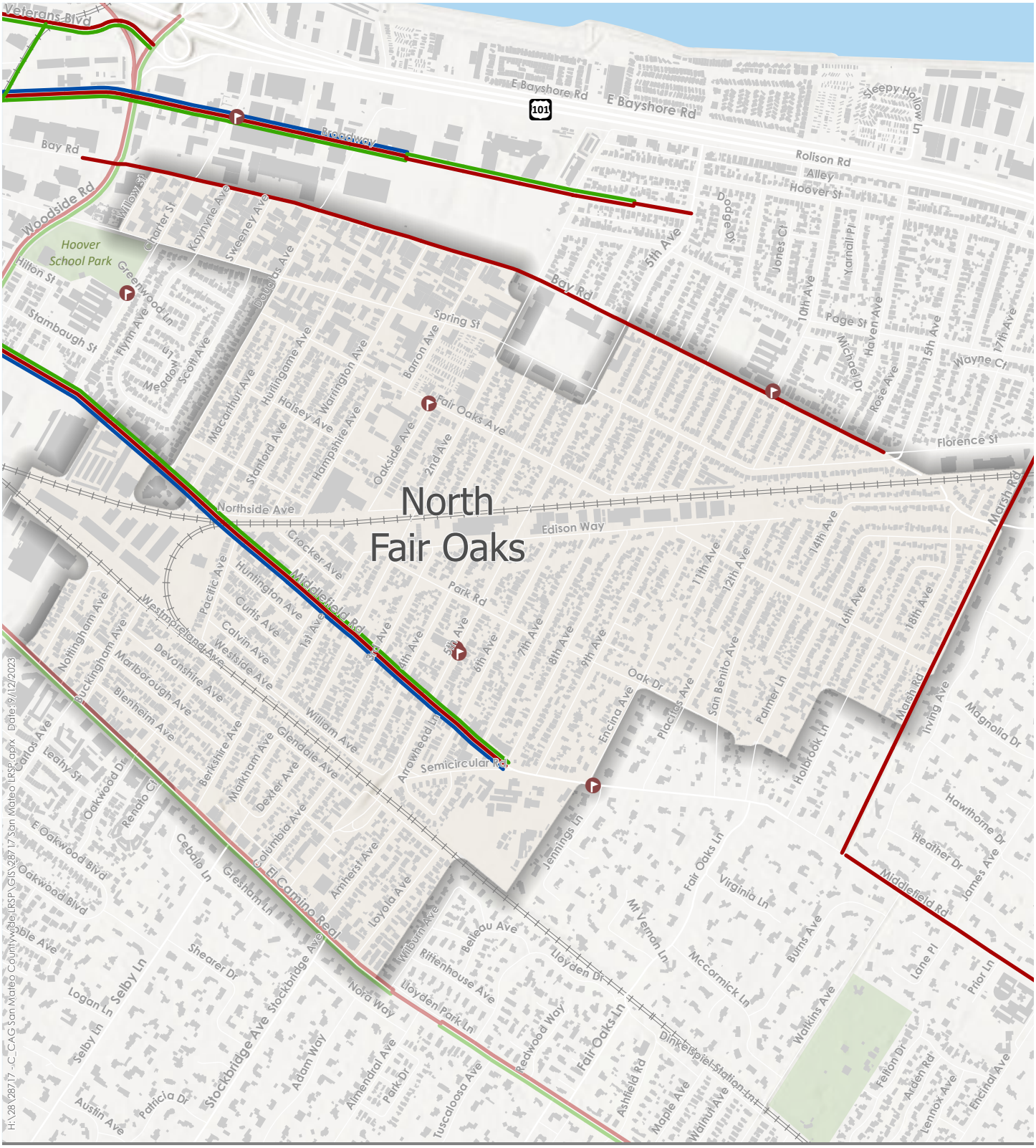


Figure C-41

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - North Fair Oaks

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.035 0.07 0.11 0.14 0.18 Miles

Figure C-42

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Olympic Country Club

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.04 0.08 0.12 0.16 0.2 Miles

Figure C-43

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Palomar Park

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.02 0.04 0.06 0.08 0.1 Miles

Figure C-44

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
Unincorporated County - Peninsula Golf And Country Club

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.1 0.2 0.3 0.4 0.5 Miles

Figure C-45

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Pescadero

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

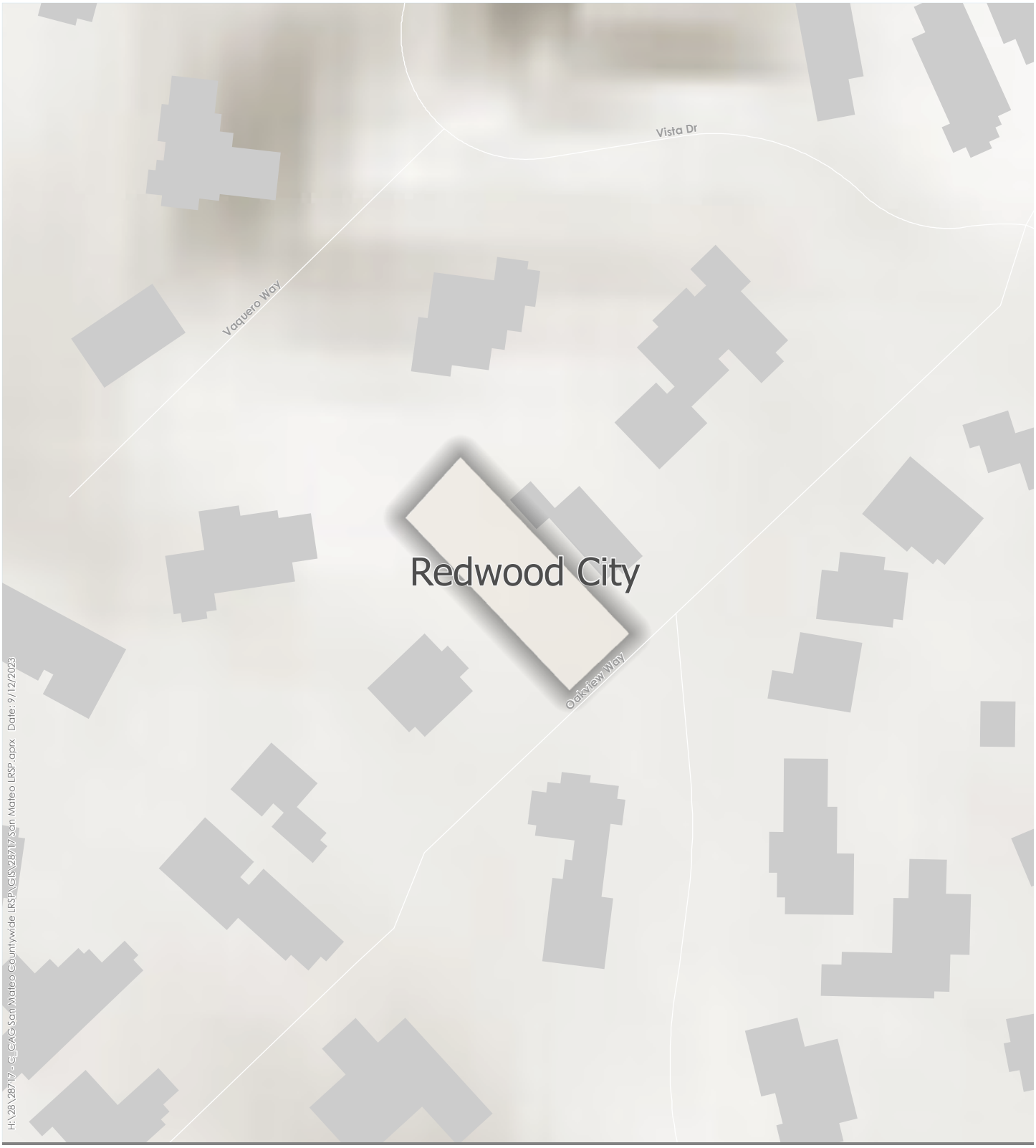
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.0150.030.0450.060.075 Miles

Figure C-46

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Princeton

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

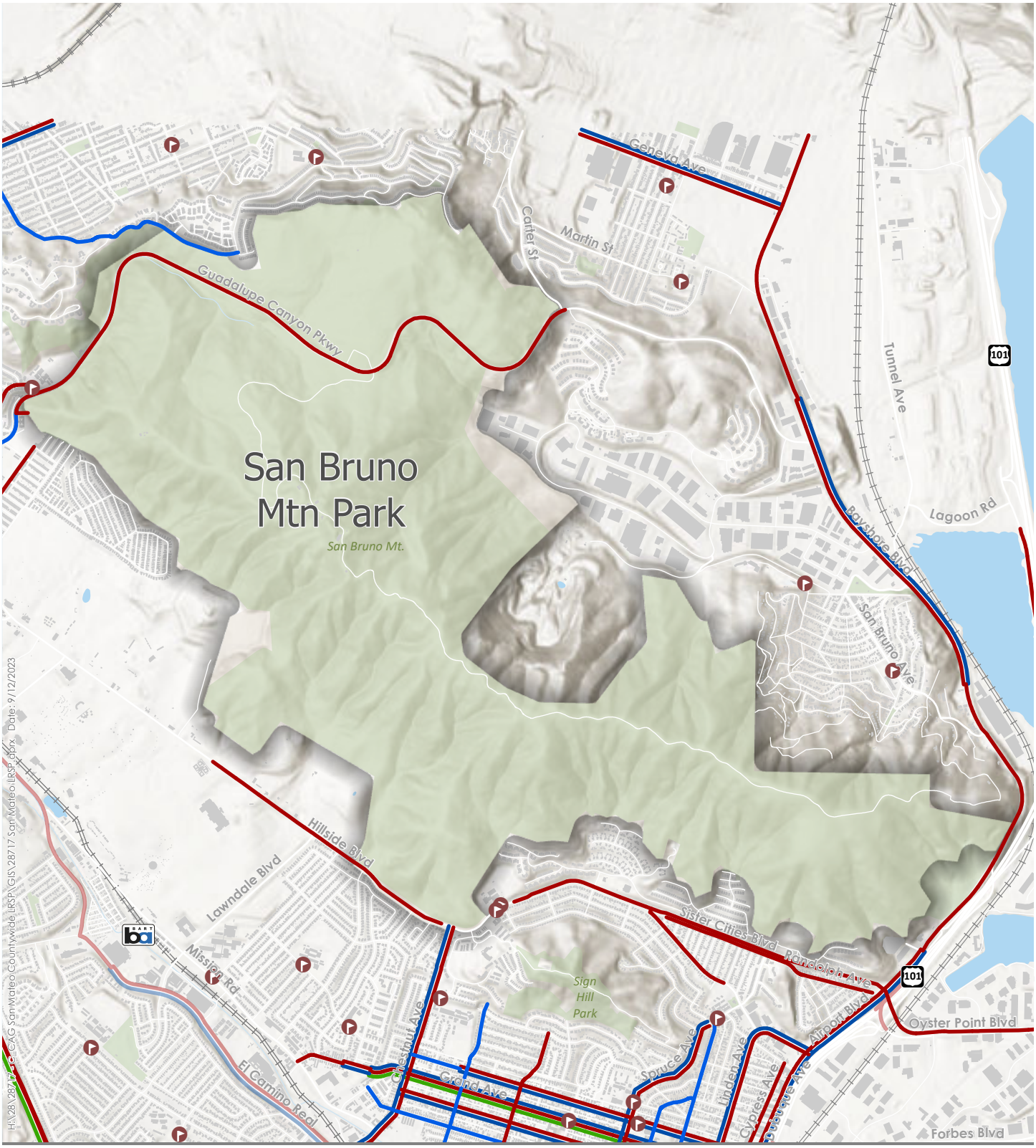
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.004 0.008 0.012 0.016 0.02 Miles

Figure C-47

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Redwood City

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.1 0.2 0.3 0.4 0.5 Miles

Figure C-48

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - San Bruno Mtn Park

KITTELSON & ASSOCIATES

Figure C-49

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
Unincorporated County - San Francisco International Airport

KITTELSON & ASSOCIATES

HX:\28\28717 - C_CAG San Mateo Countywide LRSP\GIS\28717 San Mateo LRSP.aprx Date: 9/12/2023

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

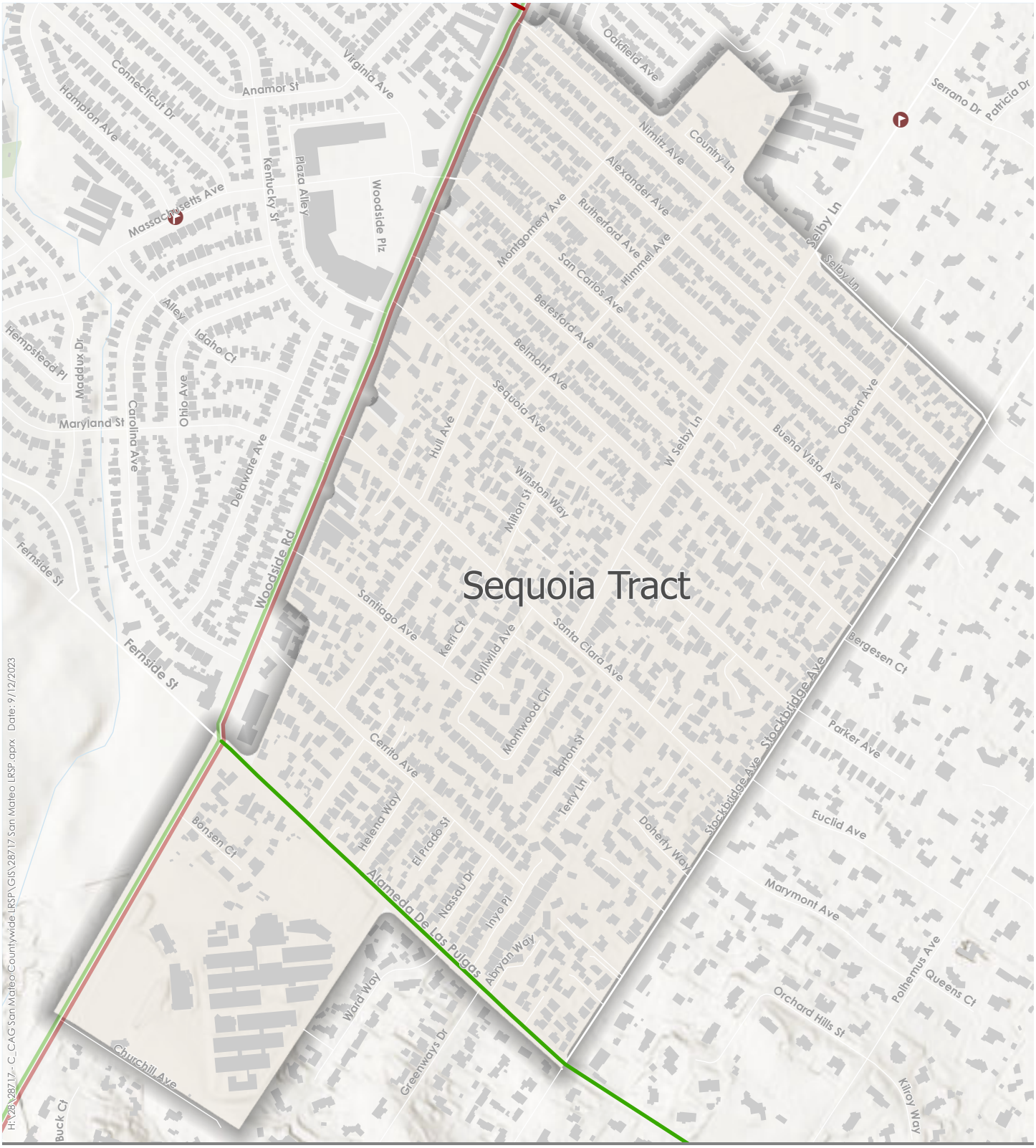
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.065 0.13 0.2 0.26 0.33 Miles

Figure C-50

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - San Mateo Highlands

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

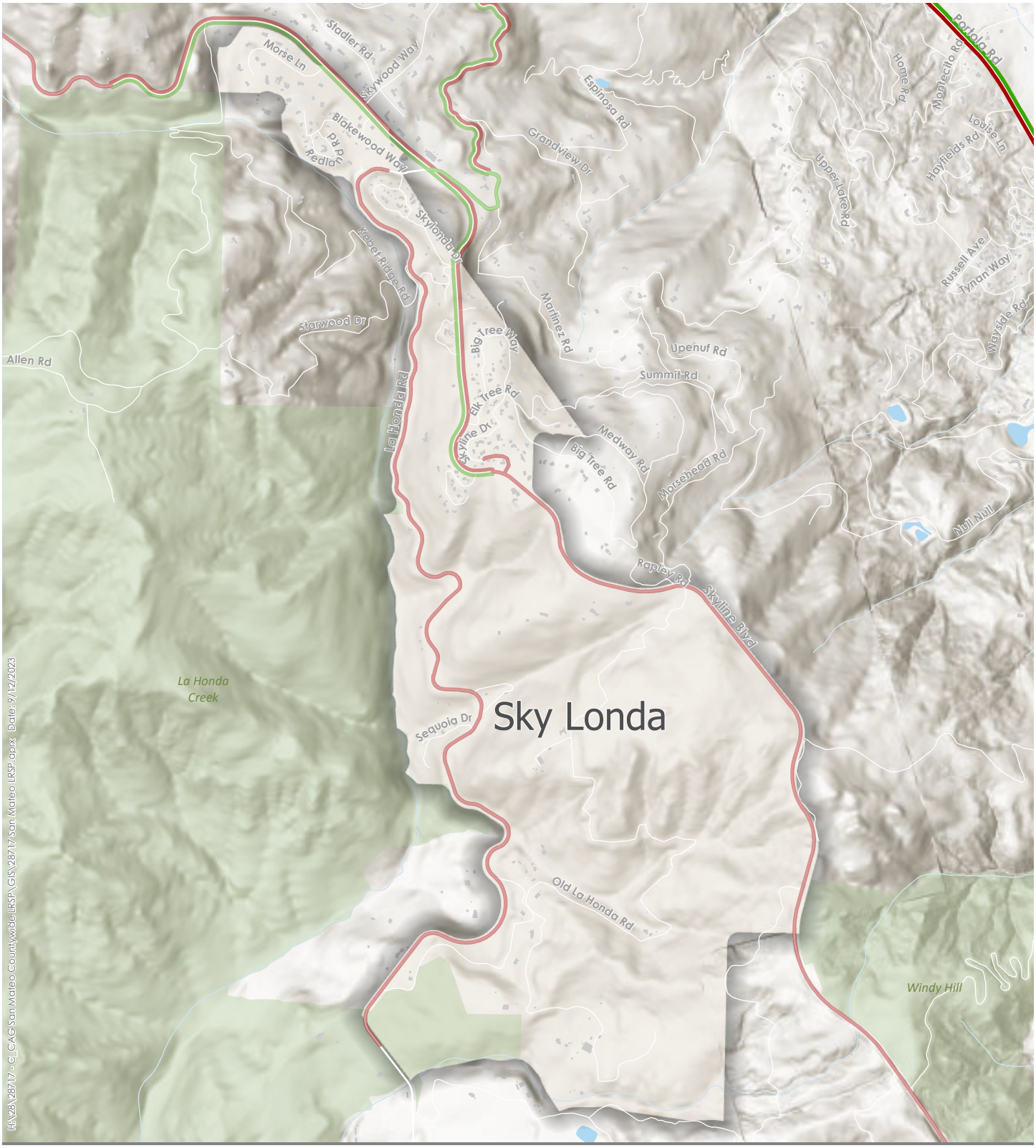
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.04 0.08 0.12 0.16 0.2 Miles

Figure C-51

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Sequoia Tract

KITTELSON & ASSOCIATES



Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.09 0.18 0.27 0.36 0.45 Miles

Figure C-52

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Sky Londa

KITTELSON & ASSOCIATES

Figure C-53

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - Stanford Lands

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.35 0.7 1 1.4 1.8 Miles

Figure C-54

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
Unincorporated County - Unincorporated North San Mateo County

KITTELSON & ASSOCIATES

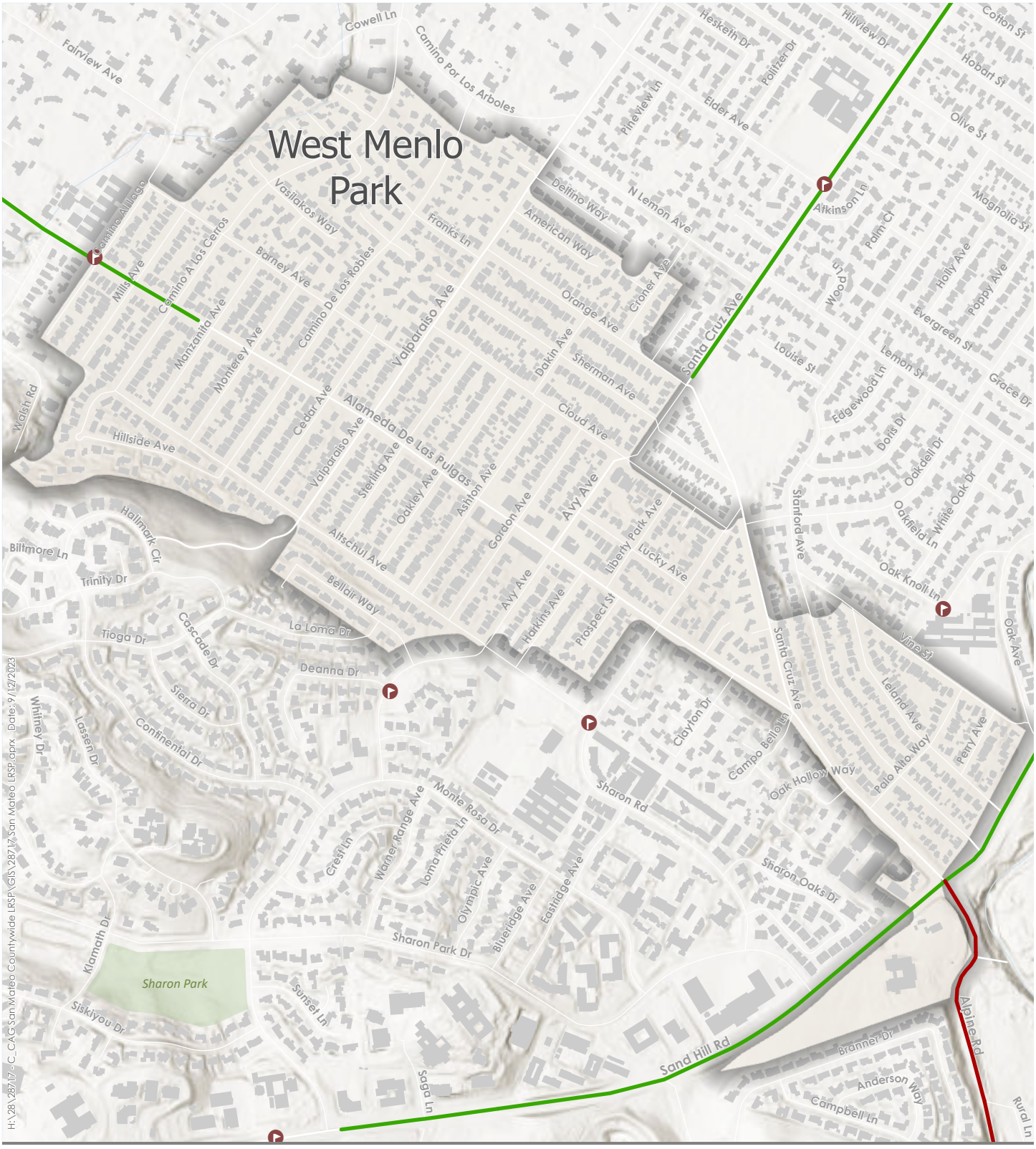


Figure C-54

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN) Unincorporated County - West Menlo Park

KITTELSON & ASSOCIATES

Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

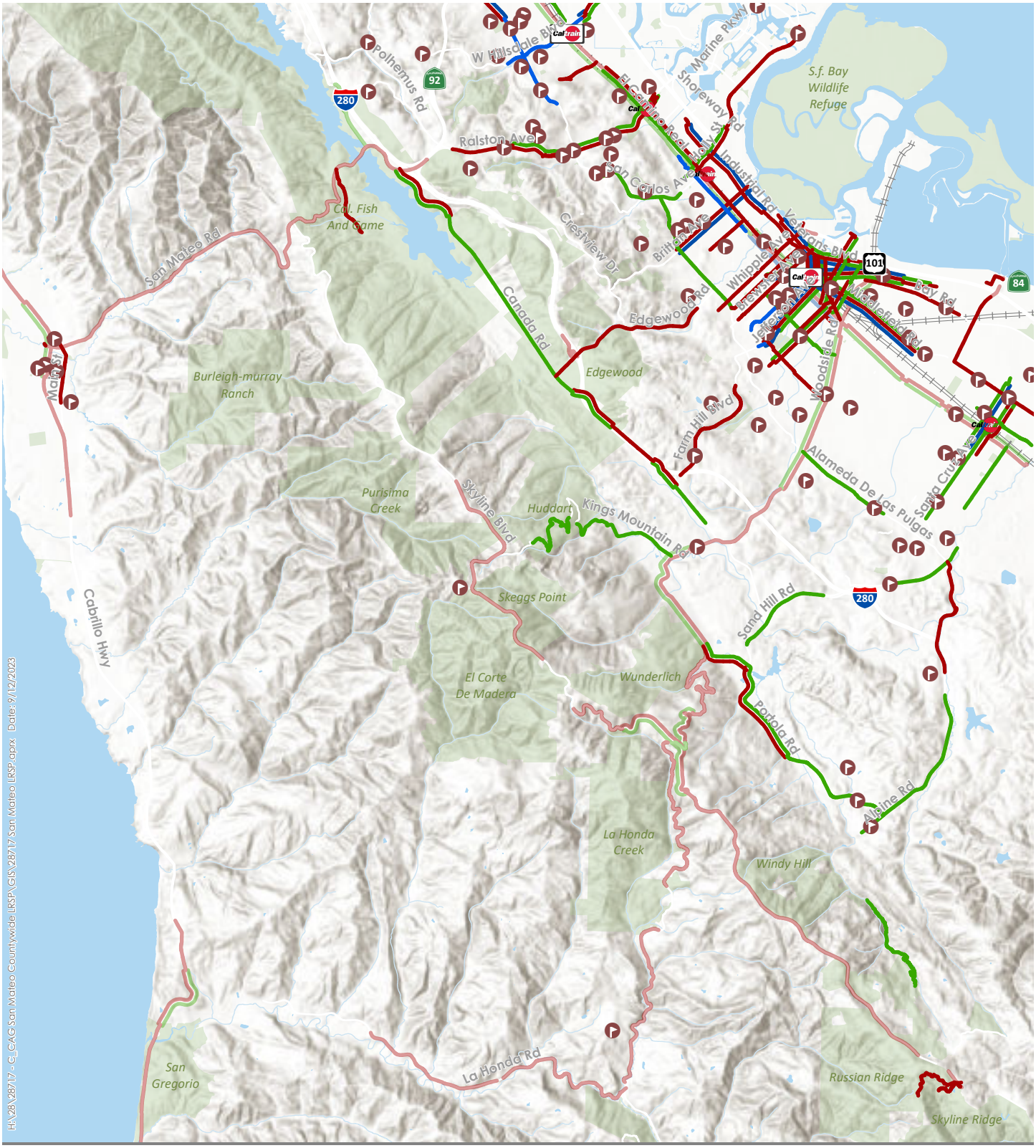
Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.55 1.1 1.7 2.2 2.8 Miles

Figure C-55

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
Unincorporated County - Unincorporated South San Mateo County

KITTELSON & ASSOCIATES



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Schools
BART Station
Caltrain Station
Parks

Non-Highway HIN
Motor Vehicle
Bicycle
Pedestrian

Highway HIN
Motor Vehicle
Bicycle
Pedestrian

0 0.55 1.1 1.7 2.2 2.8 Miles

Figure C-56

Pedestrian + Bicyclist + Motor Vehicle Combined High Injury Network (HIN)
Unincorporated County - Unincorporated Central San Mateo County

KITTELSON & ASSOCIATES

Appendix E
Countywide Combined HIN Locations

0 1 2 3 4 5Miles

- Non-Highway Pedestrian HIN
- Highway Pedestrian HIN
- Schools
- BART Station
- Caltrain Station
- Railroad
- Parks
- Cities
- Unincorporated Places

Daly City
Broadmoor
Colma
Brisbane
South San Francisco
San Bruno
San Francisco International Airport
Pacifica
Millbrae
Burlingame
Hillsborough
Foster City
San Mateo
Belmont
Redwood City
San Carlos
Menlo Park
Atherton
East Palo Alto
Half Moon Bay
Woodside
Portola Valley
La Honda
Loma Mar
Pescadero

Figure P-21

Pedestrian High Injury Network (HIN)
San Mateo County, CA

KITTELSON & ASSOCIATES

H:\28\28717 - C_CAG San Mateo Countywide LRSP\GIS\28717 San Mateo LRSP.aprx Date: 5/15/2024

0 1 2 3 4 5Miles

- Non-Highway Bicyclist HIN
- Highway Bicyclist HIN
- Schools
- BART Station
- Caltrain Station
- Railroad
- Parks
- Cities
- Unincorporated Places

Figure B-21

Bicyclist High Injury Network (HIN)
San Mateo County, CA

KITTELSON & ASSOCIATES

H:\28\28717 - C_CAG San Mateo Countywide LRSP\GIS\28717 San Mateo LRSP.aprx Date: 9/4/2023

0 1 2 3 4 5Miles

- Non-Highway High Injury Network
- Highway High Injury Network
- Schools
- BART Station
- Caltrain Station
- Railroad
- Parks
- Cities
- Unincorporated Places

Figure MV-21

Motor Vehicle High Injury Network (HIN)
San Mateo County, CA

KITTELSON & ASSOCIATES

H:\28\28717 - C_CAG San Mateo Countywide LRSP\GIS\28717 San Mateo LRSP.aprx Date: 9/4/2023

Table 89: Countywide Combined HIN Roadways, sorted Alphabetically

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
2nd Avenue	San Mateo	0.6	X		X
3rd Avenue San Bruno	San Bruno	0.7			X
3rd Avenue San Mateo	San Mateo	1.1	X		X
42nd Avenue	San Mateo	0.7	X		
4th Avenue	San Mateo	0.4	X		
5th Avenue	San Mateo	1.1			X
87th Street	Daly City, Unincorporated	1.2	X		
9th Avenue	San Mateo	0.8			X
Adams Street	Redwood City	0.1	X		
Airport Boulevard	South San Francisco	3.0	X		X
Alameda de las Pulgas	San Carlos, Atherton, Redwood City, Belmont, San Mateo, Unincorporated	6.7	X	X	X
Alpine Road	Portola Valley, Menlo Park, Unincorporated	7.5	X	X	
Amphlett Boulevard	San Mateo, Burlingame	1.5	X		
Avalon Drive	San Bruno, South San Francisco	1.0	X		
Baden Avenue	South San Francisco	1.3	X		X
Bay Road	East Palo Alto, Redwood City, Unincorporated	3.3	X		X
Bayshore Boulevard	South San Francisco, Daly City, Brisbane	2.9	X		X

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Bayshore Rd	East Palo Alto	1.7	X	X	X
Beech Street	Redwood City	0.2	X		
Belmont Avenue	San Carlos	0.6	X		
Brewster Avenue	Redwood City	1.5	X		
Brittan Avenue	San Carlos	1.4	X		X
Broadway	Millbrae	1.3	X		X
Broadway Redwood City	Redwood City	2.5	X	X	X
CA 82	San Mateo	0.1	X		
CA 92	Unincorporated	0.7	X		
California Drive	San Mateo, Burlingame	2.5	X	X	
Canada Road	Woodside, Unincorporated	7.1	X	X	
Capitol Avenue	East Palo Alto	0.2	X		
Carlos Street	Unincorporated	0.0	X		
Chester Street	Daly City, Unincorporated	0.4	X		
Chestnut Avenue	South San Francisco, Unincorporated	0.9	X		X
Chestnut Street	Redwood City	0.8	X	X	
Claremont Street	San Mateo	1.2			X
Clarke Avenue	East Palo Alto	0.3	X		

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Commercial Avenue	South San Francisco	1.3			X
Crocker Avenue	Daly City	1.1			X
Crystal Springs Road	San Bruno	1.1			X
Cypress Avenue	South San Francisco	0.5	X		
Delaware Street	San Mateo	3.6	X	X	X
Donohoe Street	East Palo Alto	0.5	X	X	
Dwight Road	San Mateo, Burlingame	0.6	X		
Eastmoor Avenue	Daly City	0.7	X		
Edgewood Road	Unincorporated	2.5	X		
El Camino Real	San Carlos, Atherton, Menlo Park, Redwood City, Millbrae, San Bruno, Belmont, Hillsborough, San Mateo, Burlingame, South San Francisco, Colma, Unincorporated	23.5	X	X	X
Eucalyptus Avenue	South San Francisco	0.5			X
Farm Hill Boulevard	Woodside, Redwood City	1.8	X		
Foster City Boulevard	Foster City	1.7	X		X

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Gellert Boulevard	South San Francisco, Daly City	2.7	X		X
Geneva Avenue	Daly City	0.8	X		X
Golf Course Drive	Hillsborough, Unincorporated	0.2	X		
Grand Avenue	South San Francisco	3.4	X	X	X
Grant Street	San Mateo	0.6	X		
Guadalupe Canyon Parkway	Daly City, Brisbane, Unincorporated	2.5	X		
Harvey Way	Pacifica	0.1	X		
Haven Avenue	Menlo Park	0.3	X		
Hickey Boulevard	Pacifica, South San Francisco, Daly City	2.8	X		X
Hillcrest Drive	Daly City	0.4	X		
Hillsdale Boulevard	Foster City, San Mateo	3.9	X	X	X
Hillside Boulevard	South San Francisco, Colma, Daly City, Unincorporated	3.1	X		X
Holly Street	San Carlos, Redwood City	1.0	X	X	
Hopkins Avenue	Redwood City	1.3	X		
Howard Avenue	San Mateo, Burlingame	1.1	X		
Hudson Street	Redwood City	1.4		X	

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Humboldt Street	San Mateo, Burlingame	2.0	X	X	X
Huntington Drive	San Bruno, South San Francisco	1.2		X	X
I-280	San Bruno, South San Francisco, Colma, Daly City, Unincorporated	6.6	X	X	X
Industrial Road	San Carlos, Redwood City	2.4	X		X
James Avenue	Redwood City	1.2			X
Jefferson Avenue	Redwood City	1.7	X	X	X
Jenevein Avenue	San Bruno	0.8			X
John Daly Boulevard	Daly City	1.9	X		X
King Drive	Pacifica, South San Francisco, Daly City	1.3	X		
Kings Mountain Road	Woodside, Unincorporated	3.5		X	
La Honda Road	Woodside, Unincorporated	14.0	X	X	
Laurel Street	San Carlos	1.5			X
Laurel Street Menlo Park	Menlo Park	1.0		X	
Lincoln Avenue	Redwood City	0.5	X		
Linda Mar Boulevard	Pacifica	1.9	X	X	X
Linden Avenue	San Bruno, South San Francisco	1.8	X		X

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Lyall Way	Belmont	0.3	X		
Magnolia Avenue	Millbrae, Burlingame	1.5			X
Main Street	Redwood City, Half Moon Bay	2.0	X		
Maple Avenue	South San Francisco	0.7			X
Maple Street	Redwood City	1.2	X	X	
Market Street	Daly City	0.8			X
Marsh Road	Atherton, Menlo Park, Unincorporated	1.3	X		
Menlo Avenue	Menlo Park	0.3	X		
Metro Center Boulevard	Foster City	0.7	X		
Middle Avenue	Menlo Park	1.1		X	
Middlefield Road	Atherton, Menlo Park, Redwood City, Unincorporated	3.8	X	X	X
Millbrae Avenue	Millbrae	1.5	X		X
Miller Avenue	South San Francisco	1.3	X		X
Misson Street	Daly City, Unincorporated	1.9	X		X
Newbridge Street	East Palo Alto, Menlo Park	1.0	X	X	
Norfolk Street	San Mateo	1.9		X	
O'CONNOR Street	East Palo Alto	0.6	X		

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Oak Grove Avenue	Atherton, Menlo Park	1.2		X	X
Old Bayshore Highway	Millbrae, Burlingame	1.4	X		X
Old Canada Road	Unincorporated	1.1	X		
Old County Road	San Carlos, Belmont, Harbor/Industrial	3.4	X	X	
Old Page Mill Road	Unincorporated	0.4	X		
Old Page Mill Trail	Unincorporated	0.1	X		
Orange Avenue	South San Francisco	1.0	X		
Oyster Point Boulevard	South San Francisco	1.1	X		
Palmetto Avenue	Pacifica	2.1	X		
Park Plaza Drive	Daly City	0.4			X
Peninsula Avenue	San Mateo, Burlingame	1.0			X
Pescadero Creek Road	Unincorporated	1.4	X		
Poplar Avenue	San Mateo	1.4	X		X
Portola Road	Portola Valley, Woodside, Unincorporated	4.2	X	X	
Price Street	Daly City	0.8	X		
Pulgas Avenue	East Palo Alto	1.5	X		X

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Railroad Avenue	South San Francisco	0.7	X		
Ralston Avenue	Belmont, Unincorporated	3.5	X	X	
Randolph Avenue	South San Francisco	0.8	X		
Ravenswood Avenue	Atherton, Menlo Park	0.6	X	X	
Redwood Shores Parkway	Redwood City	2.0	X		
Rollins Road	Burlingame	2.4	X		
Roosevelt Avenue	Redwood City	1.2	X	X	
Runnymede Street	East Palo Alto	0.9		X	
SR 1	Half Moon Bay, Pacifica, Unincorporated	30.4	X	X	
SR 35	Woodside, Pacifica, San Bruno, South San Francisco, Daly City, Unincorporated	25.3	X	X	
SR 84	Woodside, Menlo Park	2.6	X		
SR 92	Unincorporated	1.0	X		
San Anselmo Avenue	Millbrae, San Bruno	0.9	X		
San Bruno Avenue	San Bruno, San Francisco International Airport	1.7	X		X
San Carlos Avenue	San Carlos	1.4		X	

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
San Jose Avenue	Daly City	0.2	X		
San Marco Avenue	San Bruno	0.0	X		
San Mateo Avenue	San Bruno, San Bruno	1.4	X		X
San Mateo Avenue SSF	South San Francisco	0.6	X		
San Mateo Drive	San Mateo	1.2	X		
San Mateo Road	Half Moon Bay, Unincorporated	6.6	X		
San Pedro Road	Daly City	0.5	X		
Sand Hill Road	Menlo Park, Unincorporated	2.6		X	
Santa Cruz Avenue	Menlo Park	1.6		X	
Santa Domingo Avenue	San Bruno	0.0	X		
Santa Inez Avenue	San Mateo	0.3	X		
Scofield Street	East Palo Alto	0.1	X		
Sequoia Avenue	Millbrae, Burlingame	0.8			X
Serramonte Boulevard	Colma, Daly City	1.0	X		
Sharp Park Road	Pacifica, San Bruno	2.1	X		

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Shell Boulevard	Foster City	1.1			X
Sierra Point Highway	Brisbane	1.4	X		
Sister Cities Boulevard	South San Francisco	0.9	X		
Sneath Lane	San Bruno	2.0	X		X
Southgate Avenue	Colma, Daly City	3.1	X		X
Spruce Avenue	South San Francisco	1.7	X		X
Stafford Street	San Carlos, Redwood City	0.4	X		
Sullivan Avenue	Daly City, Unincorporated	1.3	X		X
Tilton Avenue	San Mateo	0.8		X	X
US 101	East Palo Alto, Redwood City, South San Francisco	1.2	X		
University Avenue	East Palo Alto, Menlo Park	2.1	X	X	
Valota Road	Redwood City	1.2	X		
Veterans Boulevard	Redwood City	1.7	X	X	X
Walnut Avenue	South San Francisco	0.3			X
Washington Street	Daly City, Unincorporated	0.9	X		X
Westborough Boulevard	San Bruno, South San Francisco, Unincorporated	2.7	X		X

Roadway name	Jurisdiction(s)	Length (mi)	Motor Vehicle HIN	Bicyclist HIN	Pedestrian HIN
Westmoor Avenue	Daly City	0.4	X		
Whipple Road	Redwood City	1.8	X		
Willow Road	East Palo Alto, Menlo Park	2.3	X	X	
Winslow Street	Redwood City	0.8	X		
Woodside Road	Woodside, Redwood City, Unincorporated	7.0	X	X	

APPENDIX F
Violation Definitions

Table 90: Violation codes, definitions, and generalized violation categories

Violation Code	Definition	Generalized Category
21657	The authorities in charge of any highway may designate any highway, roadway, part of a roadway, or specific lanes upon which vehicular traffic shall proceed in one direction at all or such times as shall be indicated by official traffic control devices. When a roadway has been so designated, a vehicle shall be driven only in the direction designated at all or such times as shall be indicated by traffic control devices.	Wrong way travel
21651	Bicyclists riding in the roadway or on a shoulder must ride in the same direction of traffic	Wrong way riding
21663	Must not operate a vehicle on a sidewalk except to enter or exit an adjacent properly	Vehicle on sidewalk
24002	Vehicles, loads, or other roadway equipment must not present a safety hazard and be lawfully equipped	Vehicle load ill-equipped
21209	Must not drive a vehicle in the bicycle lane	Vehicle in bike lane
22106	Must not stop, park, or reverse on a highway unless conditions are safe to do so	Unsafe stop
21712	Must not ride in a portion of a vehicle that is not intended for passengers (e.g., trunk)	Unsafe passenger position
21703	Must allow adequate space between vehicles traveling the same direction on a roadway	Unsafe pass
23336	It is unlawful to violate any rules or regulations adopted under Section 23334, notice of which has been given either by a sign on a vehicular crossing or by publication as provided in Section 23335.	Unknown
22515	Must set the brakes before leaving a vehicle unattended	Unattended vehicle
21960	The Department of Transportation and local authorities, by order, ordinance, or resolution, with respect to freeways, expressways, or designated portions thereof under their respective jurisdictions, to which vehicle access is completely or partially controlled, may prohibit or restrict the use of the freeways, expressways, or any portion thereof by pedestrians, bicycles or other nonmotorized traffic or by any person operating a motor-driven cycle, motorized bicycle, motorized scooter, or electrically motorized board.	Travel prohibited

Violation Code	Definition	Generalized Category
21208	Bicyclists traveling at less than the normal speed of the roadway must travel in the bicycle lane if one is present, except when it is necessary to leave the lane to turn, overtake, or avoid a hazardous condition	Too slow condition
22400	Must not drive slower than a normal speed except when dangerous conditions are present, or stop unexpectedly on a roadway	Too slow condition
22350	Must drive at a reasonable speed	Too fast condition
21760	Must allow three feet of space between the vehicle and bicyclist when overtaking a bicyclist	Three feet safety
21461	Must obey all regulatory signals and signs (applies to pedestrians and drivers)	Disregard signal or sign
21457	Must abide by rules for flashing yellow and red signals	Disregard signal or sign
21229	If a class II bikeway is present, operators of motorized scooters shall ride in the bicycle lane, except when turning, overtaking, or avoiding a hazardous condition	Scooter needs to travel in bike lane
23103	Reckless driving occurs when a driver operates a vehicle with willful disregard for the safety of people or property	Reckless driving
21750	Must pass on the left if overtaking another vehicle	Overtaking
21755	Must only pass another vehicle on the right if able to do so safely	Overtaking
21951	Must not overtake another vehicle that has stopped to yield to a pedestrian	Overtaking
21756	The driver of a vehicle overtaking any interurban electric or streetcar stopped or about to stop for the purpose of receiving or discharging any passenger shall stop the vehicle to the rear of the nearest running board or door of such car and thereupon remain standing until all passengers have boarded the car or upon alighting have reached a place of safety	Overtaking
12500	A person may not drive a motor vehicle upon a highway, unless the person then holds a valid driver license issued under this code, except those persons who are expressly exempted under this code.	No valid license
21235	Motorize scooter violation	Motorized Scooter Violation

Violation Code	Definition	Generalized Category
21955	Pedestrians must cross in the middle of the block only where there is a crosswalk	Illegal mid-block crossing
21211	Must not loiter in a class I bikeway	Loiter in bike lane
21650	Must drive on right half of the highway except when passing another vehicle, making a legal left turn, or when the right half of the roadway is closed	Keep right
22110	The signals required by this chapter shall be given by signal lamp, unless a vehicle is not required to be and is not equipped with turn signals. Drivers of vehicles not required to be and not equipped with turn signals shall give a hand and arm signal when required by this chapter.	Improper signal
22105	Must not make a U-turn in areas where the driver does not have an unobstructed view for 200 feet in both directions	Improper U-turn
22102	Must not make a U-turn in a business district except at intersections or locations where U-Turns are permitted	Improper U-turn
22103	Must not make a U-turn in a residential district when any other vehicle is approaching in either direction within 200 feet, except at an intersection when the approaching vehicle is controlled by a traffic device	Improper U-turn
22107	Must turn in a safe place and use a turn signal	Improper turn
22100	Must make right- and left-hand turns as close as practicable to the right- and left-hand edge of roadway, respectively	Improper turn
22101	Must obey signals and signs indicating turning restrictions, such as no-turn-on-red signs or signals	Improper turn
21717	Whenever it is necessary for the driver of a motor vehicle to cross a bicycle lane that is adjacent to his lane of travel to make a turn, the driver shall drive the motor vehicle into the bicycle lane prior to making the turn and shall make the turn pursuant to Section 22100.	Improper turn
22450	Must stop at stop sign before intersection, or stop line, or crosswalk	Improper stop
22109	No person shall stop or suddenly decrease the speed of a vehicle on a highway without first giving an appropriate signal in the manner provided in this chapter to the driver of any vehicle immediately to the rear when there is opportunity to give the signal.	Improper stop

Violation Code	Definition	Generalized Category
22500	A person shall not stop, park, or leave standing any vehicle whether attended or unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic control device	Improper parking
21658	Must drive within a single lane if roadway has been divided into two or more lanes, unless directed otherwise	Improper lane
23152	Must not drive while under the influence of alcohol	Impairment
23153	Must not drive while under the influence of alcohol and concurrently break the law	Impairment
21206	This chapter does not prevent local authorities, by ordinance, from regulating the registration of bicycles and the parking and operation of bicycles on pedestrian or bicycle facilities, provided such regulation is not in conflict with the provisions of this code	Illegal bicycle operation
20001	Must stop if vehicle is involved in an accident resulting in an injury to a person, other than oneself	Hit and run
20002	The driver of any vehicle involved in an accident resulting only in damage to any property, including vehicles, shall immediately stop the vehicle at the nearest location that will not impede traffic or otherwise jeopardize the safety of other motorists.	Hit and run
21950	Must yield to pedestrian crossing the roadway at an intersection	Failure to yield to pedestrian
21952	Must yield to pedestrian before driving over or on any sidewalk	Failure to yield to pedestrian
21801	Must yield to oncoming traffic before turning left or making a U-Turn	Failure to yield – driver left turn
21804	Must yield to traffic when entering or crossing a highway	Failure to yield
21954	Pedestrians must yield right-of-way to vehicles except when at a marked crosswalk or an unmarked crosswalk at an intersection	Failure to yield
21800	Must yield to drivers already in an intersection when approaching an intersection	Failure to yield
21456	Pedestrians must obey pedestrian signal heads but must yield to vehicles legally in the intersection at the time that the signal is first shown	Failure to yield

Violation Code	Definition	Generalized Category
21803	Drivers must obey yield signs at intersections controlled by a yield right-of-way sign	Failure to yield intersection
21451	A driver facing a circular green signal shall proceed straight through or turn right or left or make a U-turn unless a sign prohibits a U-turn. Any driver, including one turning, shall yield the right-of-way to other traffic and to pedestrians lawfully within the intersection or an adjacent crosswalk.	Failure to yield intersection
21707	No motor vehicle, except an authorized emergency vehicle or a vehicle of a duly authorized member of a fire or police department, shall be operated within the block wherein an emergency situation responded to by any fire department vehicle exists, except that in the event the nearest intersection to the emergency is more than 300 feet therefrom, this section shall prohibit operation of vehicles only within 300 feet of the emergency, unless directed to do so by a member of the fire department or police department, sheriff, deputy sheriff, or member of the California Highway Patrol.	Failure to yield emergency
22108	Any signal of intention to turn right or left shall be given continuously during the last 100 feet traveled by the vehicle before turning.	Failure to signal turn
21802	Must stop at stop sign and yield to drivers that do not have a stop sign	Fail to stop
21807	Drivers of emergency vehicles must drive with regard for the safety of all people and property	Emergency vehicle unsafe
21752	Must not drive on the left side of a roadway when approaching a grade or curve, or when the drivers vision is obstructed within 100 feet of a railroad crossing, intersection, bridge, or tunnel	Driving left of centerline
21203	Must not attach oneself to a streetcar or vehicle on the roadway if traveling by bicycle, motorcycle, skates, sled, or motorized bicycle	Drag tow
22517	Must not open vehicle door on the same side as moving traffic unless it will not interfere with moving traffic	Dooring
21460	Must not cross double parallel solid yellow or white lines	Do not cross solid line
23123	A person shall not drive a motor vehicle while using a wireless telephone unless that telephone is specifically designed and configured to allow hands-free listening and talking, and is used in that manner while driving.	Distracted phone

Violation Code	Definition	Generalized Category
27400	A person operating a motor vehicle or bicycle may not wear a headset covering, earplugs in, or earphones covering, resting on, or inserted in, both ears.	Distracted headphones
21453	Must stop at red light	Disregard signal
21202	Bicyclists must ride as close as practicable to the right-hand edge of the road, except when passing, preparing for a left-turn, avoiding roadway hazards, or preparing to turn right	Close practicable
21662	Must maintain control of vehicles on all roads and drive on the right side of the roadway if no center line is present	Close practicable
21751	Must not drive left of center on a two-lane roadway, except to pass	Close practicable
21956	Pedestrians must walk close to the right- or left-hand edge of the roadway	Close practicable
21200	Bicyclists must abide by the same rules as vehicle drivers	Bike-Vehicle violation
21201	Must not ride a bicycle on a roadway unless it is equipped with brakes, lights, and reflectors	Bike illegal equipment

Appendix D

Project Priority Location Memo

KITTELSON & ASSOCIATES
155 Grand Avenue, Suite 505
Oakland, CA 94612

TECHNICAL MEMORANDUM

November 13, 2023 Project# 28717

To: Jeff Lacap, Eva Gaye, Participating Agencies

From: Kittelson & Associates, Inc.

CC: C/CAG LRSP Advisory Group Members

RE: C/CAG Regional LRSP – Draft Project List and Methodology

INTRODUCTION AND SUMMARY

INTRODUCTION

As part of the C/CAG Local Roadway Safety Plan (LRSP), Kittelson and Safe Streets Research & Consulting (SSRC) have developed draft priority project lists for each participating agencies. This memo provides those draft lists, explains the methodology used to prioritize project locations, and identifies next steps for participating agencies and for the project team.

This memo is organized as follows:

- Introduction and Summary
- Prioritization Process
- Next Steps
- Attachments
  - Attachment 1: Draft Prioritized Project Lists
  - Attachment 2: Draft Prioritized Project Maps
  - Attachment 3: Explanation of Social Equity Scoring

SUMMARY AND NEXT STEPS

INCLUDED IN THIS DELIVERABLE

This deliverable includes draft prioritized intersections and corridors per jurisdiction by mode (motor vehicle, pedestrian, and bicyclist) for each of the 11 participating agencies. Using a three-part prioritization comprised of crash history, social equity, and systemic risk factors, we have:

- Scored all intersections in the jurisdiction and provided a ranked list that includes at least 10 non-state highway locations. A list may be longer than 10 locations for two reasons:
  - We included state highway locations on the list for completeness but included as many total locations as necessary to achieve at least 10 non-state highway locations.
  - In the event that several locations had the same prioritization score, we included all tied locations so that the list would equal 10 or more locations.
- Developed priority project corridors that represent roadways with a high number and/or concentration of priority intersection locations.

PROJECT TEAM NEXT STEPS

Once we receive participating agency feedback, we will:

- Finalize the intersection and segment lists. For example, a participating agency may want to truncate a list in the event of tied scores and/or remove state highway locations.
- Develop up to two project scopes per jurisdiction and develop benefit-cost ratios for those project scopes. Project scopes include a description of the project location and extents, along with recommended safety treatments.

PARTICIPATING AGENCY NEXT STEPS

To facilitate project team next steps, participating agencies will:

- Give feedback on any locations they believe should be removed or added to the lists. For example, an agency may prefer to:
    - Remove all intersections on state highways and all state highway segments.
    - Remove locations that have recent or imminent safety projects constructed or to be constructed.
    - Remove locations such that the total number of locations is lower than what is presented here (e.g., remove locations with tied scores or end up with ten total locations instead of ten per mode).
    - Add a location that ought to be prioritized for reasons other than those listed in this memo.
- Give feedback on the types of project scopes desired (which may include selecting from among listed locations or identifying desired types of projects). A project scope may be:
    - A systemic, low cost application of safety countermeasure(s) at a number of locations or along a corridor.
    - A combination of treatments at a single, high-crash location.

PRIORITIZATION PROCESS

In discussion with C/CAG and to incorporate best practices, we used three equally weighted **factors** (33.3% each) to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. (Using systemic factors emphasizes a proactive rather than purely reactive approach.)

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 1, Figure 2, and Figure 3).

For all modes, the three factors are each weighted equally. For crash history and social equity, the constituent criteria make up equal parts of the prioritization and are the same across modes. For systemic characteristics, there are some differences across modes:

- We added in relevant systemic characteristics based on the results of the Task 3 Existing Conditions Analysis, with different characteristics per mode.
- Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

More details on the criteria are provided in the next section.

Figure 1. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100%)

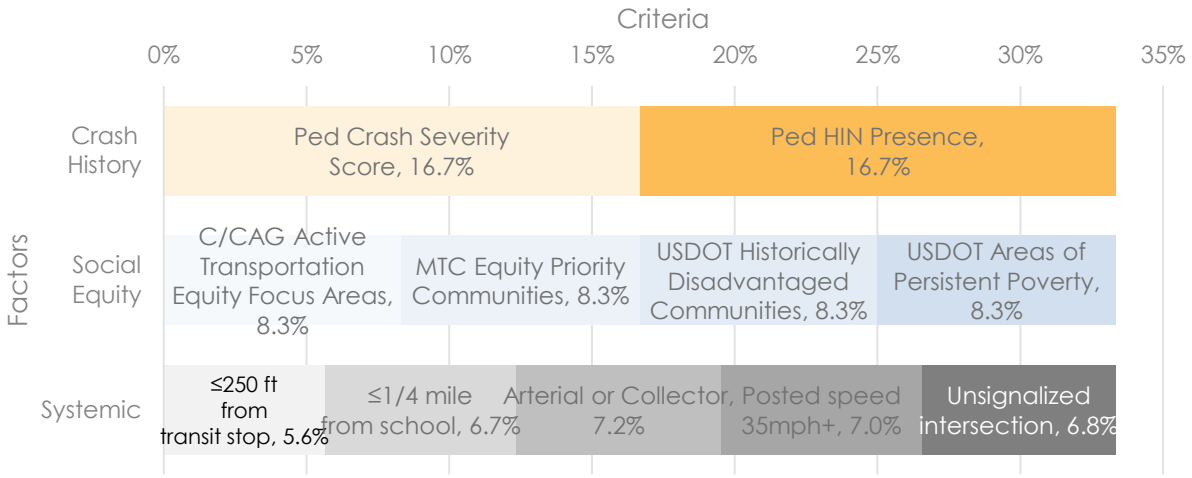


Figure 2. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100%)

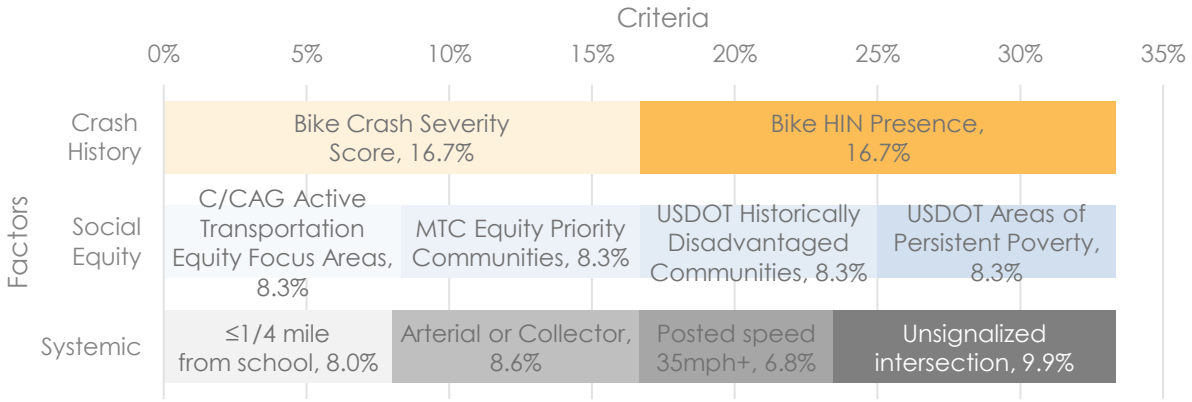
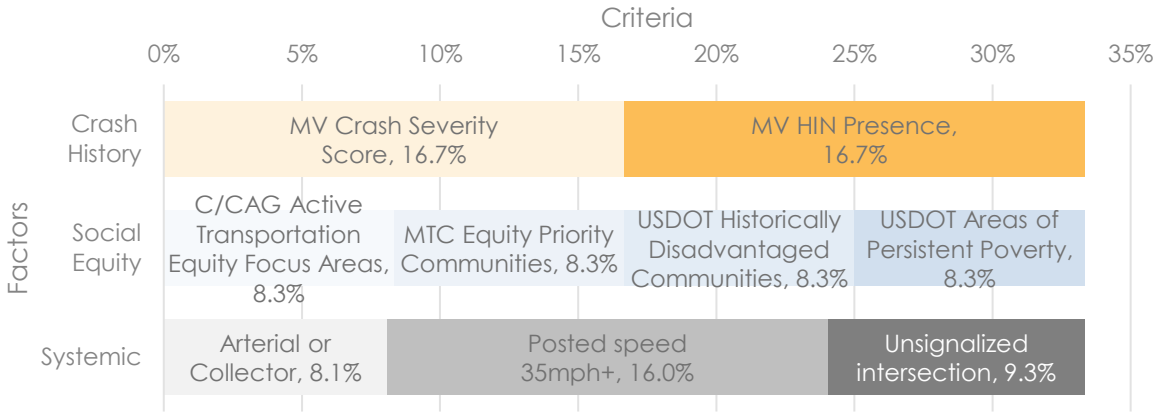


Figure 3. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100%)



CRASH HISTORY

The crash history factor is comprised of two criteria. First, the five-year mode-specific crash severity score was calculated for each location (intersections and roadways).[1] Additionally, locations were prioritized if they are on the identified High Injury Network (HIN). The resulting total scores range from 0 to a maximum of 2.

Table 1. Crash History Criteria Scoring

Crash History Criteria	Measure	Scoring
Crash severity score (mode-specific)	Five-year crash severity score	Five-year crash severity score, proportionally scored (each location divided by the maximum observed score) **Continuous scores:** 0: no five-year mode-specific crash history *through* 1: maximum observed mode-specific countywide crash history
High Injury Network (HIN) Presence (mode-specific)	Location is on the mode-specific HIN	**Binary Scores:** 0: location is not on the mode-specific HIN *or* 1: location is on the mode-specific HIN

SOCIAL EQUITY

The next factor for project prioritization is whether each location is within identified social equity areas. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. For example, Safe Streets for All (SS4A) funding eligibility utilizes the USDOT Historically Disadvantaged Communities and Areas of Persistent Poverty (APP) when reviewing grant applications.

Table 2 presents the social equity criteria used to calculate the overall factor scores. See Attachment 3 for an explanation of the scoring method. The resulting total scores range from 0 to a theoretical maximum of 4.

[1] The severity score uses the equivalent property damage only (EPDO) framework which accounts for frequency and severity. The EPDO framework and scores were described in the Task 3 Existing Conditions Analysis memo.

Table 2. Social Equity Metrics and Scoring

Social Equity Criterion	Measure	Scoring
C/CAG Active Transportation Equity Focus Areas (EFAs)	Areas with equity scores of 0.8 or greater were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within EFA at all *through* 1: 100-foot buffer completely within EFA
MTC Equity Priority Communities (EPCs)	Areas within any equity classification (i.e., high, higher, or highest) for 2050 were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within EPC at all *through* 1: 100-foot buffer completely within EPC
USDOT Historically Disadvantaged Communities (HDDs)	Census tracts that are flagged as Historically Disadvantaged were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within HDD at all *through* 1: 100-foot buffer completely within HDD
USDOT Areas of Persistent Poverty (APPs)	Census tracts that are flagged as Areas of Persistent Poverty were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within APP at all *through* 1: 100-foot buffer completely within APP

SYSTEMIC CHARACTERISTICS

To emphasize a proactive approach rather than a purely reactive one, we included the presence of systemic characteristics as a factor. Systemic characteristics are roadway, land use, and environmental factors that, based on the Task 3 Existing Conditions analysis, are shown to be associated with higher crash frequency and severity countywide compared to other characteristics.

Table 3 presents the systemic criteria used to calculate the overall factor scores. Refer back to Figure 1, Figure 2, and Figure 3 for a visual illustration of the relative weight of the systemic criteria for each mode.

Table 3. Systemic Characteristics and Scoring

Systemic Characteristics Criterion	Mode(s)	Measure	Scoring[1]
Functional classification	All modes	Functional classification is an arterial or collector road (either roadway, if intersection)	**Binary Weighted Scores:** 0 – location is not on an arterial or collector road 42.8 (ped) / 32.7 (bike) / 19.3 (MV): location is on an arterial or collector road
Highest posted speed	All modes	Highest posted speed is 35 miles per hour or greater (either roadway, if intersection)	**Binary Weighted Scores:** 0: location is not on a road with a posted speed limit of 35 mph or greater 42.1 (ped) / 25.7 (bike) / 38.1 (MV): location is on a road with a posted speed limit of 35 mph or greater
Unsignalized intersection	All modes	Intersection is unsignalized	**Binary Weighted Scores:** 0 – location is at a signalized intersection 40.5 (ped) / 37.4 (bike) / 22.2 (MV): location is at an unsignalized intersection
Schools	Pedestrian and Bicycle	Location is within ¼ mile of a school	**Binary Weighted Scores:** 0: location is not within 1/4 mi of a school 30.3 (Bike) / 33.7 (ped): location is within 1/4 mi of a school
Transit Stops	Pedestrian	Location is within 250 feet of a transit stop	**Binary Weighted Scores:** 0: location is not within 250' of a transit stop 33.7: location is within 250' of a transit stop

1 The scores reflect the average severity score for all crashes meeting that description. These average severity scores then provide relative weights for each systemic characteristic to emphasize the characteristics associated with higher average crash severity.

The resulting total scores range from 0 to a theoretical maximum of 199.2 (pedestrian), 126.1 (bicycle), and 79.6 (motor vehicle).

PUTTING IT ALL TOGETHER: PROJECT PRIORITIZATION

The three factors and constituent criteria were combined according Table 4, resulting in overall pedestrian, bicycle, and motor scores for every location. Factor scores were normalized to all range from 0 to 1 and be equally weighted, for a theoretical maximum overall score of 3.

Table 4. Prioritization Scoring

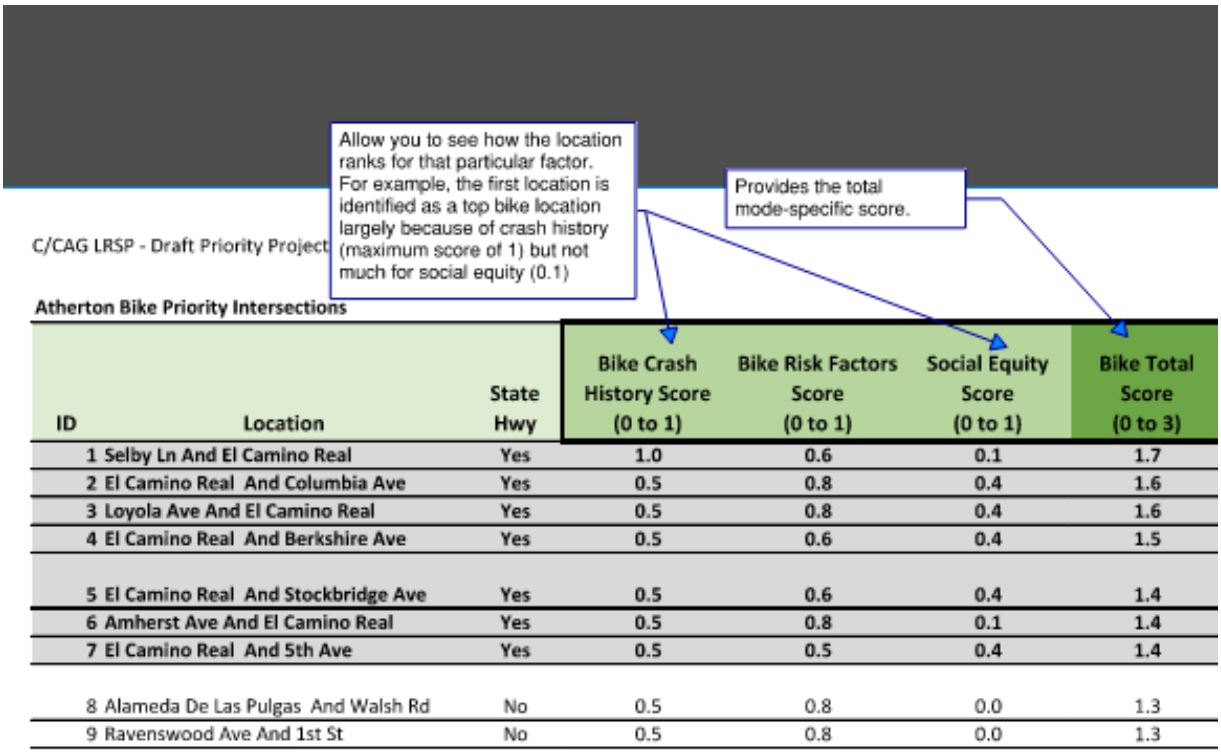
Factor	Factor calculation	Criteria	Proposed Factor Weight	Criterion Weight Overall		
				Ped	Bike	MV
1. Crash History	Sum of 2 criteria. Normalize by dividing by maximum score.	1. Mode-specific EPDO	33.3%	16.7%		
		2. Mode-specific HIN presence		16.7%		
2. Social Equity	Sum of 4 criteria. Normalize by dividing by maximum score.	1. C/CAG Equity Focus Area. Binary	33.3%	8.3%		
		2. MTC Equity Priority Communities		8.3%		
		3. USDOT Areas of Persistent Poverty		8.3%		
		4. USDOT Historically Disadvantaged Communities		8.3%		
3. Systemic Characteristics	Sum of 3 to 5 criteria.[1] Normalize by dividing by maximum score.	Highest functional class arterial or collector	33.3%	7.2%	8.6%	8.1%
		Highest posted speed ≥35 mph		7.0%	6.8%	16.0%
		Unsignalized intersection (or for roadway segments, presence of any unsignalized intersections on the segment)		6.8%	9.9%	9.3%
		5. ≤1/4 mile from school		6.7%	8.0%	-
		≤250 feet from a transit stop		5.6%	-	-

1 See Table 3 for pedestrian related systemic characteristics.
2 See Table 3 for bicycle related systemic characteristics.
3 See Table 3 for motor vehicle related systemic characteristics.

Attachment 1
Draft Prioritized Project Lists

This attachment provides jurisdiction-specific, mode-specific priority location tables.

Each table provides the following:



C/CAG LRSP - Draft Priority Project

Atherton Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)
1	Selby Ln And El Camino Real	Yes	1.0	0.6	0.1	1.7
2	El Camino Real And Columbia Ave	Yes	0.5	0.8	0.4	1.6
3	Loyola Ave And El Camino Real	Yes	0.5	0.8	0.4	1.6
4	El Camino Real And Berkshire Ave	Yes	0.5	0.6	0.4	1.5
5	El Camino Real And Stockbridge Ave	Yes	0.5	0.6	0.4	1.4
6	Amherst Ave And El Camino Real	Yes	0.5	0.8	0.1	1.4
7	El Camino Real And 5th Ave	Yes	0.5	0.5	0.4	1.4
8	Alameda De Las Pulgas And Walsh Rd	No	0.5	0.8	0.0	1.3
9	Ravenswood Ave And 1st St	No	0.5	0.8	0.0	1.3

November 10, 2023

Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
ATH_1	ATH_7	ATH_15	237	203	393	833
ATH_2	ATH_1	ATH_2	40	0	0	40
ATH_3	ATH_2	ATH_3	0	0	0	0
ATH_4	ATH_5	ATH_8	11	0	0	11
ATH_5	ATH_6	ATH_5	12	0	0	12
ATH_6	ATH_4	ATH_6	6	0	0	6
ATH_7	ATH_3	ATH_4	68	11	11	90
ATH_8	ATH_32	ATH_9	0	0	0	0
ATH_8	ATH_32	ATH_20	0	0	0	0
ATH_8	ATH_32	ATH_20	0	0	0	0
ATH_11	ATH_10	ATH_19	23	0	0	23
ATH_12	ATH_12	ATH_13	6	0	0	6

Atherton Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Middlefield Rd And Oak Grove Ave	No	0.5	0.6	0.0	1.1	ATH_1	ATH_287	ATH_28	35	6	28	69
2	**El Camino Real And Columbia Ave**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_2**	**ATH_1**	**ATH_2**	**40**	**0**	**0**	**40**
3	**Loyola Ave And El Camino Real**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_3**	**ATH_2**	**ATH_3**	**0**	**0**	**0**	**0**
4	**El Camino Real And 5th Ave**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_4**	**ATH_3**	**ATH_7**	**68**	**11**	**11**	**90**
5	**El Camino Real And Stockbridge Ave**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_5**	**ATH_6**	**ATH_5**	**12**	**0**	**0**	**12**
6	**Amherst Ave And El Camino Real**	**Yes**	**0.0**	**0.8**	**0.1**	**0.9**	**ATH_6**	**ATH_4**	**ATH_6**	**6**	**0**	**0**	**6**
7	Oak Grove Ave And Oak Grove Ave	No	0.5	0.4	0.0	0.9	ATH_7	ATH_58	ATH_25	0	0	0	0
8	**El Camino Real And Berkshire Ave**	**Yes**	**0.0**	**0.4**	**0.4**	**0.9**	**ATH_8**	**ATH_5**	**ATH_4**	**11**	**0**	**0**	**11**
9	Alameda De Las Pulgas And Walsh Rd	No	0.0	0.8	0.0	0.8	ATH_9	ATH_32	ATH_8	0	0	0	0
10	Lane Pl And Middlefield Rd	No	0.0	0.8	0.0	0.8	ATH_9	ATH_32	ATH_30	0	0	23	23
11	De Bell Dr And Middlefield Rd	No	0.0	0.8	0.0	0.8	ATH_9	ATH_27	ATH_32	6	0	0	6
12	Middlefield Rd And San Benito Ave	No	0.0	0.8	0.0	0.8	ATH_9	ATH_27	ATH_32	6	0	0	6
13	Glenwood Ave And Laurel St	No	0.0	0.8	0.0	0.8	ATH_13	ATH_12	ATH_12	6	0	0	6
14	Valparaiso Ave And Lee Dr	No	0.0	0.8	0.0	0.8	ATH_13	ATH_13	ATH_42	0	0	0	0
15	**Selby Ln And El Camino Real**	**Yes**	**0.2**	**0.4**	**0.1**	**0.7**	**ATH_15**	**ATH_7**	**ATH_1**	**237**	**203**	**393**	**833**
16	Middlefield Rd And Encina Ave	No	0.0	0.6	0.1	0.7	ATH_16	ATH_18	ATH_29	0	0	0	0
17	Middlefield Rd And Ravenswood Ave	No	0.0	0.6	0.0	0.6	ATH_17	ATH_16	ATH_43	22	6	6	34
18	Middlefield Rd And Ringwood Ave	No	0.0	0.6	0.0	0.6	ATH_17	ATH_17	ATH_44	11	6	0	17

Note: Gray shaded cells are locations on the State Highway Network.

Atherton Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Selby Ln And El Camino Real**	**Yes**	**1.0**	**0.6**	**0.1**	**1.7**	**ATH_1**	**ATH_7**	**ATH_15**	**237**	**203**	**393**	**833**
2	**El Camino Real And Columbia Ave**	**Yes**	**0.5**	**0.8**	**0.4**	**1.6**	**ATH_2**	**ATH_1**	**ATH_2**	**40**	**0**	**0**	**40**
3	**Loyola Ave And El Camino Real**	**Yes**	**0.5**	**0.8**	**0.4**	**1.6**	**ATH_3**	**ATH_2**	**ATH_3**	**0**	**0**	**0**	**0**
4	**El Camino Real And Berkshire Ave**	**Yes**	**0.5**	**0.6**	**0.4**	**1.5**	**ATH_4**	**ATH_5**	**ATH_8**	**11**	**0**	**0**	**11**
5	**El Camino Real And Stockbridge Ave**	**Yes**	**0.5**	**0.6**	**0.4**	**1.4**	**ATH_5**	**ATH_6**	**ATH_5**	**12**	**0**	**0**	**12**
6	**Amherst Ave And El Camino Real**	**Yes**	**0.5**	**0.8**	**0.1**	**1.4**	**ATH_6**	**ATH_4**	**ATH_6**	**6**	**0**	**0**	**6**
7	**El Camino Real And 5th Ave**	**Yes**	**0.5**	**0.5**	**0.4**	**1.4**	**ATH_7**	**ATH_3**	**ATH_4**	**68**	**11**	**11**	**90**
8	Alameda De Las Pulgas And Walsh Rd	No	0.5	0.8	0.0	1.3	ATH_8	ATH_32	ATH_9	0	0	0	0
9	Ravenswood Ave And 1st St	No	0.5	0.8	0.0	1.3	ATH_8	ATH_32	ATH_20	0	0	0	0
10	Callado Way And Alameda De Las Pulgas	No	0.5	0.8	0.0	1.3	ATH_8	ATH_32	ATH_20	0	0	0	0
11	Alameda De Las Pulgas And Stockbridge Ave	No	0.5	0.8	0.0	1.3	ATH_11	ATH_10	ATH_19	23	0	0	23
12	Glenwood Ave And Laurel St	No	0.5	0.7	0.0	1.2	ATH_12	ATH_12	ATH_13	6	0	0	6
13	**Wilburn Ave And El Camino Real**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_13**	**ATH_8**	**ATH_41**	**11**	**0**	**0**	**11**
14	Fletcher Dr And Alameda De Las Pulgas	No	0.5	0.6	0.0	1.1	ATH_14	ATH_32	ATH_29	0	0	11	11
15	Alameda De Las Pulgas And Atherton Ave	No	0.5	0.6	0.0	1.1	ATH_14	ATH_32	ATH_29	0	0	11	11
16	**El Camino Real And Isabella Ave**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_22**	**ATH_29**	**18**	**0**	**0**	**18**
17	**El Camino Real And Ashfield Rd**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_27**	**ATH_29**	**6**	**0**	**0**	**6**
18	**Maple Ave And El Camino Real**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_27**	**ATH_43**	**6**	**0**	**0**	**6**
19	**El Camino Real And Walnut Ave**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_29**	**0**	**0**	**0**	**0**
20	Alameda De Las Pulgas And Polhemus Ave	No	0.5	0.6	0.0	1.1	ATH_16	ATH_32	ATH_29	0	0	0	0
21	Alameda De Las Pulgas And Karen Way	No	0.5	0.6	0.0	1.1	ATH_16	ATH_32	ATH_43	0	0	0	0
22	**El Camino Real And Tuscaloosa Ave**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_43**	**0**	**0**	**0**	**0**
23	**El Camino Real And Redwood Way**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_43**	**0**	**0**	**0**	**0**
24	**El Camino Real And Lloyden Dr**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_43**	**0**	**0**	**0**	**0**
25	Oak Grove Ave And Oak Grove Ave	No	0.5	0.5	0.0	1.0	ATH_25	ATH_58	ATH_7	0	0	0	0
26	Oak Grove Ave And De Bell Dr	No	0.5	0.5	0.0	1.0	ATH_25	ATH_58	ATH_55	0	0	0	0
27	Laurel St And Fennwood Estate Dvwy	No	0.5	0.5	0.0	1.0	ATH_25	ATH_58	ATH_55	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Atherton Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**El Camino Real And Columbia Ave**	**Yes**	**0.5**	**1.0**	**0.4**	**1.9**	**ATH_1**	**ATH_2**	**ATH_2**	**40**	**0**	**0**	**40**
2	**Loyola Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.4**	**1.9**	**ATH_2**	**ATH_3**	**ATH_3**	**0**	**0**	**0**	**0**
3	**El Camino Real And 5th Ave**	**Yes**	**0.6**	**0.7**	**0.4**	**1.7**	**ATH_3**	**ATH_4**	**ATH_7**	**68**	**11**	**11**	**90**
4	**Amherst Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.1**	**1.6**	**ATH_4**	**ATH_6**	**ATH_6**	**6**	**0**	**0**	**6**
5	**El Camino Real And Berkshire Ave**	**Yes**	**0.5**	**0.5**	**0.4**	**1.5**	**ATH_5**	**ATH_8**	**ATH_4**	**11**	**0**	**0**	**11**
6	**El Camino Real And Stockbridge Ave**	**Yes**	**0.5**	**0.5**	**0.4**	**1.4**	**ATH_6**	**ATH_5**	**ATH_5**	**12**	**0**	**0**	**12**
7	**Selby Ln And El Camino Real**	**Yes**	**0.7**	**0.5**	**0.1**	**1.3**	**ATH_7**	**ATH_15**	**ATH_1**	**237**	**203**	**393**	**833**
8	**Wilburn Ave And El Camino Real**	**Yes**	**0.5**	**0.5**	**0.0**	**1.1**	**ATH_8**	**ATH_41**	**ATH_13**	**11**	**0**	**0**	**11**
9	**El Camino Real And Almendral Ave**	**Yes**	**0.5**	**0.5**	**0.0**	**1.0**	**ATH_9**	**ATH_28**	**ATH_47**	**6**	**11**	**0**	**17**
10	Alameda De Las Pulgas And Stockbridge Ave	No	0.0	1.0	0.0	1.0	ATH_10	ATH_19	ATH_11	23	0	0	23
11	Robert S Dr And Valparaiso Ave	No	0.0	0.8	0.0	0.8	ATH_11	ATH_52	ATH_96	11	0	0	11
12	Glenwood Ave And Laurel St	No	0.0	0.8	0.0	0.8	ATH_12	ATH_13	ATH_12	6	0	0	6
13	Valparaiso Ave And Lee Dr	No	0.0	0.8	0.0	0.8	ATH_13	ATH_13	ATH_42	0	0	0	0
14	Elder Ave And Atherton Oaks Ln	No	0.0	0.8	0.0	0.8	ATH_13	ATH_37	ATH_95	0	0	11	11
15	Park Ln And Valparaiso Ave	No	0.0	0.8	0.0	0.8	ATH_13	ATH_52	ATH_96	0	0	0	0
16	Middlefield Rd And Ravenswood Ave	No	0.0	0.7	0.0	0.7	ATH_16	ATH_17	ATH_43	22	6	6	34
17	Middlefield Rd And Ringwood Ave	No	0.0	0.7	0.0	0.7	ATH_17	ATH_17	ATH_44	11	6	0	17
18	Middlefield Rd And Encina Ave	No	0.0	0.5	0.1	0.6	ATH_18	ATH_16	ATH_29	0	0	0	0
19	**El Camino Real And Spruce Ave**	**Yes**	**0.0**	**0.5**	**0.0**	**0.6**	**ATH_19**	**ATH_43**	**ATH_47**	**39**	**0**	**0**	**39**
20	Middlefield Rd And Palmer Ln	No	0.0	0.5	0.0	0.5	ATH_20	ATH_29	ATH_47	23	0	0	23
21	Middlefield Rd And Watkins Ave	No	0.0	0.5	0.0	0.5	ATH_20	ATH_43	ATH_45	23	0	11	34

Note: Gray shaded cells are locations on the State Highway Network.

Atherton Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
ATH_1	Atherton	El Camino Real, Berkshire Avenue to Spruce Avenue (E to W town limits)	Yes	1.3	10	15	7	17
ATH_2	Atherton	Alameda De Las Pulgas, Stockbridge Avenue to Cam Al Lago (E to W town limits)	No	0.9	1	7	1	7
ATH_3	Atherton	Valparaiso Avenue, Camino Por Los Arboles to Victoria Drive	No	1.1	4	0	1	4
ATH_4	Atherton	Middlefield Road, Encina Avenue to Ringwood Avenue	No	1.7	5	0	7	9

Belmont Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Alameda De Las Pulgas And Monroe Ave	No	0.5	0.8	0.0	1.3	BEL_1	BEL_53	BEL_47	11	0	0	11
2	Alameda De Las Pulgas And Cipriani Blvd	No	0.5	0.8	0.0	1.3	BEL_1	BEL_58	BEL_47	0	0	0	0
3	Alameda De Las Pulgas And Lyon Ave	No	0.5	0.8	0.0	1.3	BEL_1	BEL_58	BEL_47	0	0	0	0
4	Alameda De Las Pulgas And Forest Ave	No	0.5	0.6	0.0	1.1	BEL_4	BEL_58	BEL_47	0	0	0	0
5	Pullman Ave And Lyall Way	No	0.0	1.0	0.0	1.0	BEL_5	BEL_7	BEL_2	247	11	0	258
6	Davis Dr And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_6	BEL_12	BEL_2	11	0	0	11
7	Ralston Ave And Belmont Canyon Rd	No	0.0	1.0	0.0	1.0	BEL_6	BEL_14	BEL_2	0	0	0	0
8	Merry Moppet Ln And Ralston Ave	No	0.0	0.8	0.0	0.8	BEL_8	BEL_14	BEL_1	0	0	11	11
9	Belmont Canyon Rd (W) And Ralston Ave	No	0.0	0.8	0.0	0.8	BEL_8	BEL_6	BEL_40	263	0	0	263
10	Belmont Canyon Rd € And Ralston Ave	No	0.0	0.8	0.0	0.8	BEL_8	BEL_14	BEL_40	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Belmont Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Merry Moppet Ln And Ralston Ave	No	0.5	1.0	0.0	1.5	BEL_1	BEL_14	BEL_8	0	0	11	11
2	Pullman Ave And Lyall Way	No	0.5	1.0	0.0	1.5	BEL_2	BEL_7	BEL_5	247	11	0	258
3	Davis Dr And Ralston Ave	No	0.5	1.0	0.0	1.5	BEL_2	BEL_12	BEL_6	11	0	0	11
4	Ralston Ave And Belmont Canyon Rd	No	0.5	1.0	0.0	1.5	BEL_2	BEL_14	BEL_6	0	0	0	0
5	Ralston Ave And Academy Ave	No	0.5	0.8	0.0	1.3	BEL_5	BEL_58	BEL_42	0	0	22	22
6	Ralston Ave And Maywood Dr	No	0.5	0.8	0.0	1.3	BEL_6	BEL_53	BEL_39	11	11	11	33
7	Ralston Ave And Furlong St	No	0.5	0.8	0.0	1.3	BEL_6	BEL_47	BEL_42	33	0	11	44
8	Ralston Ave And Villa Ave	No	0.5	0.8	0.0	1.3	BEL_6	BEL_58	BEL_42	0	0	11	11
9	Ralston Ave And Chula Vista Dr	No	0.5	0.8	0.0	1.3	BEL_9	BEL_48	BEL_21	22	11	0	33
10	Granada St And Ralston Ave	No	0.5	0.8	0.0	1.3	BEL_9	BEL_48	BEL_27	22	0	0	22
11	Notre Dame Ave And Ralston Ave	No	0.5	0.8	0.0	1.3	BEL_9	BEL_53	BEL_42	11	0	0	11
12	Ralston Ave And Misty Ln	No	0.5	0.8	0.0	1.3	BEL_9	BEL_53	BEL_42	11	0	0	11
13	Ralston Ave And Chevy St	No	0.5	0.8	0.0	1.3	BEL_9	BEL_58	BEL_42	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Belmont Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Anita Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_1**	**BEL_34**	**BEL_16**	**22**	**0**	**0**	**22**
2	**Ruth Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_2**	**BEL_11**	**BEL_16**	**17**	**0**	**0**	**17**
3	**El Camino Real And Belmont Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_2**	**BEL_31**	**BEL_16**	**17**	**22**	**0**	**39**
4	**El Camino Real And North Rd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_4**	**BEL_11**	**BEL_16**	**6**	**0**	**0**	**6**
5	**El Camino Real And Davey Glen Rd**	**Yes**	**0.5**	**0.7**	**0.0**	**1.2**	**BEL_5**	**BEL_23**	**BEL_29**	**17**	**0**	**0**	**17**
6	Belmont Canyon Rd (W) And Ralston Ave	No	0.2	1.0	0.0	1.2	BEL_6	BEL_8	BEL_40	263	0	0	263
7	Pullman Ave And Lyall Way	No	0.2	1.0	0.0	1.2	BEL_7	BEL_5	BEL_2	247	11	0	258
8	**El Camino Real And 5th Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_8**	**BEL_11**	**BEL_16**	**50**	**0**	**0**	**50**
9	**Flashner Ln And El Camino Real**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_9**	**BEL_11**	**BEL_16**	**29**	**0**	**0**	**29**
10	**El Camino Real And Broadway**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_10**	**BEL_11**	**BEL_14**	**17**	**0**	**22**	**39**
11	**El Camino Real And Emmett Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_10**	**BEL_11**	**BEL_15**	**17**	**0**	**11**	**28**
12	Davis Dr And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_12	BEL_6	BEL_2	11	0	0	11
13	Oneill Ave And Old County Rd	No	0.0	1.0	0.0	1.0	BEL_12	BEL_34	BEL_16	11	0	0	11
14	Ralston Ave And Belmont Canyon Rd	No	0.0	1.0	0.0	1.0	BEL_14	BEL_6	BEL_2	0	0	0	0
15	Merry Moppet Ln And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_8	BEL_1	0	0	11	11
16	Belmont Canyon Rd € And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_8	BEL_40	0	0	0	0
17	**Hill St And El Camino Real**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_14**	**BEL_11**	**BEL_16**	**0**	**0**	**0**	**0**
18	Sterling View Ave And Old County Rd	No	0.0	1.0	0.0	1.0	BEL_14	BEL_11	BEL_16	0	0	0	0
19	Belmont Canyon Rd And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_11	BEL_57	0	0	0	0
20	Lassen Dr And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_11	BEL_57	0	0	0	0
21	Old County Rd And Waltermire St	No	0.0	1.0	0.0	1.0	BEL_14	BEL_33	BEL_16	0	6	0	6
22	**El Camino Real And Waltermire St**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_14**	**BEL_34**	**BEL_16**	**0**	**0**	**0**	**0**
23	Belmont Canyon Rd And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_34	BEL_57	0	0	0	0
24	**Harbor Blvd And Us Highway 101 Hwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_14**	**BEL_34**	**BEL_57**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Belmont Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
BEL_1	Belmont	El Camino Real, North Road to F Street	Yes	1.6	11	0	0	11
BEL_2	Belmont	Ralston Avenue, Villa Street to west of South Road	No	0.8	0	7	0	7
BEL_3	Belmont	Ralston Avenue, Christrian Drive to Villa Street	No	1.9	9	5	6	10

Brisbane Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Guadalupe Canyon Pkwy And Bayshore Blvd	No	0.7	0.6	0.0	1.3	BRI_1	BRI_13	BRI_58	6	240	0	246
2	Bayshore Blvd And Tunnel Ave	No	0.5	0.6	0.0	1.1	BRI_2	BRI_3	BRI_58	170	0	0	170
3	Bayshore Blvd And Valley Dr	No	0.5	0.6	0.0	1.1	BRI_2	BRI_10	BRI_58	28	0	0	28
4	Valley Dr And Park Ln	No	0.0	0.8	0.0	0.8	BRI_4	BRI_16	BRI_1	11	0	0	11
5	Park Pl And Valley Dr	No	0.0	0.8	0.0	0.8	BRI_4	BRI_17	BRI_1	0	0	0	0
6	San Bruno Ave And Mendocino St	No	0.2	0.6	0.0	0.7	BRI_6	BRI_25	BRI_7	0	191	0	191
7	Bayshore Blvd And Main St	No	0.0	0.6	0.0	0.6	BRI_7	BRI_1	BRI_4	33	0	0	33
8	Bayshore Blvd And San Bruno Ave	No	0.0	0.6	0.0	0.6	BRI_7	BRI_2	BRI_4	17	0	0	17
9	Cypress Ln And Valley Dr	No	0.0	0.6	0.0	0.6	BRI_9	BRI_17	BRI_1	0	0	0	0
10	Bayshore Blvd And Industrial Way	No	0.0	0.6	0.0	0.6	BRI_10	BRI_12	BRI_58	11	0	0	11

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Valley Dr And Park Ln	No	0.0	0.8	0.0	0.8	BRI_1	BRI_16	BRI_4	11	0	0	11
2	Park Pl And Valley Dr	No	0.0	0.8	0.0	0.8	BRI_1	BRI_17	BRI_4	0	0	0	0
3	Cypress Ln And Valley Dr	No	0.0	0.8	0.0	0.8	BRI_1	BRI_17	BRI_9	0	0	0	0
4	Bayshore Blvd And Main St	No	0.0	0.8	0.0	0.8	BRI_4	BRI_1	BRI_7	33	0	0	33
5	Bayshore Blvd And San Bruno Ave	No	0.0	0.8	0.0	0.8	BRI_4	BRI_2	BRI_7	17	0	0	17
6	Hill Dr And Silverspot Dr	No	0.0	0.6	0.0	0.6	BRI_6	BRI_17	BRI_22	0	0	0	0
7	San Francisco Ave And Old County Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_20	BRI_11	11	6	0	17
8	San Bruno Ave And Mariposa St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_20	BRI_29	11	0	0	11
9	Old County Rd And Park Ln	No	0.0	0.5	0.0	0.5	BRI_7	BRI_23	BRI_12	6	0	0	6
10	Klamath St And Visitacion Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_23	BRI_29	6	0	0	6
11	San Bruno Ave And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_6	0	191	0	191
12	Santa Clara St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
13	San Bruno Ave And Alvarado St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
14	Glen Pkwy And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
15	Lake St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
16	San Bruno Ave And Tulare St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
17	Monterey St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
18	Ross Way And Glen Pkwy	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
19	San Francisco Ave And Plumas St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
20	Park Pl And Park Ln	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
21	San Francisco Ave And Inyo St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
22	Mariposa St And Visitacion Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
23	Visitacion Ave And Monterey St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
24	Mariposa St And Inyo St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
25	Sierra Point Rd And Humboldt Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
26	Solano St And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
27	Solano St And San Francisco Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
28	Mariposa St And Solano St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
29	Sierra Point Rd And Lassen St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
30	Mono St And Klamath St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
31	Visitacion Ave And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
32	Humboldt Rd And Lassen St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
33	Humboldt Rd And Lake St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
34	Solano St And Humboldt Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
35	Main St And Hill Dr	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
36	Gladys Ave And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
37	Klamath St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
38	San Bruno Ave And Thomas Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
39	Sierra Point Rd And Ross Way	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
40	Humboldt Rd And Glen Pkwy	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
41	Sierra Point Rd And Glen Pkwy	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
42	Humboldt Rd And Kings Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
43	Humboldt Rd And Sierra Point Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
44	Humboldt Rd And San Diego Ct	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
45	Mariposa St And Plumas St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
46	Alvarado St And Visitacion Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
47	Alvarado St And Monterey St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
48	Alvarado St And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
49	William Ave And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
50	Humboldt Rd And Annis Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
51	Lake St And	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Bayshore Blvd And Main St	No	0.0	1.0	0.0	1.0	BRI_1	BRI_7	BRI_4	33	0	0	33
2	Bayshore Blvd And San Bruno Ave	No	0.0	1.0	0.0	1.0	BRI_2	BRI_7	BRI_4	17	0	0	17
3	Bayshore Blvd And Tunnel Ave	No	0.1	0.7	0.0	0.9	BRI_3	BRI_2	BRI_58	170	0	0	170
4	Sierra Point Pkwy And Lagoon Rd	No	0.0	0.8	0.0	0.8	BRI_4	BRI_23	BRI_52	11	0	0	11
5	Beatty Rd And Tunnel Ave	No	0.0	0.8	0.0	0.8	BRI_5	BRI_23	BRI_52	0	0	0	0
6	Esta Ave And Tunnel Ave	No	0.0	0.8	0.0	0.8	BRI_5	BRI_23	BRI_52	0	0	0	0
7	**Alana Way And Beatty Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**BRI_5**	**BRI_23**	**BRI_52**	**0**	**0**	**0**	**0**
8	**Sierra Point Pkwy 101 Nb Hwy And 101 Nb Sierra Point Pkwy Hwy**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**BRI_5**	**BRI_23**	**BRI_52**	**0**	**0**	**0**	**0**
9	Tunnel Ave And Lagoon Rd	No	0.0	0.8	0.0	0.8	BRI_5	BRI_23	BRI_52	0	0	0	0
10	Bayshore Blvd And Valley Dr	No	0.0	0.7	0.0	0.7	BRI_10	BRI_2	BRI_58	28	0	0	28
11	Guadalupe Canyon Pkwy And Hill Dr	No	0.0	0.7	0.0	0.7	BRI_11	BRI_19	BRI_58	22	0	0	22
12	Bayshore Blvd And Industrial Way	No	0.0	0.7	0.0	0.7	BRI_12	BRI_10	BRI_58	11	0	0	11

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
BRI_1	Brisbane	Bayshore Boulevard, Geneva Avenue to S town limits	No	2.6	5	2	6	6
BRI_2	Brisbane	Valley Drive, Bayshore Boulevard to Hills Drive	No	0.6	1	3	4	4
BRI_3	Brisbane	Tunnel Avenue, N town limit to Bayshor Boulevard	No	1.6	4	0	1	4

Colma Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Junipero Serra Blvd And Colma Blvd	No	0.5	0.8	0.0	1.3	CMA_1	CMA_3	CMA_4	0	0	0	0
2	Junipero Serra Blvd And Southgate Ave	No	0.5	0.6	0.0	1.1	CMA_2	CMA_1	CMA_4	11	0	0	11
3	**El Camino Real And F St**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_3**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
4	Hillside Blvd And Evergreen Dr	No	0.0	0.6	0.0	0.6	CMA_4	CMA_2	CMA_4	6	0	0	6
5	Phillip Dr And Junipero Serra Blvd	No	0.0	0.6	0.0	0.6	CMA_4	CMA_3	CMA_1	0	0	0	0
6	Hillside Blvd And Sand Hill Rd	No	0.0	0.6	0.0	0.6	CMA_4	CMA_3	CMA_3	0	0	11	11
7	**El Camino Real And Mission Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
8	**El Camino Real And Collins Ave**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
9	**Villa Ave And El Camino Real**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
10	**El Camino Real And Olivet Pkwy**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
11	Lawndale Blvd And Mission Rd	No	0.0	0.6	0.0	0.6	CMA_11	CMA_13	CMA_12	17	0	0	17
12	**El Camino Real And F St**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_12**	**CMA_12**	**CMA_23**	**0**	**0**	**0**	**0**
13	Serramonte Blvd And 280 Nb On Ramp Hwy	No	0.0	0.6	0.0	0.6	CMA_13	CMA_14	CMA_2	11	0	0	11
14	**El Camino Real And Serramonte Blvd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_13**	**CMA_15**	**CMA_24**	**0**	**0**	**0**	**0**
15	**Colma Blvd And El Camino Real**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_13**	**CMA_15**	**CMA_24**	**0**	**0**	**0**	**0**
16	Hoffman St And Villa St	No	0.0	0.4	0.1	0.5	CMA_16	CMA_20	CMA_13	11	0	0	11
17	Hoffman St And Sylvan St	No	0.0	0.4	0.1	0.5	CMA_17	CMA_21	CMA_14	11	0	0	11
18	Lisbon St And Hoffman St	No	0.0	0.4	0.1	0.5	CMA_17	CMA_23	CMA_14	0	0	0	0
19	Hoffman St And Linden St	No	0.0	0.4	0.1	0.5	CMA_17	CMA_23	CMA_14	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Colma Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Phillip Dr And Junipero Serra Blvd	No	0.5	0.8	0.0	1.3	CMA_1	CMA_3	CMA_4	0	0	0	0
2	Serramonte Blvd And 280 Nb On Ramp Hwy	No	0.5	0.5	0.0	1.0	CMA_2	CMA_14	CMA_13	11	0	0	11
3	Hillside Blvd And Sand Hill Rd	No	0.0	0.8	0.0	0.8	CMA_3	CMA_3	CMA_4	0	0	11	11
4	Junipero Serra Blvd And Southgate Ave	No	0.0	0.8	0.0	0.8	CMA_4	CMA_1	CMA_2	11	0	0	11
5	Hillside Blvd And Evergreen Dr	No	0.0	0.8	0.0	0.8	CMA_4	CMA_2	CMA_4	6	0	0	6
6	Junipero Serra Blvd And Colma Blvd	No	0.0	0.8	0.0	0.8	CMA_4	CMA_3	CMA_1	0	0	0	0
7	**El Camino Real And F St**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_3**	**0**	**0**	**0**	**0**
8	**El Camino Real And Mission Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
9	**El Camino Real And Collins Ave**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
10	**Villa Ave And El Camino Real**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
11	**El Camino Real And Olivet Pkwy**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
12	Lawndale Blvd And Mission Rd	No	0.0	0.7	0.0	0.7	CMA_12	CMA_13	CMA_11	17	0	0	17
13	Hoffman St And Villa St	No	0.0	0.5	0.1	0.7	CMA_13	CMA_20	CMA_16	11	0	0	11
14	Hoffman St And Sylvan St	No	0.0	0.5	0.1	0.7	CMA_14	CMA_21	CMA_17	11	0	0	11
15	Lisbon St And Hoffman St	No	0.0	0.5	0.1	0.7	CMA_14	CMA_23	CMA_17	0	0	0	0
16	Hoffman St And Linden St	No	0.0	0.5	0.1	0.7	CMA_14	CMA_23	CMA_17	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Colma Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Junipero Serra Blvd And Southgate Ave	No	0.0	1.0	0.0	1.0	CMA_1	CMA_2	CMA_4	11	0	0	11
2	Hillside Blvd And Evergreen Dr	No	0.0	1.0	0.0	1.0	CMA_2	CMA_4	CMA_4	6	0	0	6
3	Junipero Serra Blvd And Colma Blvd	No	0.0	1.0	0.0	1.0	CMA_3	CMA_1	CMA_4	0	0	0	0
4	**El Camino Real And F St**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
5	Phillip Dr And Junipero Serra Blvd	No	0.0	1.0	0.0	1.0	CMA_3	CMA_4	CMA_1	0	0	0	0
6	Hillside Blvd And Sand Hill Rd	No	0.0	1.0	0.0	1.0	CMA_3	CMA_4	CMA_3	0	0	11	11
7	**El Camino Real And Mission Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
8	**El Camino Real And Collins Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
9	**Villa Ave And El Camino Real**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
10	**El Camino Real And Olivet Pkwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
11	Lawndale Blvd And Hillside Blvd	No	0.1	0.7	0.0	0.8	CMA_11	CMA_20	CMA_24	131	0	0	131
12	**El Camino Real And F St**	**Yes**	**0.0**	**0.7**	**0.0**	**0.8**	**CMA_12**	**CMA_12**	**CMA_23**	**0**	**0**	**0**	**0**
13	Lawndale Blvd And Mission Rd	No	0.0	0.7	0.0	0.7	CMA_13	CMA_11	CMA_12	17	0	0	17
14	Serramonte Blvd And 280 Nb On Ramp Hwy	No	0.0	0.7	0.0	0.7	CMA_14	CMA_13	CMA_2	11	0	0	11
15	**El Camino Real And Serramonte Blvd**	**Yes**	**0.0**	**0.7**	**0.0**	**0.7**	**CMA_15**	**CMA_13**	**CMA_24**	**0**	**0**	**0**	**0**
16	**Colma Blvd And El Camino Real**	**Yes**	**0.0**	**0.7**	**0.0**	**0.7**	**CMA_15**	**CMA_13**	**CMA_24**	**0**	**0**	**0**	**0**
17	Hillside Blvd And Serramonte Blvd	No	0.0	0.7	0.0	0.7	CMA_15	CMA_20	CMA_24	0	0	0	0
18	Olivet Pkwy And Hillside Blvd	No	0.0	0.7	0.0	0.7	CMA_15	CMA_20	CMA_24	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Colma Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
CMA_1	Colma	El Camino Real, N town limit to S town limit	Yes	1.1	8	5	8	8
CMA_2	Colma	Junipero Serra Boulevard, N town limit to S town limit	No	1.3	4	4	4	4
CMA_3	Colma	Hillside Boulevard, Serramonte Boulevard to S town limit	No	1.2	4	2	2	4
CMA_4	Colma	Hoffman Street, Hillside Boulevard to E town limit	No	0.3	0	4	4	4

East Palo Alto Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Bay Rd And Palo Verde Ave	No	0.5	1.0	0.8	2.3	EPA_1	EPA_17	EPA_13	0	0	0	0
2	Bay Rd And Addison Ave	No	0.5	1.0	0.6	1.6	EPA_2	EPA_21	EPA_19	6	11	0	17
3	Oakwood Dr And Bay Rd	No	0.5	1.0	0.6	1.6	EPA_3	EPA_22	EPA_19	0	0	0	0
4	Gloria Way And Bay Rd	No	0.5	0.8	0.8	1.8	EPA_4	EPA_15	EPA_32	11	6	0	17
5	Dumbarton Ave And Bay Rd	No	0.5	0.8	0.7	1.7	EPA_5	EPA_19	EPA_14	0	0	11	11
6	Bay Rd And Ralmar Ave	No	0.5	1.0	0.4	1.4	EPA_6	EPA_25	EPA_7	11	0	0	11
7	Glen Way And Bay Rd	No	0.5	0.6	0.8	1.8	EPA_7	EPA_16	EPA_30	6	0	12	18
8	Clarke Ave And Illinois St	No	0.7	0.8	0.4	1.4	EPA_8	EPA_27	EPA_80	0	191	11	202
9	**Bay Rd And University Ave**	**Yes**	**0.5**	**0.6**	**0.7**	**2.2**	**EPA_9**	**EPA_5**	**EPA_17**	**312**	**28**	**0**	**340**
10	Demeter St And Bay Rd	No	0.5	0.6	0.6	1.6	EPA_10	EPA_20	EPA_39	11	0	0	11
11	Bay Rd And Fordham St	No	0.5	0.8	0.4	1.4	EPA_11	EPA_24	EPA_81	23	11	0	34

Note: Gray shaded cells are locations on the State Highway Network.

East Palo Alto Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**University Ave And Adams Dr**	**Yes**	**0.7**	**1.0**	**0.8**	**2.5**	**EPA_1**	**EPA_3**	**EPA_17**	**34**	**0**	**191**	**225**
2	**Purdue Ave And University Ave**	**Yes**	**0.5**	**1.0**	**0.8**	**2.3**	**EPA_2**	**EPA_1**	**EPA_16**	**107**	**11**	**0**	**118**
3	**O'Brien Dr And University Ave**	**Yes**	**0.7**	**0.7**	**0.8**	**2.1**	**EPA_3**	**EPA_10**	**EPA_27**	**11**	**0**	**120**	**131**
4	**University Ave And Michigan Ave**	**Yes**	**0.5**	**0.8**	**0.8**	**2.0**	**EPA_4**	**EPA_4**	**EPA_26**	**29**	**11**	**6**	**46**
5	**Notre Dame Ave And University Ave**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_5**	**EPA_6**	**EPA_27**	**34**	**0**	**11**	**45**
6	**University Ave And Kavanaugh Dr**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_6**	**EPA_6**	**EPA_27**	**39**	**0**	**0**	**39**
7	Bay Rd And Ralmar Ave	No	0.5	1.0	0.4	1.9	EPA_7	EPA_25	EPA_6	11	0	0	11
8	Newbridge St And Menalto Ave	No	0.5	0.8	0.5	1.8	EPA_8	EPA_31	EPA_46	203	0	11	214
9	**Donohoe St And University Ave**	**Yes**	**0.8**	**0.5**	**0.5**	**1.8**	**EPA_9**	**EPA_9**	**EPA_118**	**327**	**0**	**279**	**606**
10	Newbridge St And Poplar Ave	No	0.5	0.8	0.5	1.8	EPA_10	EPA_59	EPA_46	11	0	0	11
11	**University Ave And Sacramento St**	**Yes**	**0.5**	**0.8**	**0.5**	**1.8**	**EPA_11**	**EPA_8**	**EPA_43**	**0**	**0**	**11**	**11**
12	**University Ave And Weeks St**	**Yes**	**0.5**	**0.8**	**0.5**	**1.8**	**EPA_12**	**EPA_2**	**EPA_45**	**404**	**197**	**0**	**601**
13	Bay Rd And Palo Verde Ave	No	0.0	1.0	0.8	1.8	EPA_13	EPA_17	EPA_1	0	0	0	0
14	Dumbarton Ave And Bay Rd	No	0.0	1.0	0.7	1.7	EPA_14	EPA_19	EPA_5	0	0	11	11
15	**Cooley Ave And University Ave**	**Yes**	**0.5**	**0.8**	**0.4**	**1.7**	**EPA_15**	**EPA_11**	**EPA_54**	**12**	**0**	**11**	**23**
16	Woodland Ave And University Ave	No	0.7	0.5	0.5	1.7	EPA_16	EPA_14	EPA_83	62	0	153	215
17	**Bay Rd And University Ave**	**Yes**	**0.5**	**0.5**	**0.7**	**1.7**	**EPA_17**	**EPA_5**	**EPA_9**	**312**	**28**	**0**	**340**
18	**University Ave And Runnymede St**	**Yes**	**0.7**	**0.5**	**0.5**	**1.6**	**EPA_18**	**EPA_12**	**EPA_82**	**266**	**17**	**148**	**431**
19	Bay Rd And Addison Ave	No	0.0	1.0	0.6	1.6	EPA_19	EPA_21	EPA_2	6	11	0	17
20	Oakwood Dr And Bay Rd	No	0.0	1.0	0.6	1.6	EPA_19	EPA_22	EPA_3	0	0	0	0
21	**University Ave And**	**Yes**	**0.7**	**0.5**	**0.5**	**1.6**	**EPA_21**	**EPA_18**	**EPA_118**	**12**	**0**	**120**	**132**
22	Mello St And Newbridge St	No	0.5	0.6	0.5	1.6	EPA_22	EPA_33	EPA_85	197	0	11	208
23	Saratoga Ave And Newbridge St	No	0.5	0.6	0.5	1.6	EPA_22	EPA_34	EPA_85	191	0	11	202

Note: Gray shaded cells are locations on the State Highway Network.

East Palo Alto Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Purdue Ave And University Ave**	**Yes**	**0.6**	**1.0**	**0.8**	**2.3**	**EPA_1**	**EPA_16**	**EPA_2**	**107**	**11**	**0**	**118**
2	**University Ave And Weeks St**	**Yes**	**0.8**	**1.0**	**0.5**	**2.3**	**EPA_2**	**EPA_45**	**EPA_12**	**404**	**197**	**0**	**601**
3	**University Ave And Adams Dr**	**Yes**	**0.5**	**1.0**	**0.8**	**2.3**	**EPA_3**	**EPA_17**	**EPA_1**	**34**	**0**	**191**	**225**
4	**University Ave And Michigan Ave**	**Yes**	**0.5**	**1.0**	**0.8**	**2.3**	**EPA_4**	**EPA_26**	**EPA_4**	**29**	**11**	**6**	**46**
5	**Bay Rd And University Ave**	**Yes**	**0.8**	**0.7**	**0.7**	**2.2**	**EPA_5**	**EPA_9**	**EPA_17**	**312**	**28**	**0**	**340**
6	**Notre Dame Ave And University Ave**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_6**	**EPA_27**	**EPA_5**	**34**	**0**	**11**	**45**
7	**University Ave And Kavanaugh Dr**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_6**	**EPA_27**	**EPA_6**	**39**	**0**	**0**	**39**
8	**University Ave And Sacramento St**	**Yes**	**0.5**	**1.0**	**0.5**	**2.0**	**EPA_8**	**EPA_43**	**EPA_11**	**0**	**0**	**11**	**11**
9	**Donohoe St And University Ave**	**Yes**	**0.8**	**0.7**	**0.5**	**2.0**	**EPA_9**	**EPA_118**	**EPA_9**	**327**	**0**	**279**	**606**
10	**O'Brien Dr And University Ave**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_10**	**EPA_27**	**EPA_3**	**11**	**0**	**120**	**131**
11	**Cooley Ave And University Ave**	**Yes**	**0.5**	**1.0**	**0.4**	**1.9**	**EPA_11**	**EPA_54**	**EPA_15**	**12**	**0**	**11**	**23**
12	**University Ave And Runnymede St**	**Yes**	**0.7**	**0.7**	**0.5**	**1.9**	**EPA_12**	**EPA_82**	**EPA_18**	**266**	**17**	**148**	**431**
13	**University Ave And Bell St**	**Yes**	**0.7**	**0.7**	**0.5**	**1.9**	**EPA_13**	**EPA_57**	**EPA_31**	**226**	**137**	**44**	**407**
14	Woodland Ave And University Ave	No	0.6	0.7	0.5	1.8	EPA_14	EPA_83	EPA_16	62	0	153	215
15	Gloria Way And Bay Rd	No	0.0	1.0	0.8	1.8	EPA_15	EPA_4	EPA_32	11	6	0	17
16	Glen Way And Bay Rd	No	0.0	1.0	0.8	1.8	EPA_16	EPA_7	EPA_30	6	0	12	18
17	Bay Rd And Palo Verde Ave	No	0.0	1.0	0.8	1.8	EPA_17	EPA_1	EPA_13	0	0	0	0
18	**University Ave And**	**Yes**	**0.5**	**0.7**	**0.5**	**1.7**	**EPA_18**	**EPA_118**	**EPA_21**	**12**	**0**	**120**	**132**
19	Dumbarton Ave And Bay Rd	No	0.0	1.0	0.7	1.7	EPA_19	EPA_5	EPA_14	0	0	11	11
20	Demeter St And Bay Rd	No	0.0	1.0	0.6	1.6	EPA_20	EPA_10	EPA_39	11	0	0	11
21	Bay Rd And Addison Ave	No	0.0	1.0	0.6	1.6	EPA_21	EPA_2	EPA_19	6	11	0	17
22	Oakwood Dr And Bay Rd	No	0.0	1.0	0.6	1.6	EPA_22	EPA_3	EPA_19	0	0	0	0
23	Pulgas Ave And Bay Rd	No	0.2	1.0	0.3	1.5	EPA_23	EPA_14	EPA_83	202	11	17	230
24	Bay Rd And Fordham St	No	0.0	1.0	0.4	1.4	EPA_24	EPA_11	EPA_81	23	11	0	34

Note: Gray shaded cells are locations on the State Highway Network.

East Palo Alto Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
EPA_1	East Palo Alto	Bay Road, Newbridge to Pulgas	No	1.0	10	6	11	12
EPA_2	East Palo Alto	University Ave (SR 109), N town limits to Donohoe Rd	Yes	1.3	13	12	1	13
EPA_3	East Palo Alto	Newbridge Street,Bay Road to W town limits	No	0.4	0	5	1	5

Foster City Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Catamaran St And Shell Blvd	No	0.7	0.8	0.0	1.5	FC_1	FC_3	FC_22	11	202	0	213
2	Galleon Ln And Foster City Blvd	No	0.5	0.8	0.0	1.3	FC_2	FC_3	FC_9	11	0	0	11
3	Foster City Blvd And Caravel Ln	No	0.5	0.8	0.0	1.3	FC_2	FC_16	FC_9	0	0	0	0
4	Balclutha Dr And Foster City Blvd	No	0.5	0.8	0.0	1.3	FC_4	FC_3	FC_22	11	11	0	22
5	Hillsdale Blvd And Parkway Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_3	FC_3	11	0	0	11
6	Marlin Ave And Foster City Blvd	No	0.5	0.8	0.0	1.3	FC_5	FC_3	FC_22	11	0	0	11
7	Shell Blvd And Bounty Dr	No	0.5	0.8	0.0	1.3	FC_5	FC_14	FC_22	6	0	0	6
8	Hillsdale Blvd And Meridian Bay Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_2	0	0	11	11
9	Hillsdale Blvd And Admiralty Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_3	0	0	0	0
10	Foster City Blvd And Civic Center Dr	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0
11	Foster City Blvd And Admiralty Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0
12	Shell Blvd And Civic Center Dr	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0
13	Shell Blvd And Beach Park Blvd	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Foster City Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Beach Park Blvd And Gull Ave	No	0.5	1.0	0.0	1.5	FC_1	FC_16	FC_28	0	11	11	22
2	Hillsdale Blvd And Meridian Bay Ln	No	0.5	0.8	0.0	1.3	FC_2	FC_16	FC_5	0	0	11	11
3	Hillsdale Blvd And Parkway Ln	No	0.5	0.8	0.0	1.3	FC_3	FC_3	FC_5	11	0	0	11
4	Hillsdale Blvd And Admiralty Ln	No	0.5	0.8	0.0	1.3	FC_3	FC_16	FC_5	0	0	0	0
5	Hillsdale Blvd And Portal Ln	No	0.5	0.8	0.0	1.3	FC_3	FC_16	FC_16	0	0	0	0
6	Promontory Point Ln And Hillsdale Blvd	No	0.5	0.8	0.0	1.3	FC_3	FC_16	FC_53	0	0	0	0
7	Foster City Blvd And Hillsdale Blvd	No	0.7	0.5	0.0	1.1	FC_7	FC_77	FC_14	45	131	120	296
8	Edgewater Blvd And Dorado Ln	No	0.0	1.0	0.0	1.0	FC_8	FC_16	FC_29	0	6	11	17
9	Galleon Ln And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_9	FC_3	FC_2	11	0	0	11
10	Foster City Blvd And Caravel Ln	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_2	0	0	0	0
11	Beach Park Blvd And Egret St	No	0.0	1.0	0.0	1.0	FC_9	FC_3	FC_30	11	0	0	11
12	Beach Park Blvd And Swordfish St	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_30	0	0	0	0
13	Edgewater Blvd And Ram Ln	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_30	0	0	0	0
14	Tarpon St And Beach Park Blvd	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_30	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Foster City Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Chess Dr And Foster City Blvd	No	0.1	1.0	0.0	1.1	FC_1	FC_16	FC_22	66	0	0	66
2	Regulus St And Edgewater Blvd	No	0.0	1.0	0.0	1.0	FC_2	FC_39	FC_22	45	0	0	45
3	Catamaran St And Shell Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_1	FC_22	11	202	0	213
4	Galleon Ln And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_2	FC_9	11	0	0	11
5	Balclutha Dr And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_4	FC_22	11	11	0	22
6	Hillsdale Blvd And Parkway Ln	No	0.0	1.0	0.0	1.0	FC_3	FC_5	FC_3	11	0	0	11
7	Marlin Ave And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_5	FC_22	11	0	0	11
8	Foster City Blvd And 3rd Ave	No	0.0	1.0	0.0	1.0	FC_3	FC_16	FC_22	11	0	0	11
9	Beach Park Blvd And Egret St	No	0.0	1.0	0.0	1.0	FC_3	FC_30	FC_9	11	0	0	11
10	Altair Ave And Edgewater Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_39	FC_22	11	0	0	11
11	Marlin Ave And Beach Park Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_39	FC_22	11	0	0	11
12	3rd Ave And Mariners Island Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_53	FC_20	11	0	22	33
13	Commons Ln And Metro Center Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_53	FC_22	11	0	0	11

Note: Gray shaded cells are locations on the State Highway Network.

Foster City Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
FC_1	Foster City	Foster City Boulevard, Chess Drive to Bounty Drive	No	1.0	2	3	5	6
FC_2	Foster City	Hillsdale Boulevard, Sea Spray Lane to north of Pilgrim Drive	No	1.1	1	5	3	5
FC_3	Foster City	Shell Boulevard, Hillsdale Boulevard to Beach Park Boulevard	No	0.9	1	0	4	4
FC_4	Foster City	Edgewater Boulevard, Hillsdale Boulevard to Beach Park Boulev	No	0.7	2	2	0	4
FC_5	Foster City	Hillsdale/Beach Park Boulevard, Pilgrim Drive to Foster City Bou	No	2.5	2	4	0	5

Half Moon Bay Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Main St And Poplar St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
2	Main St And Metzgar St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
3	Main St And Bloom Ln	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
4	Correas St And Main St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
5	Miramontes St And Main St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
6	Arnold Way And Main St	No	0.0	1.0	0.2	1.2	HMB_6	HMB_20	HMB_18	0	0	0	0
7	Main St And Magnolia St	No	0.0	1.0	0.1	1.1	HMB_7	HMB_23	HMB_19	0	0	0	0
8	Main St And Grove St	No	0.0	1.0	0.1	1.1	HMB_8	HMB_24	HMB_20	0	0	0	0
9	Kelly Ave And Main St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_9	HMB_9	11	0	0	11
10	Main St And Filbert St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_10	HMB_5	0	0	11	11
11	Mill St And Main St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_10	HMB_9	0	0	0	0
12	Main St And Spruce St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_10	HMB_9	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Half Moon Bay Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Cabrillo Hwy And Kelly Ave**	**Yes**	**0.7**	**0.7**	**0.2**	**1.5**	**HMB_1**	**HMB_43**	**HMB_19**	**33**	**0**	**120**	**153**
2	**Cabrillo Hwy And Belleville Blvd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_2**	**HMB_36**	**HMB_15**	**0**	**0**	**0**	**0**
3	**Cabrillo Hwy And San Mateo Rd**	**Yes**	**0.5**	**0.7**	**0.1**	**1.3**	**HMB_3**	**HMB_46**	**HMB_31**	**0**	**0**	**0**	**0**
4	**Cabrillo Hwy And Grandview Blvd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_4**	**HMB_32**	**HMB_20**	**11**	**0**	**11**	**22**
5	Main St And Filbert St	No	0.0	1.0	0.3	1.3	HMB_5	HMB_10	HMB_9	0	0	11	11
6	**Terrace Ave And Cabrillo Hwy**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_6**	**HMB_32**	**HMB_20**	**11**	**0**	**0**	**11**
7	**Cabrillo Hwy And Silver Ave**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_6**	**HMB_32**	**HMB_20**	**11**	**0**	**0**	**11**
8	**Cabrillo Hwy And Frontage Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_6**	**HMB_36**	**HMB_57**	**0**	**0**	**0**	**0**
9	Kelly Ave And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_9	HMB_9	11	0	0	11
10	Main St And Poplar St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
11	Main St And Metzgar St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
12	Main St And Bloom Ln	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
13	Correas St And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
14	Miramontes St And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
15	Mill St And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_9	0	0	0	0
16	Main St And Spruce St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_9	0	0	0	0
17	**Cabrillo Hwy And Main St**	**Yes**	**0.5**	**0.7**	**0.0**	**1.2**	**HMB_17**	**HMB_47**	**HMB_67**	**62**	**0**	**0**	**62**
18	Arnold Way And Main St	No	0.0	1.0	0.2	1.2	HMB_18	HMB_20	HMB_6	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Half Moon Bay Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Osborn Ave And Cabrillo Hwy**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**HMB_1**	**HMB_20**	**HMB_53**	**202**	**0**	**0**	**202**
2	**Cabrillo Hwy And Guerrero Ave**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**HMB_1**	**HMB_57**	**HMB_53**	**202**	**0**	**0**	**202**
3	**Cabrillo Hwy And Roosevelt Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_3**	**HMB_20**	**HMB_24**	**22**	**0**	**191**	**213**
4	**Frenchmans Creek Rd And Cabrillo Hwy**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_3**	**HMB_20**	**HMB_53**	**22**	**0**	**0**	**22**
5	**Cabrillo Hwy And Lowney Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_5**	**HMB_57**	**HMB_53**	**11**	**0**	**0**	**11**
6	**Morris Ave And Cabrillo Hwy**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_6**	**HMB_20**	**HMB_53**	**0**	**0**	**0**	**0**
7	**Cabrillo Hwy And Knewing Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_6**	**HMB_57**	**HMB_53**	**0**	**0**	**0**	**0**
8	**Cabrillo Hwy And Young Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_6**	**HMB_57**	**HMB_53**	**0**	**0**	**0**	**0**
9	Kelly Ave And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_9	HMB_9	11	0	0	11
10	Main St And Poplar St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
11	Main St And Metzgar St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
12	Main St And Bloom Ln	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
13	Correas St And Main St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
14	Miramontes St And Main St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
15	Main St And Filbert St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_9	HMB_5	0	0	11	11
16	Mill St And Main St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_9	HMB_9	0	0	0	0
17	Main St And Spruce St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_9	HMB_9	0	0	0	0
18	Main St And Stone Pine Rd	No	0.0	1.0	0.3	1.3	HMB_10	HMB_13	HMB_22	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Half Moon Bay Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
HMB_1	Half Moon Bay	Cabrillo Highway, N town limit to Silver Avenue	Yes	1.9	8	5	0	13
HMB_2	Half Moon Bay	Cabrillo Highway, Silver Avenue to south of Kelly Avenue	Yes	0.6	0	3	0	3
HMB_3	Half Moon Bay	Main Street, Stone Pine Road to Seymour Street	No	1.0	10	10	12	13

Hillsborough Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Hayne Rd And Golf Course Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_1**	**HB_2**	**HB_1**	**0**	**0**	**11**	**11**
2	**Skyline Blvd And Butternut Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_1**	**HB_2**	**HB_2**	**0**	**0**	**0**	**0**
3	**Skyline Blvd And Rowan Tree Ln**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_1**	**HB_2**	**HB_2**	**0**	**0**	**0**	**0**
4	**Skyline Blvd And Skyfarm Dr**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**HB_4**	**HB_1**	**HB_4**	**11**	**0**	**0**	**11**
5	El Cerrito Ave And Gramercy Dr	No	0.0	0.6	0.0	0.6	HB_5	HB_5	HB_5	0	0	0	0
6	Kammerer Ct And Bellevue Ave	No	0.0	0.6	0.0	0.6	HB_6	HB_23	HB_12	0	0	0	0
7	Merner Rd And Crystal Springs Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_9	HB_6	11	0	0	11
8	Crystal Springs Ter And Crystal Springs Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
9	Crystal Springs Rd And Ridgeway Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
10	Woodridge Rd And Crystal Springs Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
11	Crystal Springs Rd And El Cerrito Ave	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
12	Santa Inez Ave And Arlington Ln	No	0.0	0.4	0.0	0.4	HB_12	HB_5	HB_86	0	0	0	0
13	Black Mountain Rd And Denise Dr	No	0.0	0.4	0.0	0.4	HB_12	HB_5	HB_86	0	0	0	0
14	Black Mountain Rd And Wedgewood Dr	No	0.0	0.4	0.0	0.4	HB_12	HB_5	HB_86	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Hayne Rd And Golf Course Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_1**	**HB_2**	**HB_1**	**0**	**0**	**11**	**11**
2	**Skyline Blvd And Rowan Tree Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_2**	**HB_1**	**0**	**0**	**0**	**0**
3	**Skyline Blvd And Butternut Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_2**	**HB_1**	**0**	**0**	**0**	**0**
4	**Skyline Blvd And Skyfarm Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_4**	**HB_1**	**HB_4**	**11**	**0**	**0**	**11**
5	El Cerrito Ave And Gramercy Dr	No	0.0	0.7	0.0	0.7	HB_5	HB_5	HB_5	0	0	0	0
6	Merner Rd And Crystal Springs Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_9	HB_7	11	0	0	11
7	Crystal Springs Ter And Crystal Springs Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
8	Crystal Springs Rd And Ridgeway Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
9	Woodridge Rd And Crystal Springs Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
10	Crystal Springs Rd And El Cerrito Ave	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
11	Stonepine Rd And Barroilhet Ave	No	0.0	0.5	0.0	0.6	HB_11	HB_23	HB_15	0	0	11	11
12	Ralston Ave And Chateau Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_15	HB_15	11	0	0	11
13	Kammerer Ct And Bellevue Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_6	0	0	0	0
14	Homeplace Ct And Barroilhet Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
15	Eucalyptus Ave And Tamarack Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
16	Stonepine Rd And Stonepine Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
17	Tamarack Dr And Farmhill Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
18	Tartan Trail Rd And Lakeview Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
19	Downey Way And Acorn Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
20	Fagan Dr And Margo Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
21	Fagan Dr And Jackling Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
22	Irwin Dr And Forest View Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
23	Forest View Ave And Denham Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
24	Carmelita Ave And Armsby Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
25	Armsby Dr And Reynolds Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
26	Eucalyptus Ave And Geri Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
27	El Cerrito Ave And Waverly Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
28	Warm Canyon Way And Remillard Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
29	Hayne Rd And Darrell Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
30	Remillard Dr And Mosswood Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
31	Barbara Way And Hayne Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
32	Camphor Ct And Rowan Tree Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
33	Sherwood Ct And De Sabla Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
34	Roehampton Rd And Richmond Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
35	El Cerrito Ave And Poett Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
36	Roblar Ave And Milford Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
37	Laureldale Rd And Bridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
38	Roehampton Rd And Poett Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
39	Santa Inez Ave And Santa Maria Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
40	Stonehedge Rd And St Francis Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
41	Roblar Ave And El Cerrito Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
42	El Cerrito Ave And Stonehedge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
43	Roblar Ave And Severn Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
44	Roblar Ave And Ericson Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
45	El Cerrito Ave And Wickham Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
46	Fallenleaf Dr And Bridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
47	Homs Ct And El Cerrito Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
48	Stonehedge Rd And Bridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
49	Floribunda Ave And Pepper Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
50	Floribunda Ave And Highgate Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
51	Fairway Cir And Floribunda Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
52	Pepper Ave And Summerholme Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
53	Newhall Rd And Willow Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
54	Alberta Way And Roberts Way	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
55	Alberta Way And Hayne Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
56	Robinwood Ln And Hayne Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
57	Roberts Way And	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
58	Butternut Dr And Privet Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
59	Churchill Dr And	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
60	Privet Dr And Churchill Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
61	Grevillea Ct And Butternut Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
62	Rowan Tree Ln And Darrell Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
63	Poett Rd And Roblar Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
64	Redwood Dr And Sierra Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
65	Bridge Rd And Redwood Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
66	Fallenleaf Dr And Uplands Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
67	Uplands Dr And Normandy Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
68	Uplands Dr And Redwood Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
69	Uplands Dr And Rockridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
70	Rockridge Rd And Greenbriar Way	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
71	Rockridge Rd And Creekwood Way	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
72	Barroilhet Ave And Conifer Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
73	Eucalyptus Ave And Barroilhet Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
74	Woodland Dr And Tournament Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
75	Fairway Cir And	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
76	Floribunda Ave And Walnut Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
77	Eucalyptus Ave And New Place Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
78	Eucalyptus Ave And Floribunda Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
79	Floribunda Ave And Madrone Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
80	Eucalyptus Ave And Ralston Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
81	Eucalyptus Ave And Bayberry Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
82	Parkside Ave And Ralston Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
83	Eucalyptus Ave And Tevis Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Skyline Blvd And Skyfarm Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_1**	**HB_4**	**HB_4**	**11**	**0**	**0**	**11**
2	**Hayne Rd And Golf Course Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_1**	**HB_1**	**0**	**0**	**11**	**11**
3	**Skyline Blvd And Butternut Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_1**	**HB_2**	**0**	**0**	**0**	**0**
4	**Skyline Blvd And Rowan Tree Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_1**	**HB_2**	**0**	**0**	**0**	**0**
5	El Cerrito Ave And Gramercy Dr	No	0.0	0.8	0.0	0.8	HB_5	HB_5	HB_5	0	0	0	0
6	Santa Inez Ave And Arlington Ln	No	0.0	0.8	0.0	0.8	HB_5	HB_12	HB_86	0	0	0	0
7	Black Mountain Rd And Denise Dr	No	0.0	0.8	0.0	0.8	HB_5	HB_12	HB_86	0	0	0	0
8	Black Mountain Rd And Wedgewood Dr	No	0.0	0.8	0.0	0.8	HB_5	HB_12	HB_86	0	0	0	0
9	Merner Rd And Crystal Springs Rd	No	0.0	0.5	0.0	0.5	HB_9	HB_7	HB_6	11	0	0	11
10	Crystal Springs Ter And Crystal Springs Rd	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
11	Crystal Springs Rd And Ridgeway Rd	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
12	Woodridge Rd And Crystal Springs Rd	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
13	Crystal Springs Rd And El Cerrito Ave	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
14	Stonehedge Rd And Baywood Ave	No	0.0	0.3	0.0	0.3	HB_14	HB_88	HB_90	22	0	0	22

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
HB_1	Hillsborough	Skyline Boulevard (SR 35), N town limit to Hayne Road	Yes	1.6	4	4	4	4
HB_2	Hillsborough	Crystal Springs Road, El Cerrito Road to S town limit	No	1.2	5	5	5	5

Portola Valley Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Brookside Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_2	0	0	22	22
2	Portola Rd And Grove Dr	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_6	0	0	0	0
3	Portola Rd And Georgia Ln	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_6	0	0	0	0
4	Portola Rd And Corte Madera Rd	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_6	0	0	0	0
5	Alpine Rd And Indian Xing	No	0.0	0.8	0.0	0.8	PV_5	PV_2	PV_4	11	0	11	22
6	Brookside Dr And Portola Rd	No	0.0	0.8	0.0	0.8	PV_5	PV_4	PV_1	0	0	191	191
7	Alpine Rd And Saddleback	No	0.0	0.8	0.0	0.8	PV_5	PV_4	PV_6	0	0	0	0
8	Alpine Rd And Echo Ln	No	0.0	0.8	0.0	0.8	PV_5	PV_4	PV_6	0	0	0	0
9	Alpine Rd And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_1	PV_15	22	0	0	22
10	Alpine Rd And Golden Oak Dr	No	0.0	0.8	0.0	0.8	PV_9	PV_3	PV_11	6	0	191	197
11	Stonegate Rd And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_11	0	0	191	191
12	Westridge Dr And Alpine Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_13	0	0	11	11
13	Westridge Dr And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_14	0	0	6	6
14	Portola Rd And Unnamed	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
15	Wyndham Dr And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
16	Santa Maria Ave And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
17	Portola Rd And Farm Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
18	Golden Oak Dr And Alpine Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Portola Valley Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Brookside Dr And Portola Rd	No	0.7	1.0	0.0	1.7	PV_1	PV_4	PV_5	0	0	191	191
2	Brookside Dr And Portola Rd	No	0.5	1.0	0.0	1.5	PV_2	PV_4	PV_1	0	0	22	22
3	Alpine Rd And Arastradero Rd	No	0.8	0.8	0.0	1.5	PV_3	PV_4	PV_21	0	0	213	213
4	Alpine Rd And Indian Xing	No	0.5	1.0	0.0	1.5	PV_4	PV_2	PV_5	11	0	11	22
5	Los Trancos Rd And Alpine Rd	No	0.8	0.8	0.0	1.5	PV_5	PV_4	PV_21	0	0	202	202
6	Portola Rd And Grove Dr	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_1	0	0	0	0
7	Portola Rd And Georgia Ln	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_1	0	0	0	0
8	Portola Rd And Corte Madera Rd	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_1	0	0	0	0
9	Alpine Rd And Saddleback	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_5	0	0	0	0
10	Alpine Rd And Echo Ln	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_5	0	0	0	0
11	Alpine Rd And Golden Oak Dr	No	0.7	0.8	0.0	1.5	PV_11	PV_3	PV_9	6	0	191	197
12	Stonegate Rd And Portola Rd	No	0.7	0.8	0.0	1.5	PV_11	PV_4	PV_9	0	0	191	191

Note: Gray shaded cells are locations on the State Highway Network.

Portola Valley Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Alpine Rd And Portola Rd	No	0.0	1.0	0.0	1.0	PV_1	PV_9	PV_15	22	0	0	22
2	Alpine Rd And Indian Xing	No	0.0	1.0	0.0	1.0	PV_2	PV_5	PV_4	11	0	11	22
3	Alpine Rd And Golden Oak Dr	No	0.0	1.0	0.0	1.0	PV_3	PV_9	PV_11	6	0	191	197
4	Brookside Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_2	0	0	22	22
5	Portola Rd And Grove Dr	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_6	0	0	0	0
6	Portola Rd And Georgia Ln	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_6	0	0	0	0
7	Portola Rd And Corte Madera Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_6	0	0	0	0
8	Brookside Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_5	PV_1	0	0	191	191
9	Alpine Rd And Saddleback	No	0.0	1.0	0.0	1.0	PV_4	PV_5	PV_6	0	0	0	0
10	Alpine Rd And Echo Ln	No	0.0	1.0	0.0	1.0	PV_4	PV_5	PV_6	0	0	0	0
11	Stonegate Rd And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_11	0	0	191	191
12	Westridge Dr And Alpine Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_13	0	0	11	11
13	Westridge Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_14	0	0	6	6
14	Portola Rd And Unnamed	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
15	Wyndham Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
16	Santa Maria Ave And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
17	Portola Rd And Farm Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
18	Golden Oak Dr And Alpine Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
19	Alpine Rd And Arastradero Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_3	0	0	213	213
20	Los Trancos Rd And Alpine Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_5	0	0	202	202
21	Alpine Rd And Unnamed	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
22	Portola Rd And Nathhorst Ave	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
23	Portola Rd And Canyon Dr	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
24	Portola Rd And Willowbrook Dr	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
25	Portola Rd And Wayside Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
26	Portola Rd And Hayfields Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
27	Alpine Rd And Firethorn Way	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
28	Alpine Rd And Paso Del Arroyo	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
29	Alpine Rd And Nathhorst Ave	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
30	Alpine Rd And Null Null	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
31	Portola Rd And Null Null	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
32	Firethorn Way And Los Trancos Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_33	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Portola Valley Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
PV_1	Portola Valley	Portola Road, W town limit to Alpine Road	No	2.3	18	6	12	18
PV_2	Portola Valley	Alpine Road, Corte Madera Road to N town limit	No	2.6	14	6	7	14

San Carlos Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Brittan Ave And Cordilleras Ave	No	0.7	1.0	0.0	1.7	SC_1	SC_3	SC_52	11	191	0	202
2	**El Camino Real And Eaton Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_2**	**SC_2**	**SC_1**	**191**	**0**	**191**	**382**
3	Brittan Ave And Cedar St	No	0.5	1.0	0.0	1.5	SC_2	SC_3	SC_52	11	0	0	11
4	Greenwood Ave And Tamarack Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_7	SC_52	6	0	0	6
5	Brittan Ave And Rosewood Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
6	Woodland Ave And Brittan Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
7	Brittan Ave And Chestnut St	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
8	Brittan Ave And Orange Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
9	Brittan Ave And Dayton Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_34	SC_52	0	0	0	0
10	Walnut St And Brittan Ave	No	0.5	0.8	0.0	1.3	SC_10	SC_9	SC_74	0	0	0	0
11	Brittan Ave And Brook St	No	0.5	0.8	0.0	1.3	SC_10	SC_34	SC_74	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

San Carlos Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**El Camino Real And Eaton Ave**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**SC_1**	**SC_2**	**SC_2**	**191**	**0**	**191**	**382**
2	Alameda De Las Pulgas And San Carlos Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_23	SC_42	28	0	0	28
3	Cambridge St And San Carlos Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_25	SC_31	11	0	0	11
4	San Carlos Ave And Charlton St	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_31	0	0	0	0
5	San Carlos Ave And Kenton Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_31	0	0	0	0
6	San Carlos Ave And Beverly Dr	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_31	0	0	0	0
7	San Carlos Ave And Arundel Rd	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_42	0	0	0	0
8	Plymouth Ave And San Carlos Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_42	0	0	0	0
9	Wellington Dr And San Carlos Ave	No	0.7	0.7	0.0	1.4	SC_9	SC_124	SC_60	0	0	120	120
10	Howard Ave And Alameda De Las Pulgas	No	0.8	0.6	0.0	1.3	SC_10	SC_137	SC_134	0	0	202	202
11	Rockridge Rd And Alameda De Las Pulgas	No	0.5	0.8	0.0	1.3	SC_11	SC_131	SC_64	22	0	0	22
12	Lupin Ave And Alameda De Las Pulgas	No	0.5	0.8	0.0	1.3	SC_11	SC_137	SC_96	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

San Carlos Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Belmont Ave And El Camino Real**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**SC_1**	**SC_47**	**SC_13**	**230**	**0**	**11**	**241**
2	**El Camino Real And Eaton Ave**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**SC_2**	**SC_2**	**SC_1**	**191**	**0**	**191**	**382**
3	Brittan Ave And Cordilleras Ave	No	0.5	1.0	0.0	1.5	SC_3	SC_1	SC_52	11	191	0	202
4	Brittan Ave And Cedar St	No	0.5	1.0	0.0	1.5	SC_3	SC_2	SC_52	11	0	0	11
5	Brittan Ave And Elm St	No	0.5	1.0	0.0	1.5	SC_3	SC_18	SC_74	11	0	0	11
6	**El Camino Real And Greenwood Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_3**	**SC_76**	**SC_16**	**11**	**0**	**0**	**11**
7	Greenwood Ave And Tamarack Ave	No	0.5	1.0	0.0	1.5	SC_7	SC_4	SC_52	6	0	0	6
8	**White Oak Way And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_7**	**SC_76**	**SC_16**	**6**	**0**	**0**	**6**
9	Brittan Ave And Rosewood Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
10	Woodland Ave And Brittan Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
11	Brittan Ave And Chestnut St	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
12	Brittan Ave And Orange Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
13	Walnut St And Brittan Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_10	SC_74	0	0	0	0
14	**El Camino Real And Central Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_9**	**SC_76**	**SC_13**	**0**	**0**	**11**	**11**
15	Brittan Ave And Old County Rd	No	0.7	0.7	0.0	1.5	SC_15	SC_14	SC_310	285	120	11	416

Note: Gray shaded cells are locations on the State Highway Network.

San Carlos Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
SC_1	San Carlos	Brittan Avenue, Alameda De Las Pulgas to Laurel Street	No	1.0	10	0	10	12
SC_2	San Carlos	El Camino Real, Belmont Avenue to E town limit	Yes	0.5	4	1	1	4
SC_3	San Carlos	San Carlos, west of Wellington Drive to W town limit	No	0.8	0	7	0	7

Woodside Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Miramontes Rd And Woodside Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_1**	**WSD_15**	**WSD_3**	**0**	**0**	**0**	**0**
2	**Woodside Rd And Fox Hollow Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_1**	**WSD_15**	**WSD_3**	**0**	**0**	**0**	**0**
3	**Woodside Rd And Albion Ave**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_1**	**WSD_15**	**WSD_46**	**0**	**0**	**0**	**0**
4	**La Honda Rd And Skyline Blvd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_6**	**WSD_2**	**22**	**0**	**202**	**224**
5	**La Honda Rd And Fox Hill Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_6**	**WSD_47**	**22**	**0**	**0**	**22**
6	Portola Rd And Mountain Home Rd	No	0.0	0.8	0.0	0.8	WSD_4	WSD_9	WSD_8	11	0	11	22
7	**La Honda Rd And Grandview Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_9**	**WSD_13**	**11**	**0**	**0**	**11**
8	Portola Rd And Montecito Rd	No	0.0	0.8	0.0	0.8	WSD_4	WSD_15	WSD_8	0	0	11	11
9	Portola Rd And Phillip Rd	No	0.0	0.8	0.0	0.8	WSD_4	WSD_15	WSD_13	0	0	0	0
10	**Skywood Way And La Honda Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
11	**Tripp Rd And Woodside Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
12	**Churchill Ave And Woodside Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_12**	**WSD_105**	**WSD_41**	**11**	**0**	**0**	**11**
13	Canada Rd And Corto Ln	No	0.2	0.6	0.0	0.8	WSD_13	WSD_15	WSD_8	0	191	11	202
14	**Woodside Rd And Lindenbrook Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_1**	**WSD_47**	**202**	**0**	**0**	**202**
15	**Martinez Rd And La Honda Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_2**	**WSD_5**	**191**	**0**	**191**	**382**
16	Portola Rd And Old La Honda Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_2	WSD_13	191	0	0	191
17	**Woodside Rd And Northgate Dr**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_4**	**WSD_13**	**33**	**0**	**0**	**33**
18	**Interstate Highway 280 Hwy And Farm Hill Blvd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_4**	**WSD_47**	**28**	**0**	**0**	**28**
19	**La Honda Rd And Portola Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_6**	**WSD_1**	**22**	**0**	**404**	**426**
20	Portola Rd And Home Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_9	WSD_13	11	0	0	11
21	**Woodside Rd And Bear Gulch Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_9**	**WSD_13**	**11**	**0**	**0**	**11**
22	**Canada Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_9**	**WSD_47**	**11**	**0**	**0**	**11**
23	**High Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_14**	**WSD_8**	**6**	**0**	**11**	**17**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
24	**Woodside Rd And Unnamed**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_5**	**0**	**0**	**191**	**191**
25	Canada Rd And Olive Hill Ln	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_8	0	0	11	11
26	Portola Rd And Forest View Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
27	**Southgate Dr And State Highway 84 Hwy**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
28	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
29	Canada Rd And Eucalyptus Ct	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
30	Canada Rd And Bardet Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
31	Canada Rd And Arbor Ct	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
32	Canada Rd And Alta Vista Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
33	Canada Rd And Neuman Ln	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
34	Canada Rd And Runnymede Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
35	**Why Worry Ln And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
36	**Woodside Rd And Roberta Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
37	**La Honda Rd And Friars Ln**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
38	**Kings Mountain Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
39	**Woodside Rd And Martin Ln**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
40	**Woodside Rd And Bridle Ln**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
41	**Woodside Rd And Montelena Ct**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
42	Canada Rd And Mission Trail Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
43	Canada Rd And Glenwood Ave	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
44	Canada Rd And Laning Dr	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
45	Tadin Ln And Portola Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
46	**Moore Rd And State Highway 84 Hwy**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
47	**Whiskey Hill Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
48	**Quail Meadows Dr And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
49	**Woodside Rd And Hobart Heights Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
50	**Shine Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
51	Canada Ln And Canada Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
52	**Woodside Rd And Haciendas Dr**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
53	Dean Rd And Canada Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
54	Canada Rd And Monticello Ct	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
55	Canada Rd And Jefferson Ave	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
56	Canada Rd And Godetia Dr	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**La Honda Rd And Portola Rd**	**Yes**	**1.0**	**0.8**	**0.0**	**1.8**	**WSD_1**	**WSD_6**	**WSD_14**	**22**	**0**	**404**	**426**
2	**La Honda Rd And Skyline Blvd**	**Yes**	**0.8**	**0.8**	**0.0**	**1.5**	**WSD_2**	**WSD_6**	**WSD_4**	**22**	**0**	**202**	**224**
3	**Miramontes Rd And Woodside Rd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**WSD_3**	**WSD_15**	**WSD_1**	**0**	**0**	**0**	**0**
4	**Woodside Rd And Fox Hollow Rd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**WSD_3**	**WSD_15**	**WSD_1**	**0**	**0**	**0**	**0**
5	**Martinez Rd And La Honda Rd**	**Yes**	**0.7**	**0.8**	**0.0**	**1.5**	**WSD_5**	**WSD_2**	**WSD_14**	**191**	**0**	**191**	**382**
6	**Woodside Rd And Unnamed**	**Yes**	**0.7**	**0.8**	**0.0**	**1.5**	**WSD_5**	**WSD_15**	**WSD_14**	**0**	**0**	**191**	**191**
7	Kings Mountain Rd And Greer Rd	No	1.0	0.5	0.0	1.5	WSD_7	WSD_57	WSD_60	0	0	382	382
8	Portola Rd And Mountain Home Rd	No	0.5	0.8	0.0	1.3	WSD_8	WSD_9	WSD_4	11	0	11	22
9	Portola Rd And Montecito Rd	No	0.5	0.8	0.0	1.3	WSD_8	WSD_15	WSD_4	0	0	11	11
10	Canada Rd And Corto Ln	No	0.5	0.8	0.0	1.3	WSD_8	WSD_15	WSD_13	0	191	11	202
11	**High Rd And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_8**	**WSD_14**	**WSD_14**	**6**	**0**	**11**	**17**
12	Canada Rd And Olive Hill Ln	No	0.5	0.8	0.0	1.3	WSD_8	WSD_15	WSD_14	0	0	11	11
13	Portola Rd And Old La Honda Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_2	WSD_14	191	0	0	191
14	**Woodside Rd And Northgate Dr**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_4**	**WSD_14**	**33**	**0**	**0**	**33**
15	**La Honda Rd And Grandview Dr**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_9**	**WSD_4**	**11**	**0**	**0**	**11**
16	Portola Rd And Home Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_9	WSD_14	11	0	0	11
17	**Woodside Rd And Bear Gulch Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_9**	**WSD_14**	**11**	**0**	**0**	**11**
18	Portola Rd And Phillip Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_4	0	0	0	0
19	**Skywood Way And La Honda Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_4**	**0**	**0**	**0**	**0**
20	**Tripp Rd And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_4**	**0**	**0**	**0**	**0**
21	Portola Rd And Forest View Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
22	**Southgate Dr And State Highway 84 Hwy**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
23	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
24	Canada Rd And Eucalyptus Ct	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
25	Canada Rd And Bardet Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
26	Canada Rd And Arbor Ct	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
27	Canada Rd And Alta Vista Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
28	Canada Rd And Neuman Ln	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
29	Canada Rd And Runnymede Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
30	**Why Worry Ln And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
31	**Woodside Rd And Roberta Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
32	**La Honda Rd And Friars Ln**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
33	**Kings Mountain Rd And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
34	**Woodside Rd And Martin Ln**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
35	**Woodside Rd And Bridle Ln**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
36	**Woodside Rd And Montelena Ct**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
37	Canada Rd And Mission Trail Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
38	Canada Rd And Glenwood Ave	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
39	Canada Rd And Laning Dr	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
40	Tadin Ln And Portola Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Woodside Rd And Lindenbrook Rd**	**Yes**	**0.2**	**1.0**	**0.0**	**1.2**	**WSD_1**	**WSD_14**	**WSD_47**	**202**	**0**	**0**	**202**
2	**Martinez Rd And La Honda Rd**	**Yes**	**0.2**	**1.0**	**0.0**	**1.2**	**WSD_2**	**WSD_14**	**WSD_5**	**191**	**0**	**191**	**382**
3	Portola Rd And Old La Honda Rd	No	0.2	1.0	0.0	1.2	WSD_2	WSD_14	WSD_13	191	0	0	191
4	**Woodside Rd And Northgate Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_4**	**WSD_14**	**WSD_13**	**33**	**0**	**0**	**33**
5	**Interstate Highway 280 Hwy And Farm Hill Blvd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_4**	**WSD_14**	**WSD_47**	**28**	**0**	**0**	**28**
6	**La Honda Rd And Portola Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_6**	**WSD_14**	**WSD_1**	**22**	**0**	**404**	**426**
7	**La Honda Rd And Skyline Blvd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_6**	**WSD_4**	**WSD_2**	**22**	**0**	**202**	**224**
8	**La Honda Rd And Fox Hill Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_6**	**WSD_4**	**WSD_47**	**22**	**0**	**0**	**22**
9	Portola Rd And Mountain Home Rd	No	0.0	1.0	0.0	1.0	WSD_9	WSD_4	WSD_8	11	0	11	22
10	**La Honda Rd And Grandview Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_9**	**WSD_4**	**WSD_13**	**11**	**0**	**0**	**11**
11	Portola Rd And Home Rd	No	0.0	1.0	0.0	1.0	WSD_9	WSD_14	WSD_13	11	0	0	11
12	**Woodside Rd And Bear Gulch Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_9**	**WSD_14**	**WSD_13**	**11**	**0**	**0**	**11**
13	**Canada Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_9**	**WSD_14**	**WSD_47**	**11**	**0**	**0**	**11**
14	**High Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_14**	**WSD_14**	**WSD_8**	**6**	**0**	**11**	**17**
15	**Miramontes Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_1**	**WSD_3**	**0**	**0**	**0**	**0**
16	**Woodside Rd And Fox Hollow Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_1**	**WSD_3**	**0**	**0**	**0**	**0**
17	**Woodside Rd And Unnamed**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_5**	**0**	**0**	**191**	**191**
18	Portola Rd And Montecito Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_4	WSD_8	0	0	11	11
19	Canada Rd And Corto Ln	No	0.0	1.0	0.0	1.0	WSD_15	WSD_13	WSD_8	0	191	11	202
20	Canada Rd And Olive Hill Ln	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_8	0	0	11	11
21	Portola Rd And Phillip Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_4	WSD_13	0	0	0	0
22	**Skywood Way And La Honda Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_4**	**WSD_13**	**0**	**0**	**0**	**0**
23	**Tripp Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_4**	**WSD_13**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
24	Portola Rd And Forest View Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
25	**Southgate Dr And State Highway 84 Hwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
26	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
27	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
28	Canada Rd And Eucalyptus Ct	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
29	Canada Rd And Bardet Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
30	Canada Rd And Arbor Ct	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
31	Canada Rd And Alta Vista Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
32	Canada Rd And Neuman Ln	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
33	Canada Rd And Runnymede Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
34	**Why Worry Ln And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
35	**Woodside Rd And Roberta Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
36	**La Honda Rd And Friars Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
37	**Kings Mountain Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
38	**Woodside Rd And Martin Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
39	**Woodside Rd And Bridle Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
40	**Woodside Rd And Montelena Ct**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
41	Canada Rd And Mission Trail Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
42	Canada Rd And Glenwood Ave	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
43	Canada Rd And Laning Dr	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
44	Tadin Ln And Portola Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
45	**Woodside Rd And Albion Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_1**	**WSD_46**	**0**	**0**	**0**	**0**
46	**Moore Rd And State Highway 84 Hwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
47	**Whiskey Hill Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
48	**Quail Meadows Dr And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
49	**Woodside Rd And Hobart Heights Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
50	**Shine Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
51	Canada Ln And Canada Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
52	**Woodside Rd And Haciendas Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
53	Dean Rd And Canada Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
54	Canada Rd And Monticello Ct	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
55	Canada Rd And Jefferson Ave	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
56	Canada Rd And Godetia Dr	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
WSD_1	Woodside	Portola Road, Family Farm Road to E town limit	No	0.8	4	4	4	4
WSD_2	Woodside	Canada Road, W town limit to Woodside Road (SR84)	No	2.0	17	11	17	17
WSD_3	Woodside	Portola Road, Woodside Road (SR84) to E town limit	No	0.8	4	4	4	4
WSD_4	Woodside	Woodside Road, E town limit to Haciendas Dr	Yes	1.3	4	4	4	4
WSD_5	Woodside	Woodside Road, Haciendas Dr to Mountain Home Road	Yes	0.3	2	0	2	2
WSD_6	Woodside	Woodside Road, Mountain Home Road to Kings Mountain Road	Yes	0.7	6	4	6	6
WSD_7	Woodside	Woodside Road/La Honda Road, Kings Mountain Road to S tow	Yes	5.3	16	15	16	16

Attachment 2
Draft Prioritized Project Maps

Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

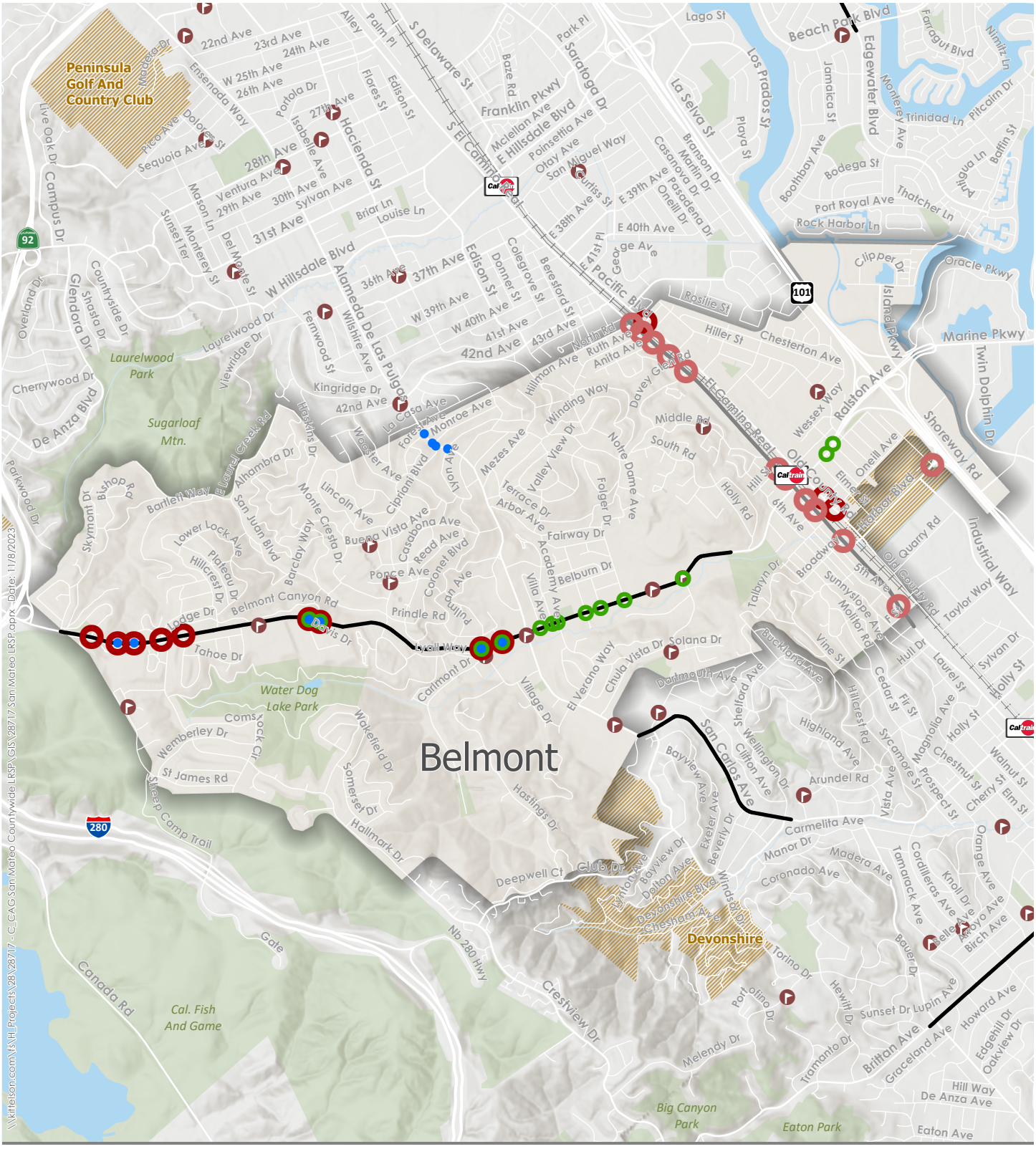
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-1

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Atherton, CA



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Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

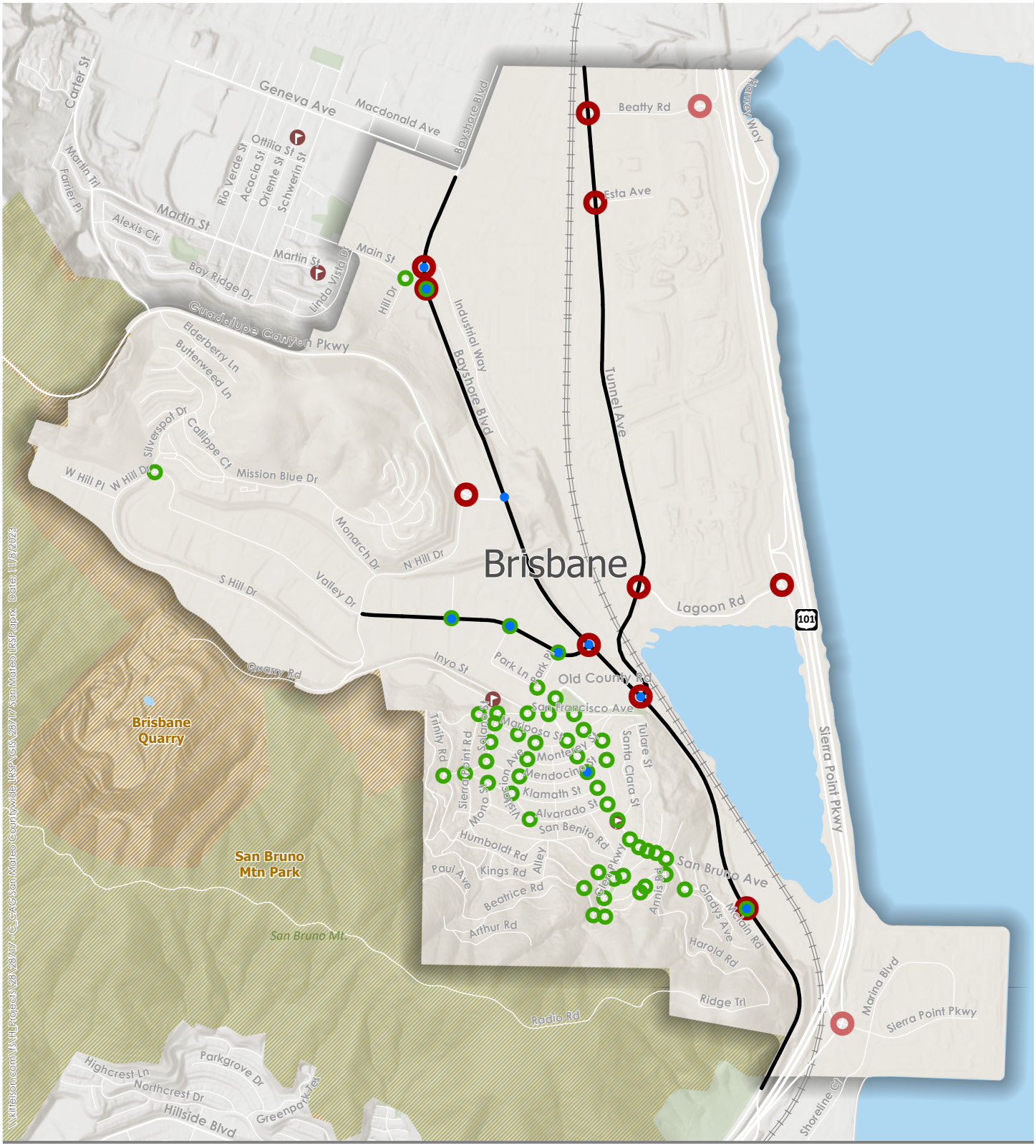
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-2

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Belmont, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

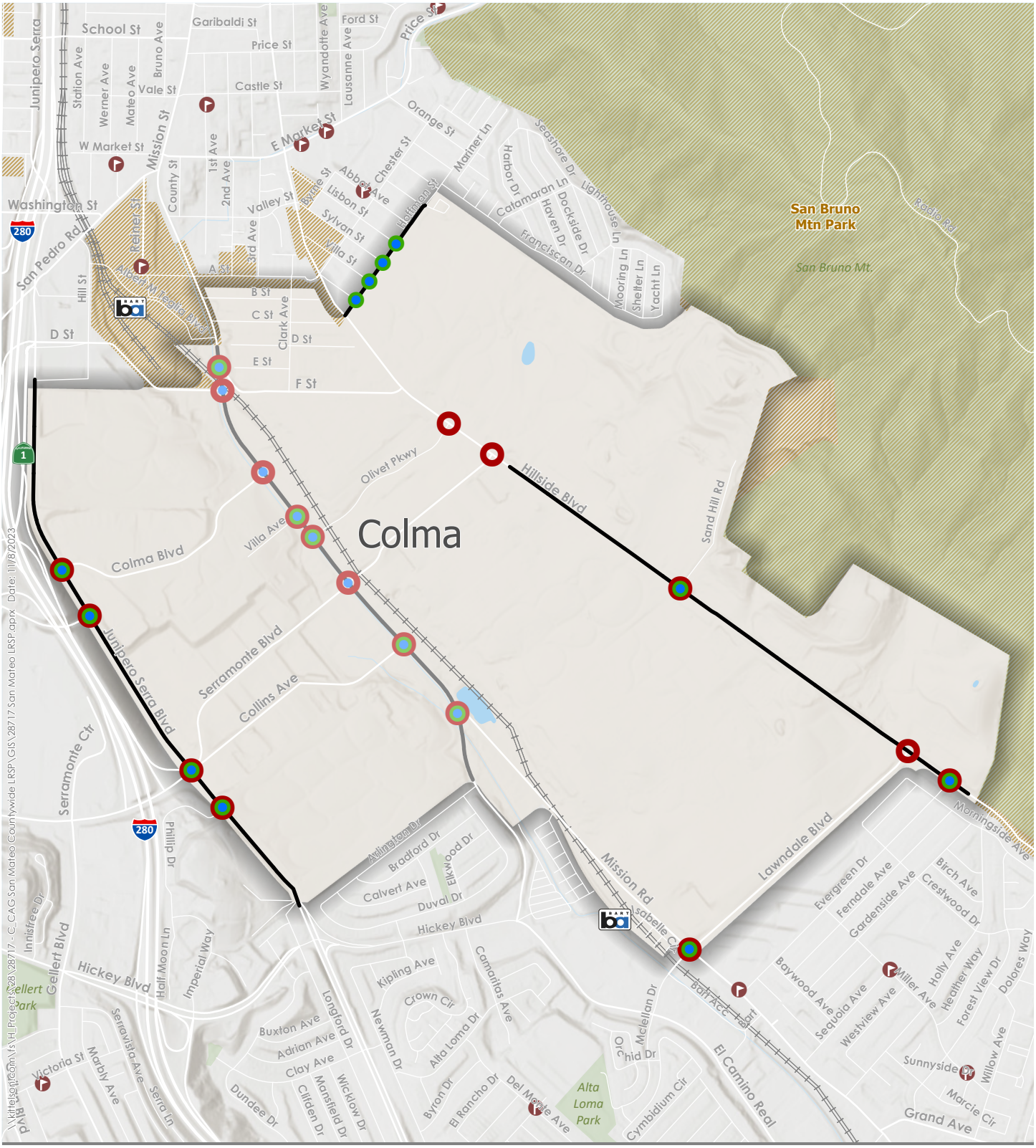
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-3

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Brisbane, CA



Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

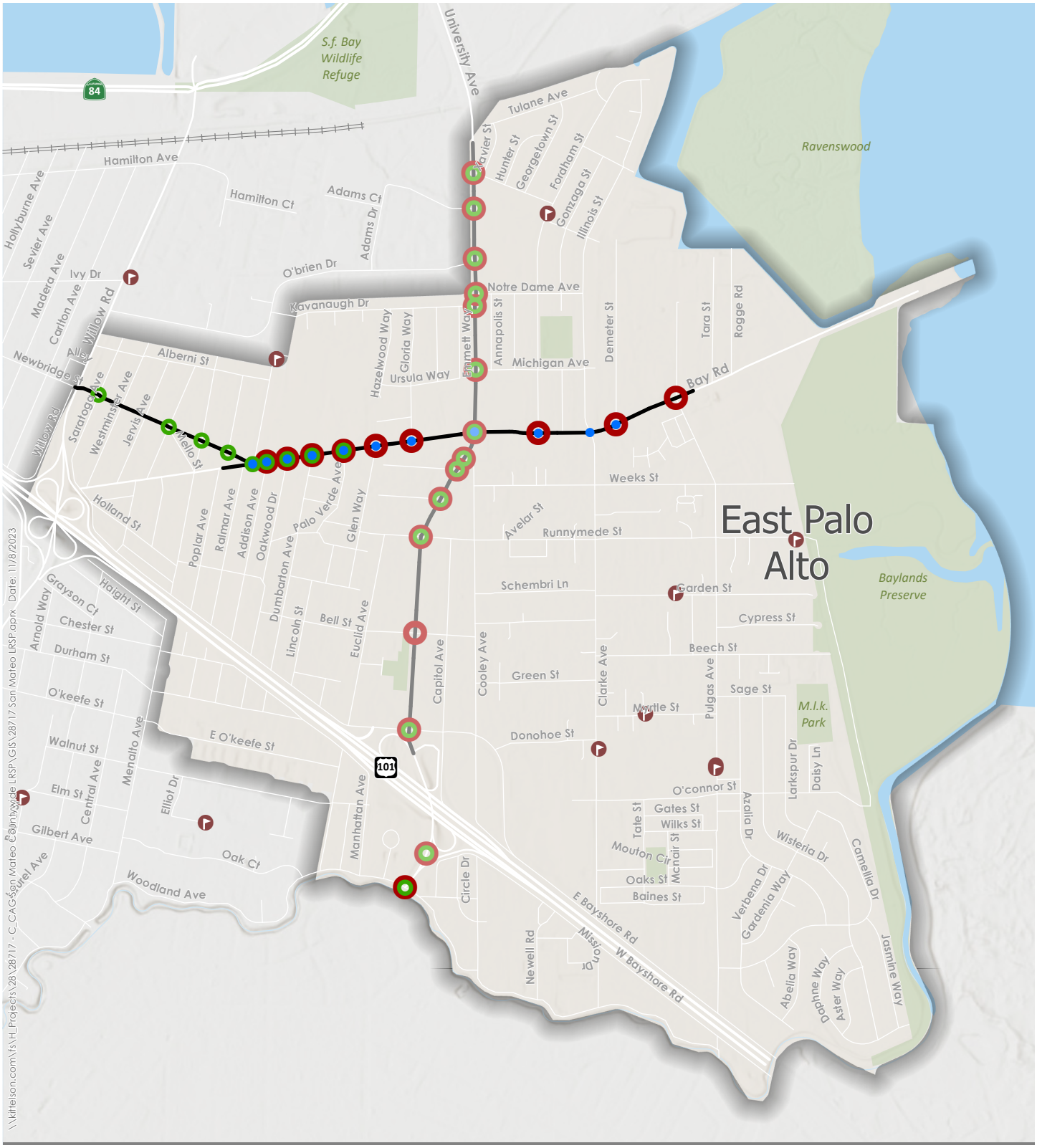
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-4

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Colma, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

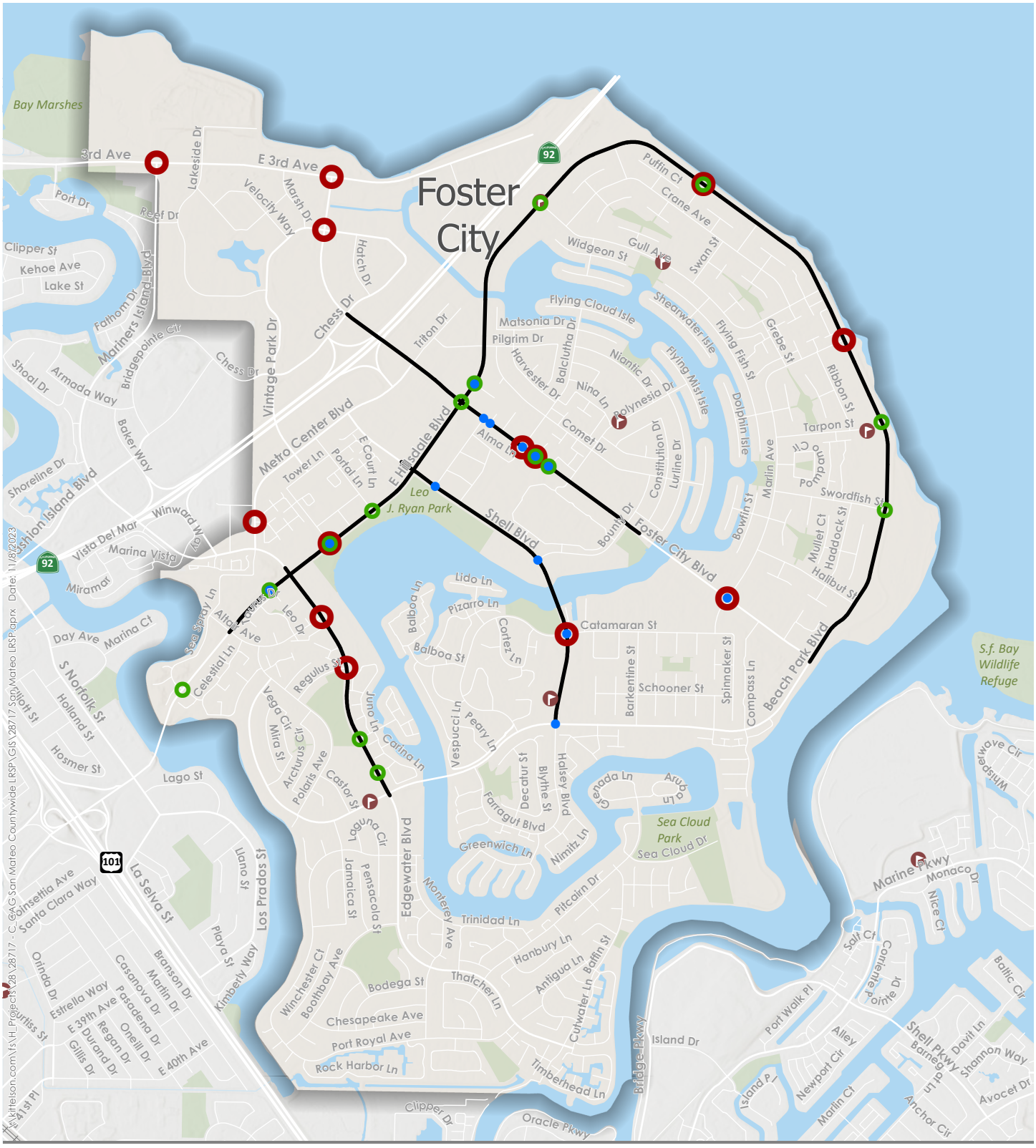
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-5

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of East Palo Alto, CA



Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

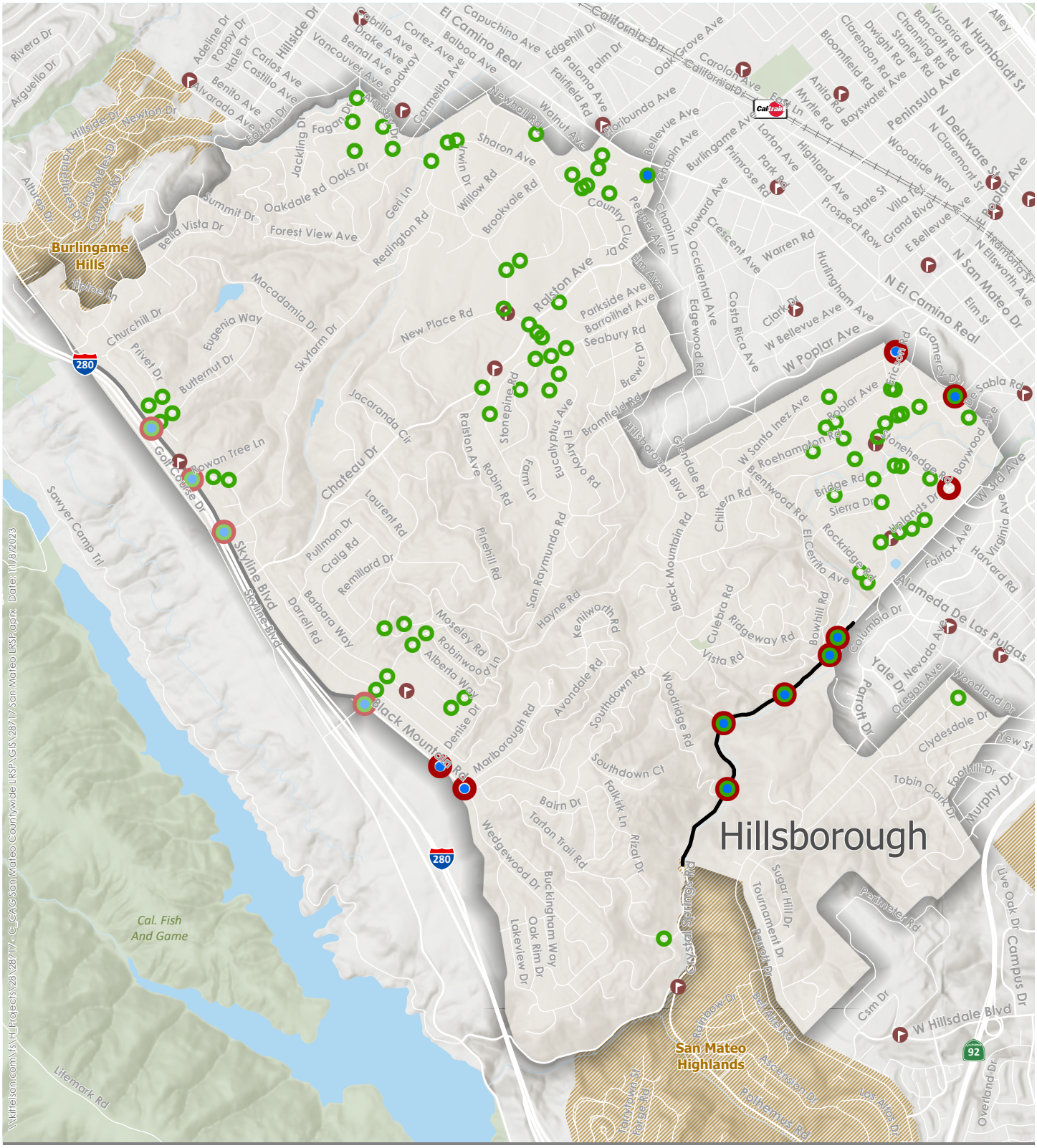
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-6

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Foster City, CA



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Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

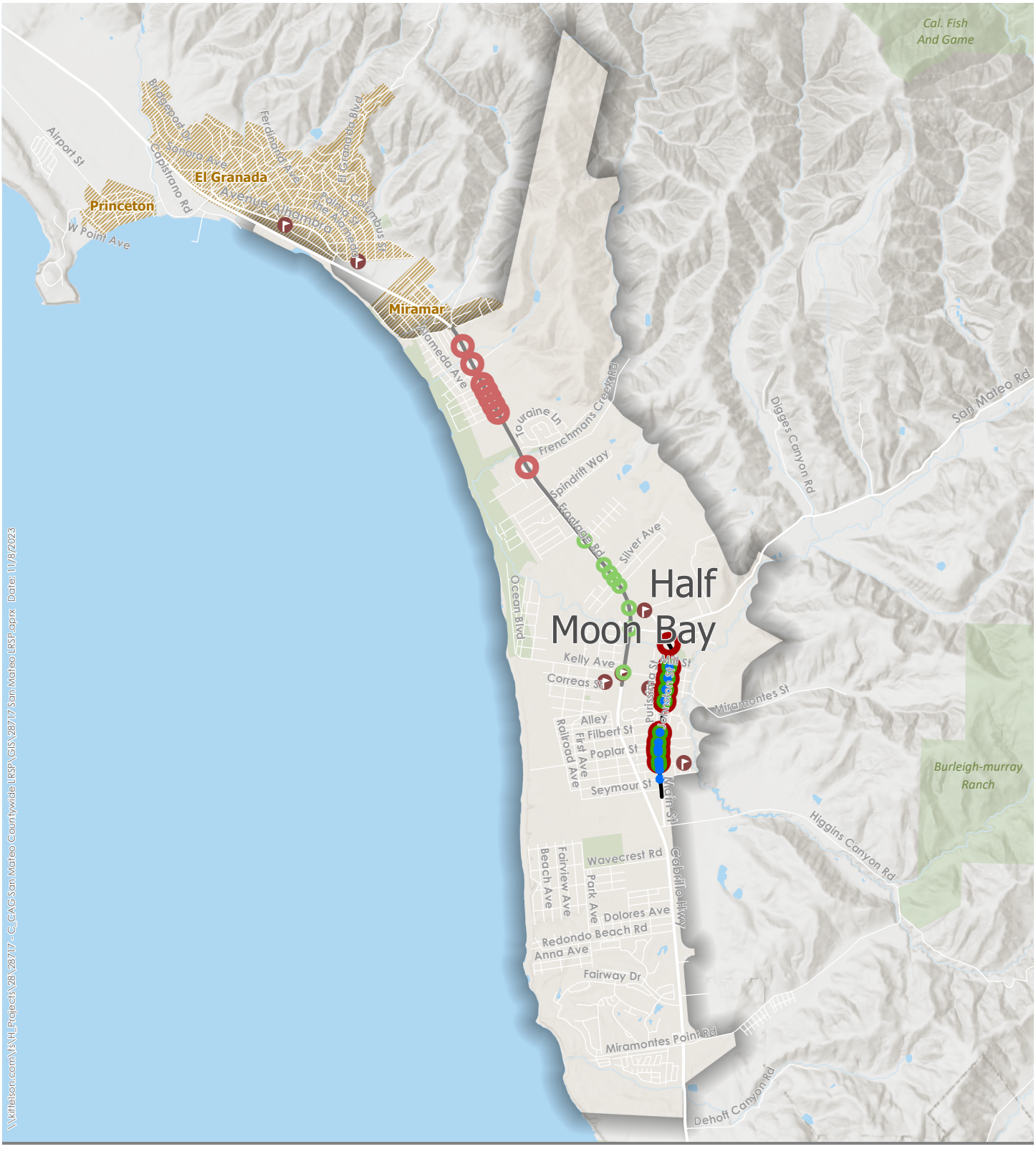
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-7

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Hillsborough, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

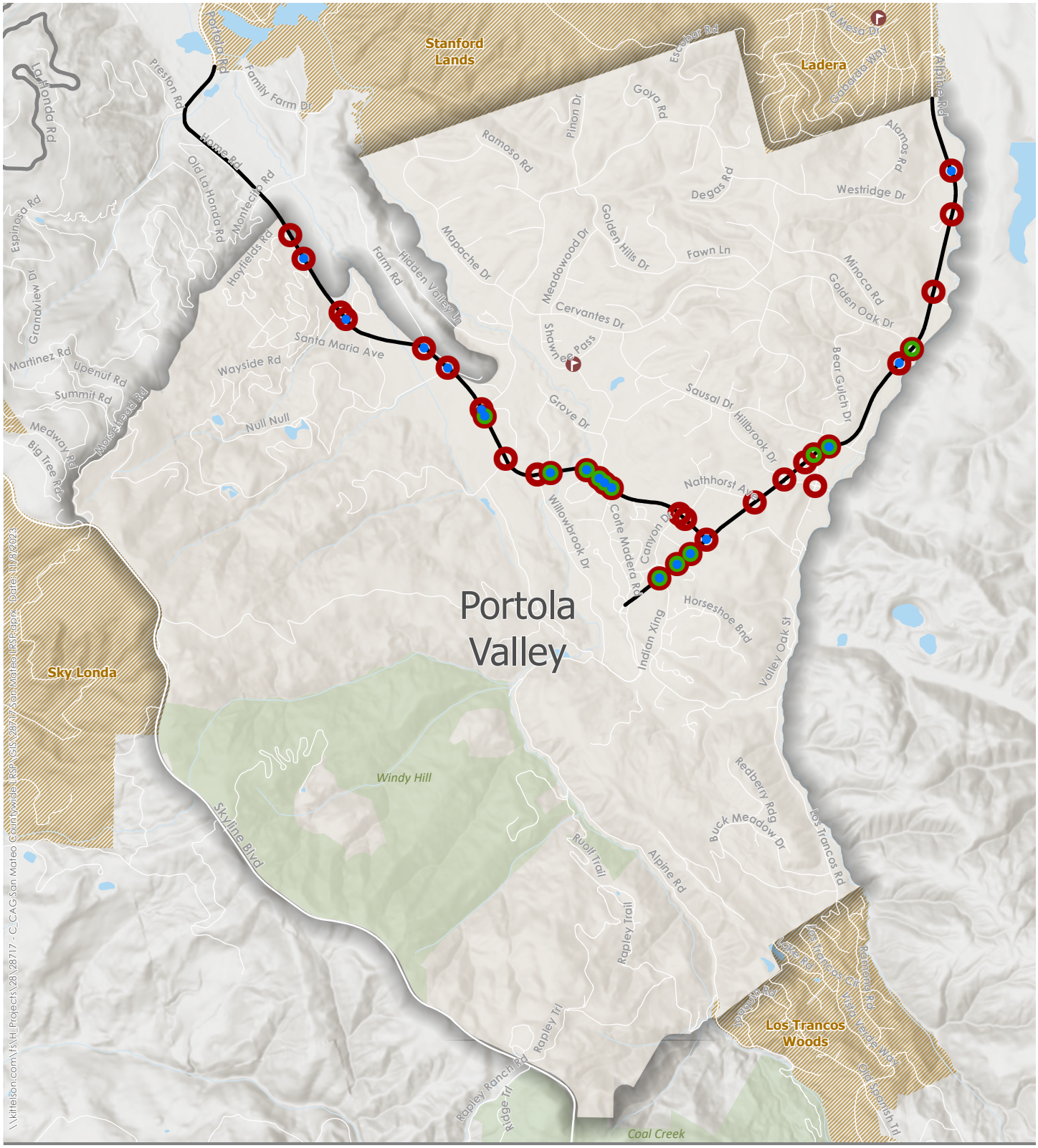
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 1 Miles

Figure C-8

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Half Moon Bay, CA



Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-9

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Portola Valley, CA

Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

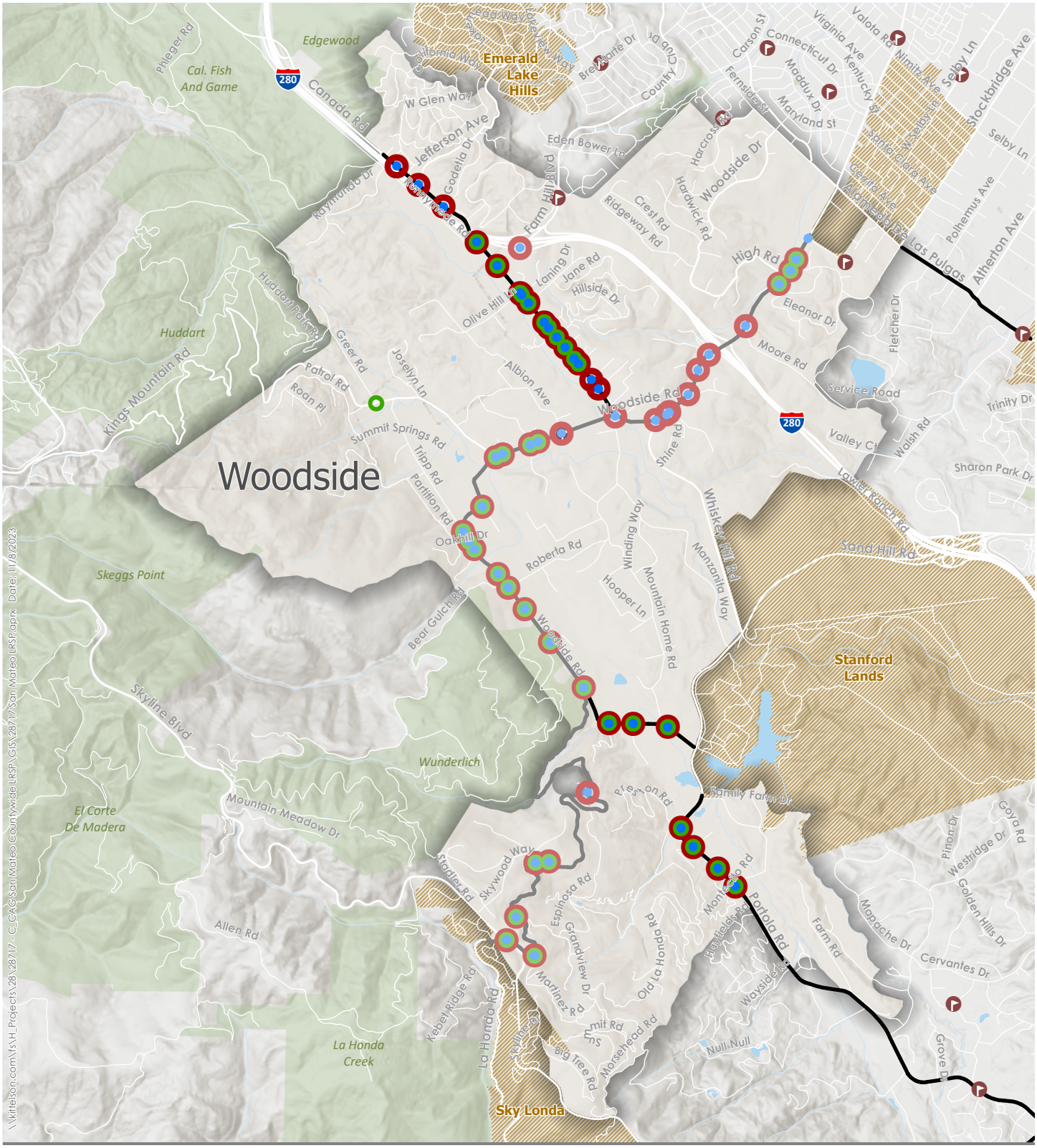
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 — 0.5 Miles

Figure C-10

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of San Carlos, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 1 Miles

Figure C-11

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Woodside, CA

Attachment 3
Explanation of Social Equity Scoring

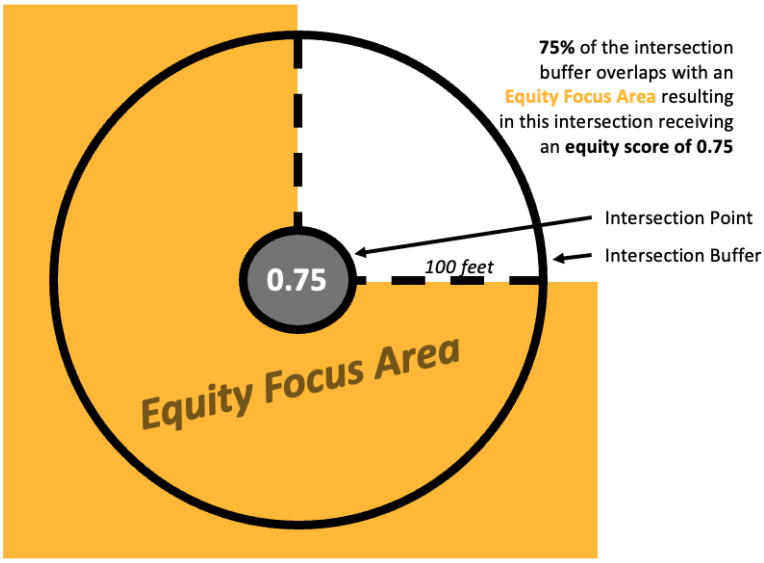
An intersection can lie just within or just beyond a social equity priority area boundary. As a result, binary scoring ("in" or "out") does not consistently reflect whether an intersection serves an identified social equity priority area.

Therefore, we employed an area-weighted proportional allocation approach. The equity data used in this analysis include binary indicators (yes/no) for C/CAG's Equity Focus Areas, MTC's Equity Priority Communities, USDOT's Historically Disadvantaged Communities, and USDOT's Areas of Persistent Poverty.

The area-weighted allocation approach is applied to each location for each of the four equity indicators. A score is determined based on the percentage of a 100-foot buffer that overlaps with the equity indicator geometry. For example, if 100% of the buffer overlaps with an equity indicator geometry, a score of 1.0 is assigned. If 75% of the buffer overlaps (as shown in Figure 4), a score of 0.75 is assigned.

The area-weighted proportional allocation approach adds granularity to the prioritization process and is recommended over a typical "intersection" approach, which awards the full score to each intersection/roadway segment if the road/intersection touches the equity data indicator and may therefore over-prioritize longer roadway segments.

Figure 4: Example of Area-Weighted Proportional Allocation Approach



Appendix E

SamTrans Bus Stop Priority Analysis

KITTELSON & ASSOCIATES
155 Grand Avenue, Suite 505
Oakland, CA 94612
P 510.839.1742

TECHNICAL MEMORANDUM

March 12, 2024 Project# 28717

To: Jess Manzi, PE; Daniel Shockley

From: Kittelson & Associates, Inc.

RE: C/CAG Countywide Local Roadway Safety Plan - SamTrans Bus Stop Analysis

Introduction

This memo presents the results of a SamTrans bus stop prioritization conducted for the City/County Association of Governments of San Mateo County (C/CAG) Countywide Local Road Safety Plan (LRSP). The Kittelson and Safe Streets Research Consulting (SSRC) teams analyzed bus stop data provided by SamTrans to identify correlation of roadway and intersection risk factors with crash history around high-ridership bus stops.

This memo presents a ranking of bus stops based on crash history, social equity, and systemic factors. It presents separate lists based on pedestrian crash history and bicyclist crash history.

Attached is the detailed analysis and findings of pedestrian safety around bus stops in San Mateo County (Appendix A).

METHODOLOGY

Based on available data, several risk factors were analyzed in relation to pedestrian crashes around bus stop locations. We used a set of risk factors outlined in Appendix A to develop a prioritization methodology to identify a priority list of locations for SamTrans for future improvements. To be consistent with the Countywide LRSP, we used a similar prioritization process to identify priority SamTrans bus stops as was done for priority locations (see Appendix B for details). Three equally weighted factors were used to prioritize SamTrans bus stops:

- **Crash History**: used to identify bus stop locations with the highest reported five-year pedestrian and bicyclist crash frequency and severity using two equally weighted criteria:
  - Crash severity score[1] of the bus stop's intersection or roadway segment
  - Bus stop is located on the Pedestrian/Bicycle High Injury Network (HIN)
- **Social Equity**: used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.

[1] Crashes have been assigned an Equivalent Property Damage Only (EPDO) value, which is a severity-based weight that allows us to better understand the general crash frequency and intensity (e.g., severity of injury outcomes) when analyzing crash frequencies in cross tabs. Weights are pulled from the Caltrans Local Road Safety (Version 1.6) document. A higher EPDO value may suggest that a particular roadway characteristic is associated with higher crash severities and/or crash frequencies.

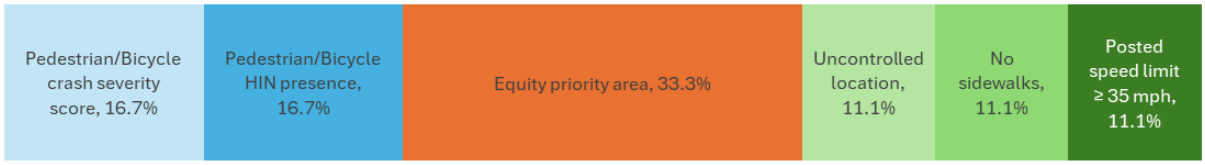
  - Bus stop is at a location within an Equity Priority Area[2]

- **Systemic characteristics:** used to identify locations that have roadway and land use characteristics associated with crash frequency and severity (i.e., using systemic factors emphasizes a proactive rather than purely reactive approach).
  - Bus stop is at an uncontrolled location (i.e., unsignalized intersections or midblock crossings)
  - Bus stop is at a location with no sidewalks
  - Bus stop is at a location where the posted speed limit is 35 mph or greater

RESULTS

The three factors and constituent criteria were combined, resulting in overall pedestrian and bicycle scores for each bus stop location. Figure 1 shows the factor and criteria weighting and how much each contributed to a location's overall score.

Figure 1: Factor/Criteria Weighting for Bus Stops



Separate priority lists were developed for pedestrians and bicyclists to better target the improvements for those users. Table 1 presents the priority bus stop locations based on pedestrian crash history and Table 2 presents the locations based on bicycle crash history. Each list contains the top 30 locations. The total number of locations was determined by identifying a natural break in crash severity scores and presence on the pedestrian or bicycle HIN (many locations are tied). Figure 2 shows where these priority bus stops are located within San Mateo County. In some cases, a bus stop was identified as a priority location in both the pedestrian and bicyclist lists.

Kittelson proposes to include these tables in the Project Prioritization section of the C/CAG LRSP regional chapter. SamTrans can use this list to aid in future planning efforts and coordination with local agencies for bus stop improvements. SamTrans can use the prioritization sheet and scores provided alongside its ridership numbers to further prioritize stops as desired.

[2] SamTrans identified Equity Priority Areas using a ranked composite index that accounts for household income, non-white households, and zero-vehicle households based on 2014-2018 American Community Survey 5-year Estimates and 2017 Longitudinal Employer-Household Dynamics (LEHD) data.

Table 1. Priority Bus Stop Locations for Pedestrian Improvements

Ped Rank	Stop ID	Stop Location	Jurisdiction	Crash History			Equity	Systemic Characteristics				Total Score (0-1)	Bike Rank
				Ped Crash Severity Score (0-432)	Ped HIN	Ped Crash History Score (Normalized 0-1)	Equity Score (0-1)	Uncontrolled Location (0-1)	Absence of Sidewalks (0-1)	> 35 MPH (0-1)	Char. Score (Normal-ized 0-1)		
1	351002	3745 Bayshore Blvd-Andrys Trailer Park	Brisbane	165	1	0.69	1	1	1	1	1.00	0.89	30+
2	336039	El Camino Real & Silva Ave	Millbrae	371	1	0.93	1	1	0	1	0.67	0.86	30+
3	332221	Mission St & Evergreen Ave-Daly City	Daly City	241	1	0.78	1	1	0	1	0.67	0.81	30+
4	344658	Jefferson Ave at Adams St	Redwood City	224	1	0.76	1	1	0	1	0.67	0.80	8
5	344657	Jefferson Ave at Adams St	Redwood City	213	1	0.75	1	1	0	1	0.67	0.80	7
6	344086	El Camino Real & Lincoln Ave	Redwood City	202	1	0.73	1	1	0	1	0.67	0.79	4
7	336027	El Camino Real & Center St-Millbrae	Millbrae	393	1	0.95	1	0	0	1	0.33	0.76	30+
8	336028	El Camino Real & Center St-Millbrae	Millbrae	393	1	0.95	1	0	0	1	0.33	0.76	30+
9	336038	El Camino Real & Silva Ave	Millbrae	371	1	0.93	1	0	0	1	0.33	0.75	30+
10	334246	S Spruce Ave & Railroad Ave	South San Francisco	356	1	0.91	1	0	0	1	0.33	0.74	30+
11	332154	Hillside Blvd & Brunswick St	Daly City	334	1	0.89	1	1	0	0	0.33	0.73	30+
12	332233	Mission St & Price St	Daly City	44	1	0.55	1	1	0	1	0.67	0.73	30+
13	332129	Geneva Ave & Schwerin St	Daly City	34	1	0.54	1	0	1	1	0.67	0.73	30+
14	335612	Jenevein Ave & El Camino Real	San Bruno	322	1	0.87	1	0	0	1	0.33	0.73	30+
15	351001	3800 Bayshore Blvd-Andrys Trailer Park	Brisbane	165	0	0.19	1	1	1	1	1.00	0.72	30+

Ped Rank	Stop ID	Stop Location	Jurisdiction	Crash History			Equity	Systemic Characteristics				Total Score (0-1)	Bike Rank
				Ped Crash Severity Score (0-432)	Ped HIN	Ped Crash History Score (Normalized 0-1)	Equity Score (0-1)	Uncontrolled Location (0-1)	Absence of Sidewalks (0-1)	> 35 MPH (0-1)	Char. Score (Normal-ized 0-1)		
16	332232	Mission St & Parkview Ave	Daly City	17	1	0.52	1	1	0	1	0.67	0.72	30+
17	341109	N Delaware St & E Bellevue Ave	San Mateo	11	1	0.51	1	1	0	1	0.67	0.72	30+
18	341111	N Delaware St & Tilton Ave	San Mateo	11	1	0.51	1	1	0	1	0.67	0.72	5
19	344087	El Camino Real & Main St	Redwood City	11	1	0.51	1	1	0	1	0.67	0.72	6
20	344095	El Camino Real & Winklebleck St	Redwood City	11	1	0.51	1	1	0	1	0.67	0.72	2
21	363041	Bay Rd & Oakwood Dr	East Palo Alto	11	1	0.51	1	1	0	1	0.67	0.72	30+
22	363602	Bay Rd & Pulgas Ave	East Palo Alto	11	1	0.51	1	1	0	1	0.67	0.72	30+
23	335635	Sneath & Huntington Inbound BART	San Bruno	11	1	0.51	1	1	0	1	0.67	0.72	30+
24	344085	El Camino Real & Jefferson Ave	Redwood City	11	1	0.51	1	1	0	1	0.67	0.72	21
25	332184	Junipero Serra Blvd & School St	Daly City	11	1	0.51	1	1	0	1	0.67	0.72	30+
26	363605	Bay Rd & Pulgas Ave	East Palo Alto	11	1	0.51	1	1	0	1	0.67	0.72	30+
27	334078	El Camino Real & Brentwood Dr	South San Francisco	6	1	0.51	1	1	0	1	0.67	0.72	30+
28	344416	Jefferson Ave & Myrtle St	Redwood City	6	1	0.51	1	1	0	1	0.67	0.72	30+
29	363002	Bay Rd & Gloria Way	East Palo Alto	6	1	0.51	1	1	0	1	0.67	0.72	30+
30	341058	Alameda de las Pulgas & Parkside Way	San Mateo	0	1	0.50	1	1	0	1	0.67	0.72	30+

Table 2. Priority Bus Stop Locations for Bicycle Improvements

Bike Rank	Stop ID	Stop Location	Jurisdiction	Crash History			Equity	Systemic Characteristics				Total Score (0-1)	Ped Rank
				Bike Crash Severity Score (0-367)	Bike HIN	Bicycle Crash Score (Normalized 0-1)	Equity Score (0-1)	Uncontrolled Locations (0-1)	Absence of Sidewalks (0-1)	>35 MPH (0-1)	Char. Score (Normalized 0-1)		
1	344900	El Camino Real & Dumbarton Ave	North Fair Oaks	0	1	0.50	1	1	1	1	1.00	0.83	30+
2	344095	El Camino Real & Winklebleck St	Redwood City	191	1	0.76	1	1	0	1	0.67	0.80	20
3	344207	Middlefield Rd & Flynn Ave	Redwood City	28	1	0.54	1	1	0	1	0.67	0.73	30+
4	344086	El Camino Real & Lincoln Ave	Redwood City	17	1	0.52	1	1	0	1	0.67	0.72	6
5	341111	N Delaware St & Tilton Ave	San Mateo	11	1	0.51	1	1	0	1	0.67	0.72	18
6	344087	El Camino Real & Main St	Redwood City	11	1	0.51	1	1	0	1	0.67	0.72	19
7	344657	Jefferson Ave at Adams St	Redwood City	11	1	0.51	1	1	0	1	0.67	0.72	5
8	344658	Jefferson Ave at Adams St	Redwood City	11	1	0.51	1	1	0	1	0.67	0.72	4
9	363067	University Ave & Sacramento St	East Palo Alto	11	1	0.51	1	1	0	1	0.67	0.72	30+
10	342054	El Camino Real & Ruth Ave	Belmont	0	1	0.50	1	1	0	1	0.67	0.72	30+
11	342085	Old County Rd & Dale View Ave	Belmont	0	1	0.50	1	1	0	1	0.67	0.72	30+
12	344195	Middlefield Rd & Cassia St	Redwood City	0	1	0.50	1	1	0	1	0.67	0.72	30+
13	344196	Middlefield Rd & Elm St	Redwood City	0	1	0.50	1	1	0	1	0.67	0.72	30+
14	344420	Veterans Blvd & Hansen Way	Redwood City	0	1	0.50	1	1	0	1	0.67	0.72	30+
15	344448	Woodside Rd & Bonita Ave	Redwood City	0	1	0.50	1	1	0	1	0.67	0.72	30+

Bike Rank	Stop ID	Stop Location	Jurisdiction	Crash History			Equity	Systemic Characteristics				Total Score (0-1)	Ped Rank
				Bike Crash Severity Score (0-367)	Bike HIN	Bicycle Crash Score (Normalized 0-1)	Equity Score (0-1)	Uncontrolled Locations (0-1)	Absence of Sidewalks (0-1)	>35 MPH (0-1)	Char. Score (Normalized 0-1)		
16	344659	Jefferson Ave at Grand St	Redwood City	0	1	0.50	1	1	0	1	0.67	0.72	30+
17	344901	El Camino Real & Northumberland Ave	North Fair Oaks	0	1	0.50	1	1	0	1	0.67	0.72	30+
18	341142	El Camino Real & 43rd Ave	San Mateo	0	1	0.50	1	1	0	1	0.67	0.72	30+
19	335099	Huntington Ave & Sneath Ln	San Bruno	0	1	0.50	1	1	0	1	0.67	0.72	30+
20	363064	2111 University Ave-Bell St Park	East Palo Alto	0	1	0.50	1	1	0	1	0.67	0.72	30+
21	344085	El Camino Real & Jefferson Ave	Redwood City	0	1	0.50	1	1	0	1	0.67	0.72	24
22	315013	Hwy 1 & Kelly Ave	Half Moon Bay	0	1	0.50	1	0	1	1	0.67	0.72	30+
23	344203	Middlefield Rd & Dumbarton Ave	North Fair Oaks	191	1	0.76	1	1	0	0	0.33	0.69	30+
24	344204	Middlefield Rd & Dumbarton Ave	North Fair Oaks	191	1	0.76	1	1	0	0	0.33	0.69	30+
25	363065	University Ave & Runnymede St	East Palo Alto	148	1	0.70	1	0	0	1	0.33	0.67	30+
26	363066	University Ave & Runnymede St	East Palo Alto	148	1	0.70	1	0	0	1	0.33	0.67	30+
27	341943	Hillsdale Blvd & Saratoga dr	San Mateo	131	1	0.68	1	0	0	1	0.33	0.66	30+
28	344450	Woodside Rd & Hess Rd	Redwood City	131	1	0.68	1	0	0	1	0.33	0.66	30+
29	344624	Woodside Rd & Hess Rd	Redwood City	131	1	0.68	1	0	0	1	0.33	0.66	30+
30	315901	Hwy 92 & Hwy 35-Skyline Blvd	Unincorporated San Mateo County	0	0	0.00	1	1	1	1	1.00	0.66	30+

0 1 2 3 4 5Miles

- Priority Bus Stops (Bicyclists)
- Priority Bus Stops (Pedestrians)
- BART Station
- Caltrain Station
- Railroad
- Parks
- Cities
- Unincorporated Places

Figure 2

SamTrans Priority Bus Stops
San Mateo County, CA

KITTELSON & ASSOCIATES

H:\28\28717 - C_CAG San Mateo Countywide LRSP\GIS\28717 San Mateo LRSP.aprx Date: 3/12/2024

Appendix A: Detailed Analysis

MEMO

SAFE STREETS
Research + Consulting

TO: Mike Alston, Kittleson & Associates, Inc

FROM: Brian Almdale, Rebecca Sanders, PhD, RSP_{2B}

DATE: March 5, 2024

RE: Pedestrian Safety Analysis at SamTrans Bus Stops

PROJECT: C/CAG Local Road Safety Plan

Introduction

This document presents the results of a detailed exploration of pedestrian safety near bus stops as part of a supplemental analysis for the City/County Association of Governments of San Mateo County (C/CAG) Local Road Safety Plan (LRSP). The regional transit provider, SamTrans, provided enhanced bus stop data that was collected by SamTrans as part of their Bus Stop Improvement Plan effort. The enhancements made to the bus stop data consisted of manual data collection using Google Street View ™ to inventory bus stop amenities, roadway characteristics, and bus stop location characteristics (e.g., near-side v. far-side of an intersection).

The bus stop data provided to the consultant team has been reviewed and assessed for quality control concerns. Several possible data quality concerns are noted throughout this document, largely relating to the consistency of roadway characteristics assigned to each bus stop. There does not appear to have been a systemic process employed as part of the manual data collection effort. Due to budget and project timeline limitations, these possible data quality concerns are not able to be fully remedied, and therefore the results of this analysis should be interpreted with caution.

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Acronyms

Acronym	Definition
C/CAG	City/County Association of Governments of San Mateo County
EPDO	Equivalent Property Damage Only
HIN	High Injury Network
F/SI	Killed or severely injured
LRSP	Local Road Safety Plan
OSM	OpenStreetMap
PHB	Pedestrian Hybrid Beacon
RRFB	Rectangular Rapid Flashing Beacon

Several instances in this report refer to arterial/collector streets, which are segments with an OpenStreetMap (OSM) functional classification of primary, secondary, tertiary, or trunk.

Injury Weights

Crashes have been assigned an Equivalent Property Damage Only (EPDO) value, which is a severity-based weight that allows us to better understand the general crash frequency and intensity (e.g., severity of injury outcomes) when analyzing crash frequencies in cross tabs. These costs are pulled from the Caltrans Local Road Safety (Version 1.6) document. A higher EPDO value may suggest that a particular roadway characteristic is associated with higher crash severities and/or crash frequencies. Most tables in this report present EPDO values via the total EPDO by variables as well as the average EPDO score per crash (total EPDO divided by the total number of crashes) to help us understand average crash severity. The table below outlines the combinations of injury severities and location types and the corresponding EPDO value.

Crash Severity*	Location Type	Crash Cost***	Equivalent Property Damage Only
**Fatal and Severe Injury (KA)	Signalized Intersection	$1,787,000	119.93
	Non-Signalized Intersection	$2,843,000	190.81
	Roadway	$2,461,000	165.17
Evident Injury – Other Visible (B)		$159,000	10.67
Possible Injury – Complaint of Pain (C)		$90,900	6.10
****Property Damage Only (O)		$14,900	1.00

* The letters in parenthesis (K, A, B, C and O) refer to the KABCO scale; it is commonly used by law enforcement agencies in their crash reporting efforts and is further documented in the HSM.

** Figures were calculated based on an average Fatality (K) / Severe Injury (A) ratio for each area type, a crash cost for a Fatality (K) of $8,112,200, and a crash cost of a Severe/Disabling Injury (A) of $437,100. These costs are used in the HSIP Analyzer.

*** Based on Table 7-1, Highway Safety Manual (HSM), First Edition, 2010. Adjusted to 2022 Dollars.

**** Property Damage Only Crashes are excluded from this analysis (and excluded from the C/CAG LRSP).

Summary of Key Findings from LRSP

The C/CAG LRSP systemic safety analysis found that pedestrian crashes were concentrated at intersections with a bus stop. Intersections within 250 feet of a transit stop had a crash rate of 20 crashes per 100 intersections, compared to just 4 crashes per 100 intersections for those intersections further away. Following are key findings from the LRSP analysis exploring crashes near bus stops:

- Signalized intersections with a bus stop had roughly six times the rate of both crashes per 100 intersections and F/SI crashes per 100 intersections as unsignalized intersections with a bus stop.
- F/SI crashes at signalized intersections with a bus stop generally involved the pedestrian crossing and being struck by a motorist going straight (29 percent), or the pedestrian crossing and a motorist turning left (24 percent). Both crash types most frequently involved a motorist who failed to yield to the pedestrian (77 percent of all crashes; 50 percent of F/SI crashes). These patterns were similar for unsignalized intersections with a bus stop.

- Three-quarters of all crashes and F/SI crashes, regardless of signalization, occurred at an intersection between an arterial (primary, secondary, or tertiary) and a residential street with a bus stop.
- Crashes most frequently occurred at a primary-residential intersection with a bus stop (30 percent of all crashes; 28 percent of F/SI crashes), followed by a secondary-residential intersection with a bus stop (28 percent of all crashes; 28 percent of F/SI crashes).

Key Findings from SamTrans Bus Stop Analysis

The supplemental SamTrans bus stop analysis reveals additional potentially important findings about pedestrian safety, although, as stated in the introduction, these findings should be treated cautiously given the lack of a systematic data collection effort. Following is a consolidated list of the key findings from this supplemental analysis, which can be found throughout the remainder of the Safety Analysis at Bus Stops section as the bulleted lists at the end each summary. This analysis focused on pedestrian crashes involving a motorist.

- **Location Type**: Crashes and F/SI crashes are heavily concentrated at signalized intersections.
- **Location Type**: Crashes near midblock bus stops were more likely to be severe (F/SI outcome, 34 percent) than those at signalized intersections (20 percent F/SI) or unsignalized intersections (18 percent F/SI).
- **Location Type & Crossing Control**: Crashes and F/SI Crashes are concentrated at signalized intersections. These locations also had a crash rate and F/SI crash rate of between 2-3 times the rate of bus stops at unsignalized intersections.
- **Location Type & Presence of a Marked Crosswalk**: Marked crosswalks at unsignalized intersections appear to have safety benefits, suggested by a lower proportion of crashes resulting in a F/SI outcome, lower proportion of F/SI crashes occurring during darkness, and a lower average EPDO score.
- **Location Type & Stop Control & Presence of a Marked Crosswalk (Unsignalized Intersections)**: Bus stops at stop-controlled intersections had a lower share of crashes resulting in a F/SI outcome, lower share of F/SI crashes occurring during darkness, and lower average EPDO score compared to bus stops with an unmarked crosswalk and no crossing control.
- **Presence of a Sidewalk & Posted Speed Limit**: More than one-third (38 percent) of bus stops without a sidewalk are along streets with a speed limit of 25 mph, followed by 45 mph (22 percent).
- **Presence of a Sidewalk & Functional Classification**: More than one-third (38 percent) of bus stops without a sidewalk are along secondary streets, followed by residential (24 percent) and tertiary streets (15 percent). Most crashes and all six F/SI crashes near bus stops without a sidewalk were along primary streets.
- **Presence of a Sidewalk**: Two of the 25 crashes and two of the six F/SI crashes that occurred near a bus stop without a sidewalk were near/at a midblock bus stop.

- **Functional Classification**: Crashes and F/SI crashes are concentrated along primary and secondary streets, and crashes along primary streets tend to be more severe than crashes at other locations. In contrast, crashes along residential streets are generally less severe than crashes that occurred along higher functional classifications.
- **Functional Classification**: However, residential streets are brought in at the intersection: crashes are concentrated at primary-residential and secondary-residential intersections.
- **Functional Classification**: Additionally, crashes at primary-residential intersections tend to be more severe than crashes at other locations. Furthermore, nearly *two-thirds* of F/SI crashes at primary-residential intersections occurred during dark lighting conditions.
- **Posted Speed Limit**: Bus stops along higher speed streets had a higher concentration of crashes and F/SI crashes compared to streets with a lower posted speed limit (25 mph).
- **Pedestrian HIN**: Pedestrian crashes and F/SI crashes are overwhelmingly concentrated along the pedestrian HIN. Given this high capture rate for pedestrian F/SI in particular, the C/CAG regional pedestrian HIN can be an effective tool to prioritize bus stops with pedestrian crash risk issues in SamTrans safety prioritization.
- **Pedestrian HIN & Functional Classification**: Along the pedestrian HIN, F/SI crashes are concentrated at primary streets (29.4 F/SI crashes compared to the average along the pedestrian HIN of 23.9).
- **Pedestrian HIN & Functional Classification**: Additionally, a large proportion (73 percent) of F/SI crashes at bus stops along the pedestrian HIN and primary streets occurred during dark lighting conditions.
- **Pedestrian HIN & Crossing Control**: F/SI crashes are concentrated at signalized and unsignalized crossings along the pedestrian HIN. Bus stops with uncontrolled crossings had a higher rate of F/SI crossings per 1,000 riders (6.2) than signalized crossings (4.8).
- **Pedestrian HIN & Crossing Control**: Bus stops with no crossing control were associated with the highest proportion of pedestrian F/SI crashes occurring during dark lighting conditions (62 percent).
- **Pedestrian HIN & Position Type**: F/SI crashes per 100 bus stops are more concentrated at far-side locations (26.6) compared top near-side (20.9) and midblock (22.2) locations.
- **Pedestrian HIN & On-Street Parking**: Bus stops lacking on-street parking had a higher rate of F/SI crashes per 100 bus stops (25.5), lower F/SI crashes per 1,000 riders (n=4.7), and a higher average EPDO score per bus stop (48.9) compared to bus stops with on-street parking.
- **Pedestrian HIN & Driveway Conflicts**: Bus stops with a driveway conflict along the pedestrian HIN had higher rates of F/SI crashes per 100 bus stops and per 1,000 riders, particularly along arterial/collector streets, compared to bus stops without a driveway conflict.
- **Caltrans Facilities**: Bus stops along Caltrans facilities had about 2.5 times the rate of crashes and F/SI crashes per 100 bus stops compared to bus stops along county and local roads.

- **Caltrans Facilities & Functional Classification**: Crashes and F/SI crashes along primary streets are concentrated along state-owned facilities.
- **Caltrans Facilities & Crossing Control**: Bus stops along state-owned roads at uncontrolled crossings have roughly one-third of the average daily ridership compared to bus stops at signalized locations, but have similar rate of crashes and F/SI crashes on a per 1,000 ridership basis. This finding suggests for pedestrian safety measures (lane reductions, speed reductions, adding crossing control, etc.) at uncontrolled intersections along state routes to facilitate safe pedestrian crossings
- **Caltrans Facilities & Crossing Control**: There are very few bus stops along state-owned roads that have crossing controls other than traffic signals (such as PHB or RRFB).
- **Caltrans Facilities & Presence of a Sidewalk**: Bus stops along state-owned roads with a connecting sidewalk had a higher rate of crashes and F/SI crashes per 100 bus stops, but a lower rate of crashes and F/SI crashes per 1,000 riders compared to bus stops without a connecting sidewalk.
- **Equity Priority Area**: Bus stops within an Equity Priority Area have a disproportionately high rate of crashes and F/SI crashes per 100 bus stops.
- **Equity Priority Area**: Bus stops within an Equity Priority Area had a very large percentage of F/SI crashes occur in darkness (62 percent) compared to bus stops outside of Equity Priority Areas (28 percent).
- **Equity Priority Area & Pedestrian HIN**: Crashes and F/SI crashes are heavily concentrated at bus stops along the pedestrian HIN within Equity Priority Communities.
- **Equity Priority Area & Pedestrian HIN**: A much higher proportion of F/SI crashes that occurred in darkness was observed at bus stops within an Equity Priority Community and along the pedestrian HIN, compared to locations outside of Equity Priority Areas regardless of location along the HIN.

Methodology

Pedestrian crashes summarized in this analysis occurred within 250 feet of a bus stop. This is the same distance threshold used in the LRSP systemic safety analysis. The unit of analysis is the bus stop. All crashes that occurred within 250 feet of the bus stop were joined to the bus stop, with specific fields created in the bus stop data (ped_all, ped_ka, ped_all_dark, ped_all_dark_ka, etc.)

Bus stops that are located outside of the C/CAG study area were removed from the analysis. This included 96 bus stops located in San Francisco and Palo Alto. The final study dataset used in this analysis includes 1,969 bus stop records.

The crash data do not provide information about where the pedestrian or bicyclist was traveling to or from. As such, we cannot determine if the road user was a transit user at the time of the crash or simply in close proximity of the bus stop. Furthermore, if the road user was in fact traveling to or from the bus stop, we do not have the information to be able to identify which stop they were traveling to or from. As such, crashes are assigned to all bus stops if they are

within 250 feet (Euclidean distance). This methodology results in some double counting of crashes when summarizing by crash frequencies. For example, the crash (red star) in Figure 1 is assigned to both bus stops (blue boxes). To work around this double counting, all crashes and F/SI crashes are converted to crashes and F/SI crashes per 100 bus stops and 1,000 bus riders (i.e., crash frequencies divided by the number of bus stops and bus riders and scaled, respectively) and summarized for each variable explored in this analysis. The crashes and F/SI crashes per 1,000 riders is a coarse approach to estimate pedestrian exposure, in that bus stops with higher volumes of transit users are likely to be correlated with higher pedestrian volumes overall. This is not true for all bus stops, and these crash rates should be interpreted with caution as the crash per 1,000 riders is a planning-level estimate. In the tables summarized in this document, the raw crash count and F/SI crash count are included to show the magnitude of crashes, but possible duplication of crash counts is possible if the crash is within 250 feet of two or more bus stops.

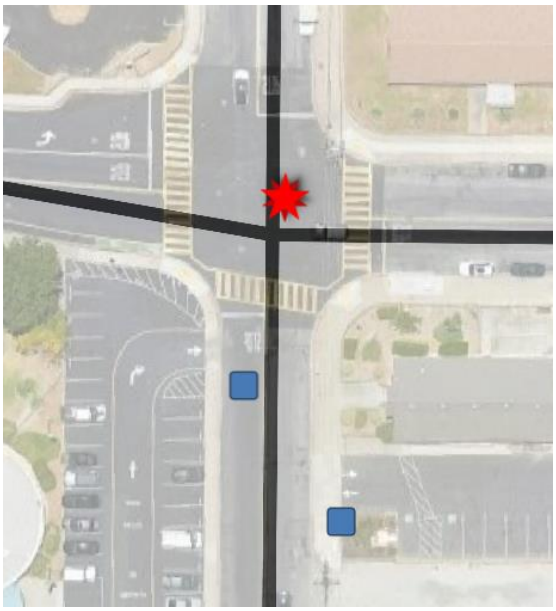


Figure 1. Example relationship between bus stop locations and a crash.

Temporal Data Limitations

Data collected, consolidated, and processed as part of the LRSP systemic safety analysis were used for this analysis in addition to the SamTrans bus stop data. This includes intersection variables, roadway characteristics, the regional pedestrian High Injury Network (HIN), and other data used in the LRSP. Temporal data are not available in the roadway data used in the LRSP and the attributes in the SamTrans bus stop data, such as installation dates for safety countermeasures and roadway geometry characteristics (e.g., speed limit, number of lanes, etc.). This analysis focused on crashes that occurred over a five-year study period, from 2018 through 2022. The compiled roadway data reflect current conditions, and it is likely that some changes to the roadway design and operations occurred during this five-year period. For example, if a rectangular rapid flashing beacon (RRFB) was installed at a crossing in 2021 and a

crash occurred at that crossing in 2019, this analysis will link that crash with the present day RRFB. As such, the findings from this analysis should be interpreted with caution.

Classifying Intersection versus Midblock Bus Stops

The intersection coding definition used a different approach than what was used in the systemic safety analysis in the LRSP, which used different buffer thresholds based on the functional classification of the intersecting streets. This is appropriate for crashes, but a more nuanced approach is needed for bus stops, which can be midblock, near-side, or far-side with the latter two accounting for bus length. As such, the consultant team deferred to SamTrans' staff expertise in assigning these location attributes. For this analysis, bus stops were coded as an intersection if the bus stop was classified by SamTrans as being at the far-side, near-side, or mid-intersection in the *position_int* field. If the stop was coded as "unable to determine", the stop was coded as an intersection if the stop was within 150 feet of an intersection. If any bus stop, regardless of the coded *position_int* value, was more than 500 feet away from any intersection in the GIS database, the bus stop was coded as midblock. All other stops are coded as midblock (this includes stops already coded as midblock by SamTrans). Intersection variables (posted speed limit, functional classification, etc.) are joined to all bus stops coded as being at an intersection, and segment variables are joined to the midblock bus stops. This means that the OSM functional classification already coded to the bus stop by SamTrams is superseded to follow the same methodology used in the C/CAG LRSP.

After reviewing the *position_type* field, it is not clear if SamTrans used a systematic method in assigning these position types that require a minimum distance threshold from the nearest intersection to determine if a bus stop is considered midblock. Upon investigation of the data, the "midblock location" designation appears to be inconsistently assigned to bus stops, with many bus stops that are far away from an intersection being coded as far-side or near-side, rather than midblock (see Figure 2).

Figure 2. Example of SamTrans coded intersection bus stop that appears to be midblock.

Pedestrian Safety Analysis at Bus Stops

Location Type

The location type was assigned to each bus stop using the following criteria, and is only used in a small number of crosstabs included in this report:

- **Signalized Intersection**: bus stop was coded by SamTrans as not being midblock and having a traffic signal or pedestrian hybrid beacon (PHB) at the intersection. This includes near-side, far-side, and mid-intersection bus stop positions.
- **Unsignalized Intersection**: bus stop was coded by SamTrans as not being midblock and not having a traffic signal or PHB at the intersection. This includes near-side, far-side, and mid-intersection bus stop positions. It is not clear how the crossing control is assigned to the bus stop, as several bus stops are assigned a "stop-controlled" control type, but require the pedestrian to cross more than one intersection to reach that crossing control.
- **Midblock**: bus stop was coded by SamTrans as being midblock. There are 31 bus stops coded as having a traffic signal. Upon investigation, the control device at those 31 locations appear to be related to the intersection control at the nearest crossing opportunity that is not adjacent to the bus stop.

Table 1 summarizes crashes by the bus stop location type (using the above criteria). Most bus stops are located at signalized intersections (58 percent), and pedestrian crashes and F/SI crashes are concentrated at signalized intersections (76.4 crashes and 15.1 F/SI crashes per 100 bus stops). These crash rates per 100 bus stops are roughly three times the rates for unsignalized intersections. When looking at the share of crashes that resulted in a F/SI outcome, midblock crashes were more likely to result in a F/SI compared to intersection crashes, regardless of traffic control type. This is likely a result of higher motorist travel speeds at midblock locations, resulting in a higher level of kinetic energy transferred to the pedestrian at the time of the crash. Interestingly, crashes at unsignalized intersections had the lowest proportion of crashes resulting in a F/SI outcome (18 percent).

The proportion of crashes that occurred in darkness was similar across location types. However, the proportion of F/SI crashes that occurred in darkness is highest at unsignalized locations (52 percent) and lowest at midblock locations (40 percent).

- Crashes and F/SI crashes are heavily concentrated at signalized intersections.
- Crashes near bus stops that are located midblock had a higher share of crashes resulting in a F/SI outcome (34 percent) compared to signalized intersections (20 percent) and unsignalized intersections (18 percent).

Table 1 Pedestrian Crashes at Bus Stops by Location Type, 2018-2022

Location Type	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Signalized Intersection	556	28%	41.5	76.4	15.1	18.4	3.6	28.2	20%	37%	48%	425	84
Unsignalized Intersection	1,151	58%	16.7	28.6	5.2	17.1	3.1	11.4	18%	36%	52%	329	60
Midblock	262	13%	49	12.2	3.8	2.5	0.8	6.8	31%	34%	40%	32	10
Total	1,969	100%	28	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Crossing Control

Table 2 summarizes pedestrian crashes at bus stops by location type and crossing control type. It is unclear how SamTrans assigned crossing control to each bus stop. Upon review of the data, several midblock bus stops coded as having a "stop sign" control type require the pedestrian to cross through one or more intersections before reaching a stop-controlled intersection. Additionally, several midblock bus stops coded as "NA" are adjacent to a stop-controlled intersection. It is unclear how many of these cases exist and it is out of scope to do a detailed quality control process for these data, but multiple instances were found in our preliminary review. As such, we recommended interpreting these findings with caution.

Unsignalized intersections with no crossing control have the largest share of bus stops in the region (36 percent) followed by signalized (28 percent) and stop-controlled (19 percent) intersections. All crashes and F/SI crashes are concentrated at signalized intersections (76.7 crashes per 100 bus stops; 15.1 F/SI crashes per 100 bus stops) and had a crash rate and F/SI crash rate of between 2-3 times the rate of bus stops at unsignalized intersections.

For unsignalized intersections that are stop-controlled or have no control, uncontrolled crossings had a higher rate of F/SI crashes per 100 bus stops (5.6 v. 4.9) and per 1,000 riders (3.8 v. 2.3), and a higher share of crashes resulting in a a F/SI outcome (26 percent v. 11 percent). Nearly two-thirds of F/SI crashes at uncontrolled intersections occurred in dark lighting conditions, compared to one-third for stop-controlled intersections.

When normalizing F/SI crashes by the average daily riders, signalized intersections have a similar crash rate per 1,000 riders (3.6) as intersections without crossing control (3.8). Of the 56 bus stops that are near a RRFB (40 at intersection and 16 midblock), there were no reported F/SI crashes and 11 crashes, although we cannot determine if these crashes occurred before or after the RRFB was installed.

- Crashes and F/SI Crashes are concentrated at signalized intersections. These locations also had a crash rate and F/SI crash rate of between 2-3 times the rate of bus stops at unsignalized intersections.

Table 2 Pedestrian Crashes at Bus Stops by Location Type and Crossing Control Type, 2018-2022

Location Type	Crossing Control Type	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Intersection	Signalized	550	28%	41.5	76.7	15.1	18.5	3.6	28.2	20%	37%	47%	422	83
Intersection	NA	715	36%	14.9	21.4	5.6	14.4	3.8	11	26%	46%	62%	153	40
Intersection	Stop-Controlled	370	19%	21.4	42.4	4.9	19.9	2.3	12.8	11%	30%	33%	157	18
Intersection	Unable to Verify	26	1%	0.0	30.8	7.7	NA	NA	14.3	25%	0%	0%	8	2
Intersection	PHB	6	0%	39.2	50	16.7	12.8	4.3	35.5	33%	67%	100%	3	1
Intersection	RRFB	40	2%	16.8	27.5	0	16.4	0	3	0%	0%	0%	11	0
Midblock	NA	182	9%	35.2	8.8	4.4	2.5	1.2	7.5	50%	31%	25%	16	8
Midblock	Signalized	31	2%	34.9	29	6.5	8.3	1.9	11.7	22%	22%	100%	9	2
Midblock	RRFB	16	1%	24.4	18.8	0	7.7	0	2.1	0%	67%	0%	3	0
Midblock	Stop-Controlled	22	1%	145.3	9.1	0	0.6	0	0.8	0%	50%	0%	2	0
Midblock	Unable to Verify	11	1%	158.7	18.2	0	1.1	0	1.5	0%	50%	0%	2	0
Total	-	1,969	100%	28.0	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Presence of a Crosswalk

Our review of the SamTrans crosswalk data in comparison to Google Street View and other aerial imagery data sources surfaced data quality concerns, as many of the midblock bus stops that are noted as having a crosswalk do not appear to exist. As such, we urge caution when interpreting these findings. See Figure 3 for one example where no crosswalk is visible at the bus stops or within a walking distance of the bus stops.

Figure 3. Midblock bus stops miscoded as having a marked crosswalk when a crosswalk is not visible

Table 3 summarizes pedestrian crashes at bus stops by location type and the presence of a marked crosswalk. All bus stops at a signalized intersection are reported to have a marked crosswalk, representing 28 percent of all bus stops. These bus stops had the highest rate of crashes and F/SI crashes per 100 bus stops, which likely reflects both pedestrian and motorist exposure and street size (signalized intersections are generally at wider and higher volume streets).

Slightly under half (44 percent) of bus stops at unsignalized intersections are reported to have a marked crosswalk (506 with a marked crossing compared to 615 without a marked crossing and 30 unverified/NA). Crashes are highly concentrated at marked crosswalks (41.7 crashes per 100 bus stops) compared to unmarked crosswalks (17.6), which is likely associated with higher pedestrian crossing volumes at marked crosswalks. However, F/SI crashes between the two location types are nearly the same (5.3 v. 5.0), and bus stops with marked crosswalks have a substantially lower proportion of crashes that resulted in a KA outcome (13 percent at marked crossings v. 29 percent for unmarked crossings). Furthermore, the proportion of F/SI crashes that occurred in darkness is three times as large at unmarked crosswalks compared to marked crosswalks (74 percent compared to 30 percent).

- Marked crosswalks at unsignalized intersections appear to have safety benefits, suggested by a lower proportion of crashes resulting in a F/SI outcome, lower proportion of F/SI crashes occurring during darkness, and a lower average EPDO score.

Table 3 Pedestrian Crashes at Bus Stops by Location Type and Presence of a Marked Crosswalk, 2018-2022

Location Type	Presence of Marked Crosswalk	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Signalized Intersection	Yes	556	28%	42	76.4	15.1	18.4	3.6	28.2	20%	37%	48%	425	84
Unsignalized Intersection	Yes	506	26%	23	41.7	5.3	18.4	2.4	13.5	13%	30%	30%	211	27
Unsignalized Intersection	No	615	31%	13	17.6	5	14.1	4	9.6	29%	49%	74%	108	31
Unsignalized Intersection	Unable to Verify	26	1%	0	30.8	7.7	NA	NA	14.3	25%	0%	0%	8	2
Unsignalized Intersection	NA	4	0%	19	50	0	26.3	0	5.5	0%	50%	0%	2	0
Midblock	Yes	97	5%	79	16.5	3.1	2.1	0.4	5.6	19%	31%	67%	16	3
Midblock	NA	82	4%	42	12.2	6.1	2.9	1.5	10.8	50%	30%	0%	10	5
Midblock	No	73	4%	10	5.5	2.7	5.8	2.9	4.8	50%	50%	100%	4	2
Midblock	Unable to Verify	10	1%	100	20	0	2	0	1.7	0%	50%	0%	2	0
Total	-	1,969	100%	28	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Presence of a Marked Crosswalk at Unsignalized Intersections by Crossing Control

Table 4 looks at unsignalized intersections by presence of a marked crosswalk and crossing control to better understand what may be contributing to the lower severity of crashes and proportion of F/SI crashes occurring during darkness at marked crosswalks compared to unmarked crosswalks. Crossing control appears to play an important role in pedestrian safety at unsignalized intersections. Bus stops at stop-controlled intersections with marked crosswalks represent one-third of bus stops at unsignalized intersections. These locations had a lower share of crashes resulting in a F/SI outcome (11 percent) compared to bus stops with a marked crosswalk and no crossing control (21 percent) and bus stops with neither a marked crosswalk nor a crossing control (29 percent). Bus stops with an RRFB had no F/SI crashes during the 5-year study period across the 40 bus stops that have this countermeasure (recall that we cannot confirm if all severity crashes occurred before or after the RRFB was installed). A much lower share of F/SI crashes occurred in darkness at bus stops with stop-controlled intersections (33 percent) compared to bus stops that lack both a crossing control and a marked crosswalk (74 percent).

- Bus stops at stop-controlled intersections had a lower share of crashes resulting in a F/SI outcome, lower share of F/SI crashes occurring during darkness, and lower average EPDO score compared to bus stops with an unmarked crosswalk and no crossing control.

Table 4 Pedestrian Crashes at Bus Stops by Location Type, Presence of a Marked Crosswalk, and Crossing Control, 2018-2022

Location Type	Presence of Marked Crosswalk	Crossing Control	# of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Unsignalized Intersection	Yes	Stop-Controlled	368	21.5	42.7	4.9	19.9	2.3	12.9	11%	30%	33%	157	18
Unsignalized Intersection	Yes	NA	98	29.8	43.9	9.2	14.7	3.1	20.1	21%	37%	22%	43	9
Unsignalized Intersection	Yes	RRFB	40	16.8	27.5	0	16.4	0	3	0%	0%	0%	11	0
Unsignalized Intersection	No	NA	613	12.5	17.6	5.1	14.1	4.1	9.6	29%	49%	74%	108	31
Unsignalized Intersection	No	Stop-Controlled	2	4.5	0	0	0	0	0	0%	0%	0%	0	0
Total	-	-	1,121	17.1	28.5	5.2	16.7	3	11.3	18%	36%	53%	319	58

Sidewalks

Table 5 summarizes pedestrian crashes by the presence of a sidewalk at each bus stop. Roughly 10 percent (n=206) of bus stops in the region lack a sidewalk. These bus stops had the lowest rate of crashes (12.1) and F/SI crashes (2.9) per bus stop compared to bus stops with an existing sidewalk (43.5 crashes per 100 bus stops and 8.5 F/SI crashes per 100 bus stops). However, these stops also have very low average daily ridership, with 6.3 riders per day compared to 30.6 for bus stops with sidewalks. When looking at the rate of crashes per 1,000 riders, bus stops without a sidewalk had a higher rate of all crashes (19.2) and F/SI crashes (4.6) compared to bus stops with a sidewalk.

- More than one-third (38 percent) of bus stops without a sidewalk are along streets with a speed limit of 25 mph, followed by 45 mph (22 percent).
- More than one-third (38 percent) of bus stops without a sidewalk are along secondary streets, followed by residential (24 percent) and tertiary streets (15 percent). Most crashes and all six F/SI crashes near bus stops without a sidewalk were along primary streets.
- Two of the 25 crashes and two of the six F/SI crashes that occurred near a bus stop without a sidewalk were near/at a midblock bus stop.

Table 5 Pedestrian Crashes at Bus Stops by Presence of a Sidewalk, 2018-2022

Presence of a Sidewalk	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	1,727	88%	30.6	43.5	8.5	14.2	2.8	16.9	19%	37%	49%	751	146
No	206	10%	6.3	12.1	2.9	19.2	4.6	5.4	24%	28%	67%	25	6
Unable to Verify	36	2%	27.9	27.8	5.6	10	2	10.8	20%	10%	0%	10	2
Total	1,969	100%	28	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Functional Classification

Table 6 summarizes pedestrian crashes near a bus stop by functional classification. Most pedestrian crashes occurred at stops along primary and secondary streets. Primary streets had the highest rate of F/SI crashes per 100 bus stops (18.4) followed by secondary (7.9), and tertiary (6.2) streets. Interestingly, while bus stops at/along primary streets accounted for the largest number of crashes and F/SI crashes, primary streets have fewer bus stops (15 percent) compared to secondary (36 percent), tertiary (21 percent), and residential (25 percent) streets. While we may expect higher volumes of pedestrian along primary streets, the average EPDO score is substantially higher for these streets than for all other functional classifications. When looking the percentage of crashes that occurred during dark lighting conditions, there is very little difference between the different functional classifications (aside from trunk), with the proportion ranging from 35-37 percent. However, the percentage of F/SI crashes that occurred during dark lighting conditions was highest along primary streets (64 percent), followed by residential streets (62 percent).

- Crashes and F/SI crashes are concentrated along primary and secondary streets.
- Crashes along primary streets tend to be more severe than crashes at other locations. Crashes along residential streets are generally less severe than crashes that occurred along higher functional classifications.

Table 6 Pedestrian Crashes at Bus Stops by Functional Classification, 2018-2022

Functional Classification	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
primary	304	15%	49.3	93.1	18.4	18.9	3.7	33.3	20%	37%	64%	283	56
secondary	712	36%	18.6	39	7.9	21	4.2	16.6	20%	37%	36%	278	56
tertiary	404	21%	22.7	30.7	6.2	13.5	2.7	12.9	20%	35%	32%	124	25
residential	499	25%	24.3	18.4	3.2	7.6	1.3	6.6	17%	35%	62%	92	16
trunk	34	2%	5.4	26.5	2.9	48.6	5.4	5.8	11%	11%	100%	9	1
ramp	3	0%	5.0	0	0	0	0	0	0%	0%	0%	0	0
alley	1	0%	324.0	0	0	0	0	0	0%	0%	0%	0	0
NA	12	1%	425.2	0	0	0	0	0	0%	0%	0%	0	0
Total	1,969	100%	28.0	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Primary Streets and Posted Speed Limit

Taking the finding from the previous section, primary streets (which had the highest crash and F/SI crash rate per 100 bus stops) are explored further to better understand pedestrian safety along those streets near bus stops. Table 7 summarizes pedestrian crashes near a bus stop along a primary street by posted speed limit.

Nearly half (48 percent) of the bus stops along primary streets are along streets with a posted speed limit of 35 mph followed by 45 mph (38 percent). There are very few bus stops along primary streets that have a posted speed limit other than 35 mph and 45 mph (n=41). Crashes along 35 mph streets had over twice the average EPDO value (41.9) and nearly twice the average F/SI crash rate per 1,000 riders (4.8) as the regional EPDO score of crashes and F/SI crash rate per 1,000 riders that occurred near bus stops regardless of functional classification (avg EPDO=15.5; F/SI per 1,000 riders=2.8). Bus stops along 35 mph roadways had a greater percentage of F/SI crashes in darkness (69 percent) than those posted at 45 mph (30 percent), which may be related to the types of destinations near bus stops along 35 mph streets compared to 45 mph streets (i.e., the 35 mph streets may attract more pedestrians).

Table 7 Pedestrian Crashes at Bus Stops by Along Primary Streets by Posted Speed Limit, 2018-2022

Posted Speed Limit	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
<=25	12	4%	22.2	58.3	0	26.2	0	5.6	0%	29%	0%	7	0
30	6	2%	8.2	133.3	66.7	163.3	81.6	117.3	50%	50%	50%	8	4
35	147	48%	49.7	103.4	23.8	20.8	4.8	41.9	23%	45%	69%	152	35
40	20	7%	88.3	135	15	15.3	1.7	29.7	11%	44%	100%	27	3
45	116	38%	47.6	73.3	8.6	15.4	1.8	18.4	12%	19%	30%	85	10
50+	3	1%	24.7	133.3	133.3	54.1	54.1	160	100%	100%	100%	4	4
Total	304	100%	49.3	93.1	18.4	18.9	3.7	33.3	20%	37%	64%	283	56

Highest and Lowest Functional Classification

This section only analyzes bus stops that are coded by SamTrans as being at the near-side or far-side of an intersection or are noted as mid-intersection

The lowest functional classification has been simplified for this section using the criteria below:

- arterial/collector: primary, secondary, tertiary, and trunk
- residential: residential

Table 8 shows that most bus stops are at an intersection between an arterial or collector of some kind (primary, secondary, tertiary, or trunk) and a residential street, with most stops being at a secondary-residential intersection (30 percent), followed by residential-residential (24 percent), tertiary-residential (18 percent) and primary-residential (13 percent). When looking at the rate of crashes and F/SI crashes per 100 bus stops, bus stops at intersections between primary and residential streets had the highest rates (99.5 crashes per 100 bus stops and 19.8 F/SI crashes per 100 bus stops). This means that every intersection bus stop at a primary-residential intersection has seen one pedestrian crash on average over the 5-year study period, with one in five of those resulting in a F/SI outcome. Two-thirds of F/SI crashes at these locations occurred during dark lighting conditions and the average EPDO score is 35.9, more than twice the average for bus stops at intersections throughout the region.

- Crashes at primary-residential intersections tend to be more severe than crashes at other locations.
- Crashes are concentrated at primary-residential and secondary-residential intersections.
- Nearly two-thirds of F/SI crashes at primary-residential intersections occurred during dark lighting conditions.

Table 8 Pedestrian Crashes at Bus Stops at Intersections by Highest and Lowest Functional Classification, 2018-2022

Highest Functional Classification	Lowest Functional Classification	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
primary	arterial/ collector	63	4%	53	90.5	17.5	17	3.3	30.6	19%	32%	64%	57	11
primary	residential	217	13%	48	99.5	19.8	20.6	4.1	35.9	20%	40%	63%	216	43
secondary	arterial/ collector	120	7%	19	43.3	4.2	22.8	2.2	10.5	10%	42%	20%	52	5
secondary	residential	519	30%	20	42.4	9.1	21.5	4.6	19.1	21%	36%	36%	220	47
tertiary	arterial/ collector	40	2%	31	57.5	5	18.7	1.6	12.4	9%	30%	0%	23	2
tertiary	residential	309	18%	22	31.1	7.1	14.1	3.2	14.7	23%	33%	36%	96	22
trunk	arterial/ collector	8	0%	6	87.5	12.5	145.8	20.8	22	14%	14%	100%	7	1
trunk	residential	23	1%	6	8.7	0	15	0	1	0%	0%	0%	2	0
residential	residential	408	24%	19	19.9	3.2	10.4	1.7	6.6	16%	36%	77%	81	13
Total	-	1,707	100%	25	44.2	8.4	17.8	3.4	16.9	19%	36%	49%	754	144

Posted Speed Limit

Table 9 summarizes pedestrian crashes near bus stops by posted speed limit. Most bus stops are along streets with a posted speed limit of 25 mph or lower (42 percent) followed by 35 mph (23 percent) and 45 mph (23 percent). Crash rates per 100 bus stops are similar among the different speed limit categories aside from 40 mph (high rate with a low number of bus stops) and 25 mph (very low rate). Higher speed streets had the highest rates of F/SI crashes per 100 bus stops. Crashes that occurred at bus stops along 45 mph streets had a lower share of F/SI crashes that occurred during dark lighting conditions (26 percent) than other locations, which may again reflect lower pedestrian exposure along those streets, particularly at night. When looking at the location of the bus stops along 45 mph streets, the F/SI rate per 100 bus stops is comparable between signalized intersections (12.4) and unsignalized intersections (9.0). A slightly higher proportion of crashes occurred during dark lighting conditions at unsignalized intersections (23 percent) compared to signalized intersections (18 percent) along those 45 mph streets.

- Bus stops along higher speed streets had a much higher concentration of crashes and F/SI crashes compared to streets with a posted speed limit of ≤ 25 mph.

Table 9 Pedestrian Crashes at Bus Stops by Location Type, 2018-2022

Posted Speed Limit	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
<=25	826	42%	23.3	21.9	3.8	9.4	1.6	8	17%	35%	52%	181	31
30	157	8%	26.8	54.1	8.9	20.2	3.3	19.2	16%	45%	64%	85	14
35	451	23%	25.1	50.8	11.5	20.2	4.6	21.3	23%	43%	54%	229	52
40	54	3%	63.4	74.1	9.3	11.7	1.5	20.1	12%	48%	100%	40	5
45	446	23%	25.7	53.4	10.5	20.8	4.1	21.6	20%	25%	26%	238	47
50+	23	1%	15.2	56.5	21.7	37.2	14.3	29.5	38%	38%	100%	13	5
NA	12	1%	425.2	0	0	0	0	0	0%	0%	0%	0	0
Total	1,969	100%	28.0	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

HIN

Table 10 summarizes pedestrian crashes at bus stops by location along the pedestrian High Injury Network (HIN). Most bus stop *are not* along the regional **pedestrian** HIN, with only 25 percent of stops along the HIN. However, crashes were overwhelmingly concentrated at bus stops along the pedestrian HIN, with the crash rate per 100 bus stops along the HIN being five times the rate of bus stop not along the HIN (98.4 v. 20.6), and F/SI crashes per 100 bus stops along the pedestrian HIN being nearly *ten times* the rate for bus stops not along the pedestrian HIN (23.9 v. 2.5). This stark difference between bus stops and proximity to the pedestrian HIN is also seen when looking at the rate of crashes and F/SI crashes per 1,000 bus riders.

- Crashes and F/SI crashes are overwhelmingly concentrated along the pedestrian HIN.
- Given the capture rate of pedestrian F/SI, using the C/CAG regional pedestrian HIN in SamTrans safety prioritization can be an effective method to prioritize bus stops with pedestrian crash risk issues.

Table 10 Pedestrian Crashes at Bus Stops by Pedestrian HIN, 2018-2022

Pedestrian HIN	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	490	25%	46.8	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117
No	1,479	75%	21.8	20.6	2.5	9.4	1.1	5.4	12%	31%	43%	304	37
Total	1,969	100%	28.0	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Functional Classification

Table 11 summarizes pedestrian crashes near bus stops at or along the pedestrian HIN by functional classification (using a 100-foot distance threshold). Most bus stops along the pedestrian HIN are along secondary streets (45 percent) followed by primary streets (28 percent). Pedestrian F/SI crashes were concentrated at primary streets (29.4 F/SI crashes per 100 bus stops), and all other functional classifications had similar rates, ranging between 19.8 to 22.7 F/SI crashes per 100 bus stops. Crashes that were at bus stops along residential streets had the highest proportion of F/SI crashes, though the number of F/SI crashes is relatively low (n=10) and vulnerable to regression towards the mean and possible duplication due to the crash aggregation methodology. Nearly three-quarters (73 percent) of F/SI crashes at bus stops along primary streets occurred during dark lighting conditions.

- F/SI crashes are concentrated on primary streets along the pedestrian HIN (29.4 F/SI crashes compared to the average along the pedestrian HIN of 23.9).

- Bus stops on primary streets along the pedestrian HIN had a very large proportion of F/SI crashes occur during dark lighting conditions (73 percent).

Table 11 Pedestrian Crashes at Bus Stops along the Pedestrian HIN by Functional Classification, 2018-2022

Pedestrian HIN	Functional Classification	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	primary	136	28%	66	147.1	29.4	22.3	4.5	52.7	20%	38%	72%	200	40
Yes	secondary	220	45%	28	90	22.7	32.1	8.1	46.4	25%	39%	38%	198	50
Yes	tertiary	86	18%	48	68.6	19.8	14.3	4.1	39.7	29%	42%	35%	59	17
Yes	residential	48	10%	76	52.1	20.8	6.9	2.7	37.9	40%	40%	50%	25	10
Total	-	490	100%	47	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117

Crossing Control

Table 12 summarizes pedestrian crashes along the pedestrian HIN by crossing control. Most bus stops along the pedestrian HIN are at signalized crossings (52 percent), followed by no crossing control (26 percent) and stop-control (19 percent). Focusing on these three control types (due to low sample sizes for other control types), F/SI crash rates per 100 bus stops are highest and similar between signalized crossings (27.0) and uncontrolled/NA (25.4). Interestingly, when looking at F/SI crash rates per 1,000 riders, uncontrolled/NA bus stops had a higher rate of 6.2, compared to 4.8. Additionally, uncontrolled crossings had a higher proportion of F/SI crashes that occurred in darkness (62 percent) compared to signalized (51 percent), though both percentages are high.

- F/SI crashes are concentrated at signalized and unsignalized crossings along the pedestrian HIN. When looking at F/SI crashes per 1,000 riders, bus stops with uncontrolled crossings had a higher rate (6.2) compared to signalized crossings (4.8).
- Bus stops with no crossing control had the highest proportion of pedestrian F/SI crashes occurring during dark lighting conditions (62 percent).

Table 12 Pedestrian Crashes at Bus Stops along the Pedestrian HIN by Crossing Control, 2018-2022

Pedestrian HIN	Crossing Control	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	Signalized	256	52%	56	119.9	27	21.3	4.8	49.4	22%	38%	51%	307	69
Yes	NA	126	26%	41	77	25.4	18.9	6.2	50.6	33%	49%	62%	97	32
Yes	Stop-Controlled	92	19%	32	75	14.1	23.4	4.4	32.6	19%	33%	23%	69	13
Yes	Unable to Verify	8	2%	0	62.5	25	Inf	Inf	43	40%	0%	0%	5	2
Yes	PHB	2	0%	73	150	50	20.7	6.9	106.5	33%	67%	100%	3	1
Yes	RRFB	6	1%	45	16.7	0	3.7	0	1.8	0%	0%	0%	1	0
Total	-	490	100%	47	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117

Sidewalk

Table 13 summarizes pedestrian crashes along the pedestrian HIN by presence of a sidewalk. Nearly all bus stops along the pedestrian HIN have an existing sidewalk (97 percent), with only 1 percent (n=7 bus stops) lacking a sidewalk. Bus stops with a connecting sidewalk had a higher concentration of crashes and F/SI crashes per 100 bus stops compared to stops without a sidewalk. This does not mean bus stops without a sidewalk are safer, but rather there are more people walking/rolling near bus stops with a sidewalk (as reflected in the average daily ridership).

Table 13 Pedestrian Crashes at Bus Stops along the Pedestrian HIN by Presence of a Sidewalk, 2018-2022

Pedestrian HIN	Presence of a Sidewalk	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	Yes	475	97%	48	99.4	24	20.7	5	46.4	24%	40%	51%	472	114
Yes	No	7	1%	17	71.4	14.3	41	8.2	28.4	20%	40%	100%	5	1
Yes	Unable to Verify	8	2%	0	62.5	25	NA	NA	43	40%	0%	0%	5	2
Total	-	490	100%	47	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117

Position Type

Table 14 summarizes pedestrian crashes near bus stops along the pedestrian HIN by bus stop position type. Most bus stops are positioned at the far-side of an intersection (55 percent), followed by near-side (35 percent) and few midblock bus stops (6 percent). Note the possible QC concern discussed earlier regarding the classification of midblock bus stops. When looking at the number of crashes per 100 bus stops, there is very little difference between far-side (105.5) and near-side (100.6). There are about one-third the number of crashes per 100 bus stops at midblock bus stops (33.3) compared to the other intersection bus stops. Near-side bus stops had a lower rate of F/SI crashes per 100 bus stops (20.9) and per 1,000 riders (4.2) compared to far-side (26.6 per 100 bus stops; 6.0 per 1,000 riders) and midblock bus stops (22.2 per 100 bus stops; 11.8 per 1,000 riders).

- F/SI crashes are more concentrated at far-side (26.6) bus stops compared top near-side (20.9) and midblock (22.2) on a per 100 stop basis.

Table 14 Pedestrian Crashes at Bus Stops along the Pedestrian HIN by Bus Stop Position Type, 2018-2022

Pedestrian HIN	Bus Stop Position Type	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	Far-Side	271	55%	45	105.5	26.6	23.6	6	50.7	25%	41%	49%	286	72
Yes	Near-Side	172	35%	50	100.6	20.9	20	4.2	42.2	21%	37%	56%	173	36
Yes	Midblock	27	6%	19	33.3	22.2	17.7	11.8	36.5	67%	56%	50%	9	6
Yes	Unable to Verify	13	3%	107	61.5	15.4	5.8	1.4	29	25%	12%	0%	8	2
Yes	Mid-Intersection	7	1%	43	85.7	14.3	20	3.3	33	17%	67%	100%	6	1
Total	-	490	100%	47	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117

Activity Density

Note: The method SamTrans used to define the five categories of activity density is unclear. It is also not clear what types of activities are included and the data source for the activities. As a result of these uncertainties, please interpret this section with caution.

Table 15 summarizes pedestrian crashes near bus stops along the pedestrian HIN by activity density. Most bus stops are located in areas with low-medium activity density (34 percent), followed by medium density (28 percent). Only four bus stops (eight when including bus stops not along the pedestrian HIN) are located within the high-density category, and they have the highest average daily ridership by a large margin. There were no reported F/SI crashes within

250 feet of these high activity density bus stops, which likely reflects the density classification process assigning so few high density bus stops, but may also reflect a substantially different dynamic in these high-activity locations. The concentration of F/SI crashes among the classifications is similar, ranging from 23.6 to 26.7 F/SI crashes per 100 bus stops. The proportion of crashes that resulted in a F/SI outcome is highest for the low-activity areas (37 percent) and lowest in the medium-high category (18 percent, with 0 percent in the high category). This may reflect that motorists expect pedestrians in higher-activity areas compared to lower-activity areas.

Table 15 Pedestrian Crashes at Bus Stops along the Pedestrian HIN by Activity Density, 2018-2022

Pedestrian HIN	Activity Density	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	High	4	1%	158	150	0	9.5	0	12.8	0%	33%	0%	6	0
Yes	Medium-High	92	19%	66	142.4	25	21.5	3.8	55.5	18%	45%	65%	131	23
Yes	Medium	135	28%	43	103.7	26.7	24.4	6.3	49.1	26%	35%	39%	140	36
Yes	Low-Medium	165	34%	41	92.7	23.6	22.8	5.8	45.2	25%	35%	46%	153	39
Yes	Low	94	19%	40	55.3	20.2	13.9	5.1	35.8	37%	52%	63%	52	19
Total	-	490	100%	47	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117

On-Street Parking

Table 16 summarizes pedestrian crashes near bus stops along the pedestrian HIN by presence of on-street parking at the bus stop. Approximately three-quarters of the bus stops along the pedestrian HIN lack on-street parking at the bus stop, and those stops have a higher average number of daily riders compared to bus stops with on-street parking. Bus stops with on-street parking had a lower rate of F/SI crashes per 100 bus stops (19.0), higher F/SI crashes per 1,000 riders (n=7.1), and a lower average EPDO score per bus stop (38.3) compared to bus stops without on-street parking, although a slightly higher percentage of crashes at on-street parking locations result in a F/SI outcome (28 percent compared to 24 percent). Daylighting can be an effective countermeasure to mitigate obstructed driver views from on-street parking. Interestingly, bus stops with on-street parking had a much lower proportion of F/SI crashes that occurred during dark lighting conditions (18 percent) compared to bus stops without on-street parking (59 percent).

- Bus stops lacking on-street parking had a higher rate of F/SI crashes per 100 bus stops (25.5), lower F/SI crashes per 1,000 riders (n=4.7), and a higher average EPDO score per bus stop (48.9) compared to bus stops with on-street parking.

Table 16 Pedestrian Crashes at Bus Stops along the Pedestrian HIN by Presence of On-Street Parking, 2018-2022

Pedestrian HIN	Presence of On-Street Parking	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	Yes	116	24%	27	69	19	25.7	7.1	38.3	28%	30%	18%	80	22
Yes	No	364	74%	54	108.5	25.5	20	4.7	48.9	24%	42%	59%	395	93
Yes	Unable to Verify	10	2%	4	70	20	200	57.1	36.6	29%	14%	0%	7	2
Total	-	490	100%	47	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117

Driveway Conflicts

Note: The criteria SamTrans used to define a driveway conflict are unclear. As a result of this uncertainty, please interpret this section with caution. Upon visual review, it appears many of these driveway conflicts are at locations where a driveway is blocked when a bus pulls over at a bus stop.

Table 17 summarizes pedestrian crashes near bus stops along the pedestrian HIN by presence of a driveway conflict at the bus stop and arterial v. residential functional classification. Roughly one-third of bus stops are at locations with a driveway conflict (31 percent). Most of the driveway conflicts are along arterial/collector (primary, secondary, tertiary, and trunk) streets (135 of 151 bus stops). In general, bus stops along an arterial/collector on the pedestrian HIN that have a driveway conflict had a higher rate of F/SI crashes per 100 bus stops (25.9) and F/SI crashes per 1,000 riders (7.0) compared to other bus stops along arterials/collectors on the pedestrian HIN that lack a driveway conflict (23.2 F/SI crashes per 100 stops; 4.8 F/SI crashes per 1,000 riders).

- Bus stops with a driveway conflict along the pedestrian HIN had higher rates of F/SI crashes per 100 bus stops and per 1,000 riders, particularly along arterial/collector streets, compared to bus stops on the pedestrian HIN without a driveway conflict.

Table 17 Pedestrian Crashes at Bus Stops along the Pedestrian HIN by Presence of a Driveway Conflict, 2018-2022

Pedestrian HIN	Presence of a Driveway Conflict	Functional Classification Category	# of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	Yes	Arterial/ Collector	135	36.9	111.9	25.9	30.4	7	53.0	23%	38%	40%	151	35
Yes	Yes	Residential	16	14.4	62.5	43.8	43.3	30.3	73.2	70%	50%	29%	10	7
Yes	No	Arterial/ Collector	298	47.8	100	23.2	20.9	4.8	43.9	23%	41%	58%	298	69
Yes	No	Residential	32	106.5	46.9	9.4	4.4	0.9	20.2	20%	33%	100%	15	3
Yes	Unable to Verify	Arterial/ Collector	9	7.4	88.9	33.3	119.4	44.8	61.9	38%	12%	0%	8	3
Total	-	-	490	46.8	98.4	23.9	21	5.1	46.1	24%	39%	50%	482	117

Caltrans Jurisdiction

Table 18 shows that bus stops along a Caltrans facility represent 15 percent of bus stops in the region. These bus stops have nearly twice the average daily ridership volumes of bus stops not along a Caltrans facility. Like the findings from the systemic safety analysis, Caltrans facilities had a disproportionate share of crashes and F/SI crashes on a per 100-bus stop basis (82.5 crashes per 100 bus stops; 16.2 F/SI crashes per 100 bus stops) compared to crashes not along a Caltrans facility (32.4 crashes per 100 bus stops; 6.3 F/SI crashes per 100 bus stops). Additionally, Caltrans facilities had a higher proportion of F/SI crashes that occurred during darkness (60 percent) than bus stops along local or county streets (43 percent). While many factors relate to F/SI crashes during darkness, higher motorist travel speed and number of lanes, both of which are common on Caltrans facilities, are established correlates of pedestrian F/SI crashes in darkness.

- Bus stops along Caltrans facilities had about 2.5 times the rate of crashes and F/SI crashes per 100 bus stops compared to bus stops along county and local roads.

Table 18 Pedestrian Crashes at Bus Stops by Location Type, 2018-2022

Caltrans Facility	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Caltrans	297	15%	46.0	82.5	16.2	17.9	3.5	29.3	20%	34%	60%	245	48
County or local	1,672	85%	24.8	32.4	6.3	13	2.6	13.1	20%	37%	43%	541	106
Total	1,969	100%	28.0	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Functional Classification (Excludes Residential Streets)

Table 19 excludes bus stops along residential streets and compared bus stops by functional classification and Caltrans jurisdiction, focusing on primary streets. As mentioned above, bus stops along Caltrans facilities represent only 15 percent of bus stops, and the vast majority of these bus stop are along primary streets (241 of 297 bus stops). When comparing the rate of crashes and KA crashes per 100 bus stops between Caltrans and local/county roads for primary streets, it's clear that crashes are concentrated along state-owned facilities for all crashes and F/SI crashes. For both state-owned and local/county-owned primary streets, the majority of F/SI crashes occurred during dark lighting conditions, with local/county streets having a higher proportion (89 percent) but a much lower frequency of F/SI crashes (n=9 with possible duplication effects).

- Crashes and F/SI crashes along primary streets are concentrated along state-owned facilities.

Table 19 Pedestrian Crashes at Bus Stops by Location Type, 2018-2022

Functional Classification	Caltrans Facility	# of Stops	% of Stops	Avg. Rider ship	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Cras hes*	# F/SI Crash es*
primary	Caltrans	241	17%	55	97.9	19.5	17.9	3.6	35.3	20%	35%	60%	236	47
primary	County or local	63	4%	28	74.6	14.3	26.6	5.1	25.8	19%	51%	89%	47	9
secondary	Caltrans	18	1%	13	0	0	0	0	0	0%	0%	0%	0	0
secondary	County or local	694	48%	19	40.1	8.1	21.4	4.3	17	20%	37%	36%	278	56
tertiary	Caltrans	1	0%	11	0	0	0	0	0	0%	0%	0%	0	0
tertiary	County or local	403	28%	23	30.8	6.2	13.5	2.7	12.9	20%	35%	32%	124	25
trunk	Caltrans	34	2%	5	26.5	2.9	48.6	5.4	5.8	11%	11%	100%	9	1
ramp	Caltrans	3	0%	5	0	0	0	0	0	0%	0%	0%	0	0
alley	County or local	1	0%	324	0	0	0	0	0	0%	0%	0%	0	0
Total	-	1,458	100%	26	47.6	9.5	18.3	3.6	18.7	20%	36%	47%	694	138

Crossing Control

Table 20 summarizes pedestrian crashes near bus stops by crossing control and Caltrans jurisdiction. The majority of bus stops along state routes are at a signalized crossing (64 percent or 191 bus stops). Crashes and F/SI crashes were concentrated at signalized intersections, with a crash rate and F/SI crash rate per 100 bus stops of 110.5 and 19.4, respectively. Uncontrolled crossings on state-owned roads had roughly one-third of that rate for all crashes and about half that rate for F/SI crashes, but the crash and F/SI crash rates per 1,000 riders are similar (18.7 v. 14.1 crashes per 1,000 riders; 3.3 v. 4.2 F/SI crashes per 1,000 riders, respectively). This finding is important because bus stops with uncontrolled crossings have nearly one-third of the average daily ridership, but the deltas between the crash rate and F/SI crash rates are fairly close, underscoring the risk for pedestrians who may be trying to cross state-owned roads at uncontrolled crossings.

- Bus stops along state-owned roads at uncontrolled crossings have roughly one-third of the average daily ridership compared to bus stops at signalized locations, but have similar rates of crashes and F/SI crashes on a per-1,000 rider basis. This finding underscores the need for pedestrian safety measures (lane reductions, speed reductions, adding crossing control, etc.) at uncontrolled intersections along state routes to facilitate safe pedestrian crossings

- There are very few bus stops along state-owned roads that have crossing controls other than traffic signals (such as PHB or RRFBs).

Table 20 Pedestrian Crashes at Bus Stops by Location Type, 2018-2022

Caltrans Facility	Crossing Control	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Caltrans	Signalized	191	10%	59	110.5	19.4	18.7	3.3	35.5	18%	33%	62%	211	37
Caltrans	PHB	6	0%	39	50	16.7	12.8	4.3	35.5	33%	67%	100%	3	1
Caltrans	Stop-Controlled	4	0%	7	0	0	0.0	0.0	0	0%	0%	0%	0	0
Caltrans	NA	93	5%	23	32.3	9.7	14.1	4.2	17.2	30%	37%	56%	30	9
Caltrans	Unable to Verify	3	0%	0	33.3	33.3	1,000.0	1,000.0	40	100%	0%	0%	1	1
County or local	Signalized	390	20%	32	56.4	12.3	17.4	3.8	23.3	22%	40%	38%	220	48
County or local	RRFB	56	3%	19	25	0	13.2	0.0	2.8	0%	14%	0%	14	0
County or local	Stop-Controlled	388	20%	29	41	4.6	14.4	1.6	12.3	11%	30%	33%	159	18
County or local	NA	804	41%	19	17.3	4.9	9.3	2.6	9.5	28%	46%	56%	139	39
County or local	Unable to Verify	34	2%	51	26.5	2.9	5.2	0.6	7.9	11%	11%	0%	9	1
Total	-	1,969	100%	28	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Presence of sidewalk

Table 21 summarizes pedestrian crashes near bus stops by presence of a sidewalk and Caltrans jurisdiction. As mentioned earlier in this report, the majority of bus stops throughout the region and along state-owned routes have an existing sidewalk connecting to the bus stop. Bus stops along state-owned roads and along local/county roads have higher average daily ridership at bus stops with a connecting sidewalk. When looking at the concentration of crashes and F/SI crashes per 100 bus stops, crashes are concentrated at bus stops with existing sidewalks. This finding is likely related to higher pedestrian activity at/near these stops, as indicated by their higher average daily ridership. Bus stops with a sidewalk along state-owned roads had a lower rate of crashes and F/SI crashes per 1,000 riders than bus stops without a sidewalk.

- Bus stops along state-owned roads with a connecting sidewalk had a higher rate of crashes and F/SI crashes per 100 bus stops, but a lower rate of crashes and F/SI crashes per 1,000 riders compared to bus stops without a connecting sidewalk.

Table 21 Pedestrian Crashes at Bus Stops by Location Type, 2018-2022

Caltrans Facility	Presence of a Sidewalk	# of Stops	% of Stops	Avg. Rider ship	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Cras hes*	# F/SI Crash es*
Caltrans	Yes	242	12%	55	97.1	17.8	17.7	3.2	32.7	18%	34%	63%	235	43
Caltrans	No	52	3%	7	17.3	7.7	23.8	10.6	12.9	44%	22%	50%	9	4
Caltrans	Unable to Verify	3	0%	0	33.3	33.3	1000.0	1000.0	40	100%	0%	0%	1	1
County or local	Yes	1,485	75%	27	34.7	6.9	13.1	2.6	14.3	20%	38%	43%	516	103
County or local	No	154	8%	6	10.4	1.3	17.3	2.2	2.9	12%	31%	100%	16	2
County or local	Unable to Verify	33	2%	30	27.3	3	9.0	1.0	8.2	11%	11%	0%	9	1
Total	-	1,969	100%	28	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Equity Priority Area

Table 22 summarizes pedestrian crashes near bus stops that are coded by SamTrans as being within an Equity Priority Area (EPA). Nearly half (45 percent) of bus stops are located within an EPA. The bus stops within these EPAs have more than twice the average daily ridership, crashes per 100 bus stops, and F/SI crashes per 100 bus stops as the bus stops outside of EPAs. Alarmingly, nearly two in three F/SI crashes within an EPA occurred during dark lighting conditions, compared to only 28 percent in non-EPA areas.

- Bus stops within an Equity Priority Area have a disproportionately high rate of crashes and F/SI crashes per 100 bus stops.
- Bus stops within and Equity Priority Area had a very large percentage of F/SI crashes occur in darkness (62 percent) compared to bus stops outside of Equity Priority Areas (28 percent).

Table 22 Pedestrian Crashes at Bus Stops by Equity Priority Community, 2018-2022

Equity Priority Area	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	884	45%	40.3	58.4	10.6	14.5	2.6	21.5	18%	40%	62%	516	94
No	1,085	55%	17.9	24.9	5.5	13.9	3.1	10.7	22%	29%	28%	270	60
Total	1,969	100%	28.0	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Pedestrian HIN

Table 23 summarizes pedestrian crashes at bus stops by Equity Priority Areas and the pedestrian HIN. Roughly one-third of bus stops within an Equity Priority Area (330 of 554 bus stops) are along the pedestrian HIN. These stops also have the highest average daily ridership (57.3) compared to all other location types. Additionally, these stops had the highest rate of crashes per 100 bus stops (107.6) and F/SI crashes per 100 bus stops (n=23.6), followed by bus stops outside of an Equity Priority Area but also along the pedestrian HIN (79.4 crashes per 100 bus stops; 24.4 F/SI crashes per 100 bus stops). Like all bus stops within an Equity Priority Area, F/SI crashes within these areas and also along the pedestrian HIN had a very high proportion of crashes occurring in darkness (64 percent), compared to 23 percent of F/SI crashes outside of an Equity Priority Community but along the pedestrian HIN.

- Crashes and F/SI crashes are heavily concentrated at bus stops along the pedestrian HIN within Equity Priority Communities.

- A much higher proportion of F/SI crashes that occurred in darkness was observed at bus stops within an Equity Priority Community and along the pedestrian HIN, compared to locations outside of Equity Priority Areas regardless of location along the HIN.

Table 23 Pedestrian Crashes at Bus Stops by Equity Priority Community and Pedestrian HIN, 2018-2022

Equity Priority Area	Pedestrian HIN	# of Stops	% of Stops	Avg. Ridership	Crashes per 100 Stops	KA Crashes per 100 Stops	Crashes per 1,000 Riders	F/SI Crashes per 1,000 Riders	Avg. EPDO	% Crashes that Resulted in F/SI	% of crashes in Dark	% of F/SI crashes in Dark	# Crashes*	# F/SI Crashes*
Yes	Yes	330	17%	57	107.6	23.6	18.8	4.1	46.3	22%	42%	64%	355	78
Yes	No	554	28%	30	29.1	2.9	9.6	1.0	6.7	10%	35%	50%	161	16
No	Yes	160	8%	25	79.4	24.4	31.8	9.8	45.8	31%	32%	23%	127	39
No	No	925	47%	17	15.5	2.3	9.2	1.4	4.6	15%	27%	38%	143	21
Total	-	1,969	100%	28	39.9	7.8	14.3	2.8	15.5	20%	36%	49%	786	154

Conclusion

This memo examined several aspects of pedestrian safety near SamTrans bus stops over a five-year study period (2018-2022) by looking at key systemic safety variables (as data availability allowed), reported lighting conditions, and enhanced bus stop data collected by SamTrans staff. The findings from this analysis can help inform future project identification and bus stop prioritization to improve pedestrian safety near SamTrans bus stops.

Appendix B: Project Prioritization Methodology

KITTELSON & ASSOCIATES
155 Grand Avenue, Suite 505
Oakland, CA 94612

TECHNICAL MEMORANDUM

November 13, 2023 Project# 28717

To: Jeff Lacap, Eva Gaye

From: Kittelson & Associates, Inc.

CC: C/CAG LRSP Advisory Group Members

RE: C/CAG Regional LRSP – Draft Project List and Methodology

INTRODUCTION AND SUMMARY

INTRODUCTION

As part of the C/CAG Local Roadway Safety Plan (LRSP), Kittelson and Safe Streets Research & Consulting (SSRC) have developed draft priority project lists for each participating agencies. This memo provides those draft lists, explains the methodology used to prioritize project locations, and identifies next steps for participating agencies and for the project team.

This memo is organized as follows:

- Introduction and Summary
- Prioritization Process
- Next Steps
- Attachments
  - Attachment 1: Draft Prioritized Project Lists
  - Attachment 2: Draft Prioritized Project Maps
  - Attachment 3: Explanation of Social Equity Scoring

SUMMARY AND NEXT STEPS

INCLUDED IN THIS DELIVERABLE

This deliverable includes draft prioritized intersections and corridors per jurisdiction by mode (motor vehicle, pedestrian, and bicyclist) for each of the 11 participating agencies. Using a three-part prioritization comprised of crash history, social equity, and systemic risk factors, we have:

- Scored all intersections in the jurisdiction and provided a ranked list that includes at least 10 non-state highway locations. A list may be longer than 10 locations for two reasons:
  - We included state highway locations on the list for completeness but included as many total locations as necessary to achieve at least 10 non-state highway locations.
  - In the event that several locations had the same prioritization score, we included all tied locations so that the list would equal 10 or more locations.
- Developed priority project corridors that represent roadways with a high number and/or concentration of priority intersection locations.

PROJECT TEAM NEXT STEPS

Once we receive participating agency feedback, we will:

- Finalize the intersection and segment lists. For example, a participating agency may want to truncate a list in the event of tied scores and/or remove state highway locations.
- Develop up to two project scopes per jurisdiction and develop benefit-cost ratios for those project scopes. Project scopes include a description of the project location and extents, along with recommended safety treatments.

PARTICIPATING AGENCY NEXT STEPS

To facilitate project team next steps, participating agencies will:

- Give feedback on any locations they believe should be removed or added to the lists. For example, an agency may prefer to:
    - Remove all intersections on state highways and all state highway segments.
    - Remove locations that have recent or imminent safety projects constructed or to be constructed.
    - Remove locations such that the total number of locations is lower than what is presented here (e.g., remove locations with tied scores or end up with ten total locations instead of ten per mode).
    - Add a location that ought to be prioritized for reasons other than those listed in this memo.
- Give feedback on the types of project scopes desired (which may include selecting from among listed locations or identifying desired types of projects). A project scope may be:
    - A systemic, low cost application of safety countermeasure(s) at a number of locations or along a corridor.
    - A combination of treatments at a single, high-crash location.

PRIORITIZATION PROCESS

In discussion with C/CAG and to incorporate best practices, we used three equally weighted **factors** (33.3% each) to prioritize locations for safety projects:

- **Crash history** – used to identify the locations with the highest reported five-year crash frequency and severity.
- **Social equity** – used to identify locations where projects would benefit disadvantaged populations and align with future grant funding opportunities that emphasize social equity.
- **Systemic factors** – used to identify locations that have roadway and land use characteristics associated with crash frequency and severity. (Using systemic factors emphasizes a proactive rather than purely reactive approach.)

Each factor is comprised of multiple criteria and overlaid on jurisdictions' roadway data to identify locations for future safety projects. The prioritization process was conducted three times, one for each travel mode. The weighting scheme for each mode is presented in the three figures below (Figure 1, Figure 2, and Figure 3).

For all modes, the three factors are each weighted equally. For crash history and social equity, the constituent criteria make up equal parts of the prioritization and are the same across modes. For systemic characteristics, there are some differences across modes:

- We added in relevant systemic characteristics based on the results of the Task 3 Existing Conditions Analysis, with different characteristics per mode.
- Each factor was weighted relative to the other factors based on the average severity of relevant crashes (for example, if pedestrian crashes on arterials/collectors were overall twice as severe as pedestrian crashes at unsignalized intersections overall, then the former would be weighted twice the latter).

More details on the criteria are provided in the next section.

Figure 1. Pedestrian Prioritization Factor/Criteria Weighting (Sum to 100%)

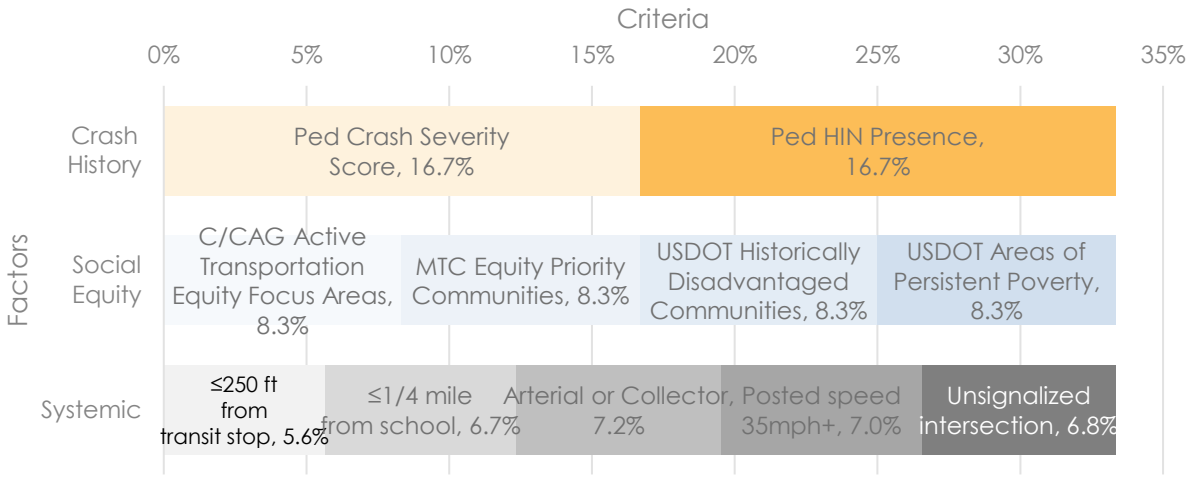


Figure 2. Bicycle Prioritization Factor/Criteria Weighting (Sum to 100%)

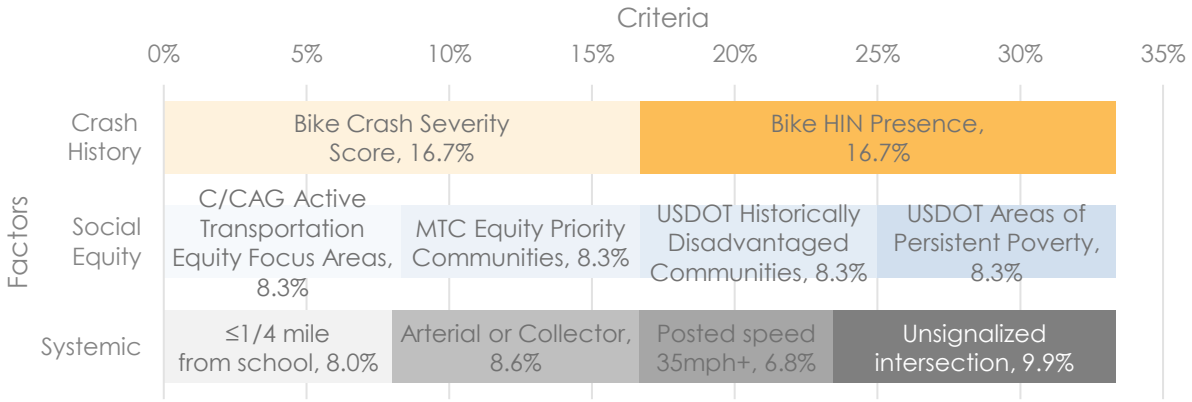
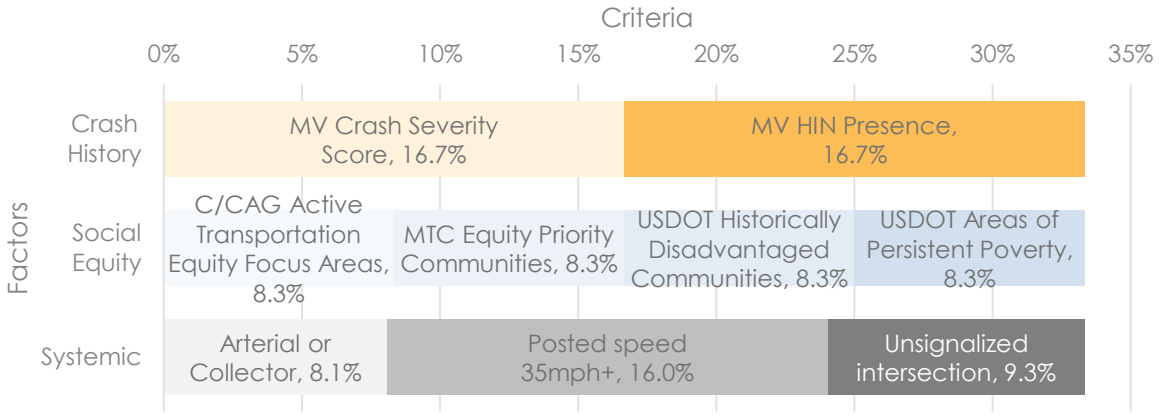


Figure 3. Motor Vehicle Prioritization Factor/Criteria Weighting (Sum to 100%)



CRASH HISTORY

The crash history factor is comprised of two criteria. First, the five-year mode-specific crash severity score was calculated for each location (intersections and roadways).[1] Additionally, locations were prioritized if they are on the identified High Injury Network (HIN). The resulting total scores range from 0 to a maximum of 2.

Table 1. Crash History Criteria Scoring

Crash History Criteria	Measure	Scoring
Crash severity score (mode-specific)	Five-year crash severity score	Five-year crash severity score, proportionally scored (each location divided by the maximum observed score) **Continuous scores:** 0: no five-year mode-specific crash history *through* 1: maximum observed mode-specific countywide crash history
High Injury Network (HIN) Presence (mode-specific)	Location is on the mode-specific HIN	**Binary Scores:** 0: location is not on the mode-specific HIN *or* 1: location is on the mode-specific HIN

SOCIAL EQUITY

The next factor for project prioritization is whether each location is within identified social equity areas. We considered and included multiple local, regional, and national datasets for social equity prioritization to reflect different measures available and because available funding opportunities use different indicators. For example, Safe Streets for All (SS4A) funding eligibility utilizes the USDOT Historically Disadvantaged Communities and Areas of Persistent Poverty (APP) when reviewing grant applications.

Table 2 presents the social equity criteria used to calculate the overall factor scores. See Attachment 3 for an explanation of the scoring method. The resulting total scores range from 0 to a theoretical maximum of 4.

[1] The severity score uses the equivalent property damage only (EPDO) framework which accounts for frequency and severity. The EPDO framework and scores were described in the Task 3 Existing Conditions Analysis memo.

Table 2. Social Equity Metrics and Scoring

Social Equity Criterion	Measure	Scoring
C/CAG Active Transportation Equity Focus Areas (EFAs)	Areas with equity scores of 0.8 or greater were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within EFA at all *through* 1: 100-foot buffer completely within EFA
MTC Equity Priority Communities (EPCs)	Areas within any equity classification (i.e., high, higher, or highest) for 2050 were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within EPC at all *through* 1: 100-foot buffer completely within EPC
USDOT Historically Disadvantaged Communities (HDDs)	Census tracts that are flagged as Historically Disadvantaged were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within HDD at all *through* 1: 100-foot buffer completely within HDD
USDOT Areas of Persistent Poverty (APPs)	Census tracts that are flagged as Areas of Persistent Poverty were used to prioritize locations	**Continuous scores:** 0: 100-foot buffer not within APP at all *through* 1: 100-foot buffer completely within APP

SYSTEMIC CHARACTERISTICS

To emphasize a proactive approach rather than a purely reactive one, we included the presence of systemic characteristics as a factor. Systemic characteristics are roadway, land use, and environmental factors that, based on the Task 3 Existing Conditions analysis, are shown to be associated with higher crash frequency and severity countywide compared to other characteristics.

Table 3 presents the systemic criteria used to calculate the overall factor scores. Refer back to Figure 1, Figure 2, and Figure 3 for a visual illustration of the relative weight of the systemic criteria for each mode.

Table 3. Systemic Characteristics and Scoring

Systemic Characteristics Criterion	Mode(s)	Measure	Scoring[1]
Functional classification	All modes	Functional classification is an arterial or collector road (either roadway, if intersection)	**Binary Weighted Scores:** 0 – location is not on an arterial or collector road 42.8 (ped) / 32.7 (bike) / 19.3 (MV): location is on an arterial or collector road
Highest posted speed	All modes	Highest posted speed is 35 miles per hour or greater (either roadway, if intersection)	**Binary Weighted Scores:** 0: location is not on a road with a posted speed limit of 35 mph or greater 42.1 (ped) / 25.7 (bike) / 38.1 (MV): location is on a road with a posted speed limit of 35 mph or greater
Unsignalized intersection	All modes	Intersection is unsignalized	**Binary Weighted Scores:** 0 – location is at a signalized intersection 40.5 (ped) / 37.4 (bike) / 22.2 (MV): location is at an unsignalized intersection
Schools	Pedestrian and Bicycle	Location is within ¼ mile of a school	**Binary Weighted Scores:** 0: location is not within 1/4 mi of a school 30.3 (Bike) / 33.7 (ped): location is within 1/4 mi of a school
Transit Stops	Pedestrian	Location is within 250 feet of a transit stop	**Binary Weighted Scores:** 0: location is not within 250' of a transit stop 33.7: location is within 250' of a transit stop

1 The scores reflect the average severity score for all crashes meeting that description. These average severity scores then provide relative weights for each systemic characteristic to emphasize the characteristics associated with higher average crash severity.

The resulting total scores range from 0 to a theoretical maximum of 199.2 (pedestrian), 126.1 (bicycle), and 79.6 (motor vehicle).

PUTTING IT ALL TOGETHER: PROJECT PRIORITIZATION

The three factors and constituent criteria were combined according Table 4, resulting in overall pedestrian, bicycle, and motor scores for every location. Factor scores were normalized to all range from 0 to 1 and be equally weighted, for a theoretical maximum overall score of 3.

Table 4. Prioritization Scoring

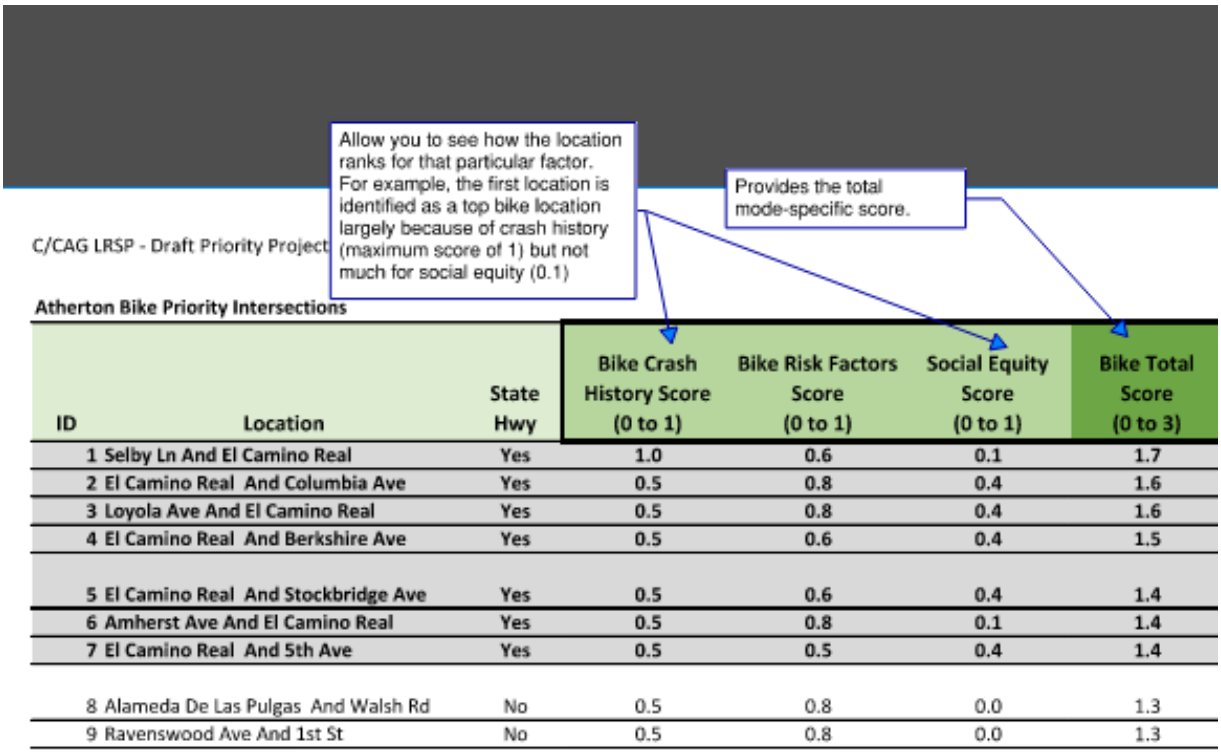
Factor	Factor calculation	Criteria	Proposed Factor Weight	Criterion Weight Overall		
				Ped	Bike	MV
1. Crash History	Sum of 2 criteria. Normalize by dividing by maximum score.	1. Mode-specific EPDO	33.3%	16.7%		
		2. Mode-specific HIN presence		16.7%		
2. Social Equity	Sum of 4 criteria. Normalize by dividing by maximum score.	1. C/CAG Equity Focus Area. Binary	33.3%	8.3%		
		2. MTC Equity Priority Communities		8.3%		
		3. USDOT Areas of Persistent Poverty		8.3%		
		4. USDOT Historically Disadvantaged Communities		8.3%		
3. Systemic Characteristics	Sum of 3 to 5 criteria.[1] Normalize by dividing by maximum score.	Highest functional class arterial or collector	33.3%	7.2%	8.6%	8.1%
		Highest posted speed ≥35 mph		7.0%	6.8%	16.0%
		Unsignalized intersection (or for roadway segments, presence of any unsignalized intersections on the segment)		6.8%	9.9%	9.3%
		5. ≤1/4 mile from school		6.7%	8.0%	-
		≤250 feet from a transit stop		5.6%	-	-

1 See Table 3 for pedestrian related systemic characteristics.
2 See Table 3 for bicycle related systemic characteristics.
3 See Table 3 for motor vehicle related systemic characteristics.

Attachment 1
Draft Prioritized Project Lists

This attachment provides jurisdiction-specific, mode-specific priority location tables.

Each table provides the following:



C/CAG LRSP - Draft Priority Project

Atherton Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)
1	Selby Ln And El Camino Real	Yes	1.0	0.6	0.1	1.7
2	El Camino Real And Columbia Ave	Yes	0.5	0.8	0.4	1.6
3	Loyola Ave And El Camino Real	Yes	0.5	0.8	0.4	1.6
4	El Camino Real And Berkshire Ave	Yes	0.5	0.6	0.4	1.5
5	El Camino Real And Stockbridge Ave	Yes	0.5	0.6	0.4	1.4
6	Amherst Ave And El Camino Real	Yes	0.5	0.8	0.1	1.4
7	El Camino Real And 5th Ave	Yes	0.5	0.5	0.4	1.4
8	Alameda De Las Pulgas And Walsh Rd	No	0.5	0.8	0.0	1.3
9	Ravenswood Ave And 1st St	No	0.5	0.8	0.0	1.3

November 10, 2023

Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
ATH_1	ATH_7	ATH_15	237	203	393	833
ATH_2	ATH_1	ATH_2	40	0	0	40
ATH_3	ATH_2	ATH_3	0	0	0	0
ATH_4	ATH_5	ATH_8	11	0	0	11
ATH_5	ATH_6	ATH_5	12	0	0	12
ATH_6	ATH_4	ATH_6	6	0	0	6
ATH_7	ATH_3	ATH_4	68	11	11	90
ATH_8	ATH_32	ATH_9	0	0	0	0
ATH_8	ATH_32	ATH_20	0	0	0	0
ATH_8	ATH_32	ATH_20	0	0	0	0
ATH_11	ATH_10	ATH_19	23	0	0	23
ATH_12	ATH_12	ATH_13	6	0	0	6

Atherton Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Middlefield Rd And Oak Grove Ave	No	0.5	0.6	0.0	1.1	ATH_1	ATH_287	ATH_28	35	6	28	69
2	**El Camino Real And Columbia Ave**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_2**	**ATH_1**	**ATH_2**	**40**	**0**	**0**	**40**
3	**Loyola Ave And El Camino Real**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_3**	**ATH_2**	**ATH_3**	**0**	**0**	**0**	**0**
4	**El Camino Real And 5th Ave**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_4**	**ATH_3**	**ATH_7**	**68**	**11**	**11**	**90**
5	**El Camino Real And Stockbridge Ave**	**Yes**	**0.0**	**0.6**	**0.4**	**1.0**	**ATH_5**	**ATH_6**	**ATH_5**	**12**	**0**	**0**	**12**
6	**Amherst Ave And El Camino Real**	**Yes**	**0.0**	**0.8**	**0.1**	**0.9**	**ATH_6**	**ATH_4**	**ATH_6**	**6**	**0**	**0**	**6**
7	Oak Grove Ave And Oak Grove Ave	No	0.5	0.4	0.0	0.9	ATH_7	ATH_58	ATH_25	0	0	0	0
8	**El Camino Real And Berkshire Ave**	**Yes**	**0.0**	**0.4**	**0.4**	**0.9**	**ATH_8**	**ATH_5**	**ATH_4**	**11**	**0**	**0**	**11**
9	Alameda De Las Pulgas And Walsh Rd	No	0.0	0.8	0.0	0.8	ATH_9	ATH_32	ATH_8	0	0	0	0
10	Lane Pl And Middlefield Rd	No	0.0	0.8	0.0	0.8	ATH_9	ATH_32	ATH_30	0	0	23	23
11	De Bell Dr And Middlefield Rd	No	0.0	0.8	0.0	0.8	ATH_9	ATH_27	ATH_32	6	0	0	6
12	Middlefield Rd And San Benito Ave	No	0.0	0.8	0.0	0.8	ATH_9	ATH_27	ATH_32	6	0	0	6
13	Glenwood Ave And Laurel St	No	0.0	0.8	0.0	0.8	ATH_13	ATH_12	ATH_12	6	0	0	6
14	Valparaiso Ave And Lee Dr	No	0.0	0.8	0.0	0.8	ATH_13	ATH_13	ATH_42	0	0	0	0
15	**Selby Ln And El Camino Real**	**Yes**	**0.2**	**0.4**	**0.1**	**0.7**	**ATH_15**	**ATH_7**	**ATH_1**	**237**	**203**	**393**	**833**
16	Middlefield Rd And Encina Ave	No	0.0	0.6	0.1	0.7	ATH_16	ATH_18	ATH_29	0	0	0	0
17	Middlefield Rd And Ravenswood Ave	No	0.0	0.6	0.0	0.6	ATH_17	ATH_16	ATH_43	22	6	6	34
18	Middlefield Rd And Ringwood Ave	No	0.0	0.6	0.0	0.6	ATH_17	ATH_17	ATH_44	11	6	0	17

Note: Gray shaded cells are locations on the State Highway Network.

Atherton Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Selby Ln And El Camino Real**	**Yes**	**1.0**	**0.6**	**0.1**	**1.7**	**ATH_1**	**ATH_7**	**ATH_15**	**237**	**203**	**393**	**833**
2	**El Camino Real And Columbia Ave**	**Yes**	**0.5**	**0.8**	**0.4**	**1.6**	**ATH_2**	**ATH_1**	**ATH_2**	**40**	**0**	**0**	**40**
3	**Loyola Ave And El Camino Real**	**Yes**	**0.5**	**0.8**	**0.4**	**1.6**	**ATH_3**	**ATH_2**	**ATH_3**	**0**	**0**	**0**	**0**
4	**El Camino Real And Berkshire Ave**	**Yes**	**0.5**	**0.6**	**0.4**	**1.5**	**ATH_4**	**ATH_5**	**ATH_8**	**11**	**0**	**0**	**11**
5	**El Camino Real And Stockbridge Ave**	**Yes**	**0.5**	**0.6**	**0.4**	**1.4**	**ATH_5**	**ATH_6**	**ATH_5**	**12**	**0**	**0**	**12**
6	**Amherst Ave And El Camino Real**	**Yes**	**0.5**	**0.8**	**0.1**	**1.4**	**ATH_6**	**ATH_4**	**ATH_6**	**6**	**0**	**0**	**6**
7	**El Camino Real And 5th Ave**	**Yes**	**0.5**	**0.5**	**0.4**	**1.4**	**ATH_7**	**ATH_3**	**ATH_4**	**68**	**11**	**11**	**90**
8	Alameda De Las Pulgas And Walsh Rd	No	0.5	0.8	0.0	1.3	ATH_8	ATH_32	ATH_9	0	0	0	0
9	Ravenswood Ave And 1st St	No	0.5	0.8	0.0	1.3	ATH_8	ATH_32	ATH_20	0	0	0	0
10	Callado Way And Alameda De Las Pulgas	No	0.5	0.8	0.0	1.3	ATH_8	ATH_32	ATH_20	0	0	0	0
11	Alameda De Las Pulgas And Stockbridge Ave	No	0.5	0.8	0.0	1.3	ATH_11	ATH_10	ATH_19	23	0	0	23
12	Glenwood Ave And Laurel St	No	0.5	0.7	0.0	1.2	ATH_12	ATH_12	ATH_13	6	0	0	6
13	**Wilburn Ave And El Camino Real**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_13**	**ATH_8**	**ATH_41**	**11**	**0**	**0**	**11**
14	Fletcher Dr And Alameda De Las Pulgas	No	0.5	0.6	0.0	1.1	ATH_14	ATH_32	ATH_29	0	0	11	11
15	Alameda De Las Pulgas And Atherton Ave	No	0.5	0.6	0.0	1.1	ATH_14	ATH_32	ATH_29	0	0	11	11
16	**El Camino Real And Isabella Ave**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_22**	**ATH_29**	**18**	**0**	**0**	**18**
17	**El Camino Real And Ashfield Rd**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_27**	**ATH_29**	**6**	**0**	**0**	**6**
18	**Maple Ave And El Camino Real**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_27**	**ATH_43**	**6**	**0**	**0**	**6**
19	**El Camino Real And Walnut Ave**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_29**	**0**	**0**	**0**	**0**
20	Alameda De Las Pulgas And Polhemus Ave	No	0.5	0.6	0.0	1.1	ATH_16	ATH_32	ATH_29	0	0	0	0
21	Alameda De Las Pulgas And Karen Way	No	0.5	0.6	0.0	1.1	ATH_16	ATH_32	ATH_43	0	0	0	0
22	**El Camino Real And Tuscaloosa Ave**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_43**	**0**	**0**	**0**	**0**
23	**El Camino Real And Redwood Way**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_43**	**0**	**0**	**0**	**0**
24	**El Camino Real And Lloyden Dr**	**Yes**	**0.5**	**0.6**	**0.0**	**1.1**	**ATH_16**	**ATH_32**	**ATH_43**	**0**	**0**	**0**	**0**
25	Oak Grove Ave And Oak Grove Ave	No	0.5	0.5	0.0	1.0	ATH_25	ATH_58	ATH_7	0	0	0	0
26	Oak Grove Ave And De Bell Dr	No	0.5	0.5	0.0	1.0	ATH_25	ATH_58	ATH_55	0	0	0	0
27	Laurel St And Fennwood Estate Dvwy	No	0.5	0.5	0.0	1.0	ATH_25	ATH_58	ATH_55	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Atherton Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**El Camino Real And Columbia Ave**	**Yes**	**0.5**	**1.0**	**0.4**	**1.9**	**ATH_1**	**ATH_2**	**ATH_2**	**40**	**0**	**0**	**40**
2	**Loyola Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.4**	**1.9**	**ATH_2**	**ATH_3**	**ATH_3**	**0**	**0**	**0**	**0**
3	**El Camino Real And 5th Ave**	**Yes**	**0.6**	**0.7**	**0.4**	**1.7**	**ATH_3**	**ATH_4**	**ATH_7**	**68**	**11**	**11**	**90**
4	**Amherst Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.1**	**1.6**	**ATH_4**	**ATH_6**	**ATH_6**	**6**	**0**	**0**	**6**
5	**El Camino Real And Berkshire Ave**	**Yes**	**0.5**	**0.5**	**0.4**	**1.5**	**ATH_5**	**ATH_8**	**ATH_4**	**11**	**0**	**0**	**11**
6	**El Camino Real And Stockbridge Ave**	**Yes**	**0.5**	**0.5**	**0.4**	**1.4**	**ATH_6**	**ATH_5**	**ATH_5**	**12**	**0**	**0**	**12**
7	**Selby Ln And El Camino Real**	**Yes**	**0.7**	**0.5**	**0.1**	**1.3**	**ATH_7**	**ATH_15**	**ATH_1**	**237**	**203**	**393**	**833**
8	**Wilburn Ave And El Camino Real**	**Yes**	**0.5**	**0.5**	**0.0**	**1.1**	**ATH_8**	**ATH_41**	**ATH_13**	**11**	**0**	**0**	**11**
9	**El Camino Real And Almendral Ave**	**Yes**	**0.5**	**0.5**	**0.0**	**1.0**	**ATH_9**	**ATH_28**	**ATH_47**	**6**	**11**	**0**	**17**
10	Alameda De Las Pulgas And Stockbridge Ave	No	0.0	1.0	0.0	1.0	ATH_10	ATH_19	ATH_11	23	0	0	23
11	Robert S Dr And Valparaiso Ave	No	0.0	0.8	0.0	0.8	ATH_11	ATH_52	ATH_96	11	0	0	11
12	Glenwood Ave And Laurel St	No	0.0	0.8	0.0	0.8	ATH_12	ATH_13	ATH_12	6	0	0	6
13	Valparaiso Ave And Lee Dr	No	0.0	0.8	0.0	0.8	ATH_13	ATH_13	ATH_42	0	0	0	0
14	Elder Ave And Atherton Oaks Ln	No	0.0	0.8	0.0	0.8	ATH_13	ATH_37	ATH_95	0	0	11	11
15	Park Ln And Valparaiso Ave	No	0.0	0.8	0.0	0.8	ATH_13	ATH_52	ATH_96	0	0	0	0
16	Middlefield Rd And Ravenswood Ave	No	0.0	0.7	0.0	0.7	ATH_16	ATH_17	ATH_43	22	6	6	34
17	Middlefield Rd And Ringwood Ave	No	0.0	0.7	0.0	0.7	ATH_17	ATH_17	ATH_44	11	6	0	17
18	Middlefield Rd And Encina Ave	No	0.0	0.5	0.1	0.6	ATH_18	ATH_16	ATH_29	0	0	0	0
19	**El Camino Real And Spruce Ave**	**Yes**	**0.0**	**0.5**	**0.0**	**0.6**	**ATH_19**	**ATH_43**	**ATH_47**	**39**	**0**	**0**	**39**
20	Middlefield Rd And Palmer Ln	No	0.0	0.5	0.0	0.5	ATH_20	ATH_29	ATH_47	23	0	0	23
21	Middlefield Rd And Watkins Ave	No	0.0	0.5	0.0	0.5	ATH_20	ATH_43	ATH_45	23	0	11	34

Note: Gray shaded cells are locations on the State Highway Network.

Atherton Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
ATH_1	Atherton	El Camino Real, Berkshire Avenue to Spruce Avenue (E to W town limits)	Yes	1.3	10	15	7	17
ATH_2	Atherton	Alameda De Las Pulgas, Stockbridge Avenue to Cam Al Lago (E to W town limits)	No	0.9	1	7	1	7
ATH_3	Atherton	Valparaiso Avenue, Camino Por Los Arboles to Victoria Drive	No	1.1	4	0	1	4
ATH_4	Atherton	Middlefield Road, Encina Avenue to Ringwood Avenue	No	1.7	5	0	7	9

Belmont Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Alameda De Las Pulgas And Monroe Ave	No	0.5	0.8	0.0	1.3	BEL_1	BEL_53	BEL_47	11	0	0	11
2	Alameda De Las Pulgas And Cipriani Blvd	No	0.5	0.8	0.0	1.3	BEL_1	BEL_58	BEL_47	0	0	0	0
3	Alameda De Las Pulgas And Lyon Ave	No	0.5	0.8	0.0	1.3	BEL_1	BEL_58	BEL_47	0	0	0	0
4	Alameda De Las Pulgas And Forest Ave	No	0.5	0.6	0.0	1.1	BEL_4	BEL_58	BEL_47	0	0	0	0
5	Pullman Ave And Lyall Way	No	0.0	1.0	0.0	1.0	BEL_5	BEL_7	BEL_2	247	11	0	258
6	Davis Dr And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_6	BEL_12	BEL_2	11	0	0	11
7	Ralston Ave And Belmont Canyon Rd	No	0.0	1.0	0.0	1.0	BEL_6	BEL_14	BEL_2	0	0	0	0
8	Merry Moppet Ln And Ralston Ave	No	0.0	0.8	0.0	0.8	BEL_8	BEL_14	BEL_1	0	0	11	11
9	Belmont Canyon Rd (W) And Ralston Ave	No	0.0	0.8	0.0	0.8	BEL_8	BEL_6	BEL_40	263	0	0	263
10	Belmont Canyon Rd € And Ralston Ave	No	0.0	0.8	0.0	0.8	BEL_8	BEL_14	BEL_40	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Belmont Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Merry Moppet Ln And Ralston Ave	No	0.5	1.0	0.0	1.5	BEL_1	BEL_14	BEL_8	0	0	11	11
2	Pullman Ave And Lyall Way	No	0.5	1.0	0.0	1.5	BEL_2	BEL_7	BEL_5	247	11	0	258
3	Davis Dr And Ralston Ave	No	0.5	1.0	0.0	1.5	BEL_2	BEL_12	BEL_6	11	0	0	11
4	Ralston Ave And Belmont Canyon Rd	No	0.5	1.0	0.0	1.5	BEL_2	BEL_14	BEL_6	0	0	0	0
5	Ralston Ave And Academy Ave	No	0.5	0.8	0.0	1.3	BEL_5	BEL_58	BEL_42	0	0	22	22
6	Ralston Ave And Maywood Dr	No	0.5	0.8	0.0	1.3	BEL_6	BEL_53	BEL_39	11	11	11	33
7	Ralston Ave And Furlong St	No	0.5	0.8	0.0	1.3	BEL_6	BEL_47	BEL_42	33	0	11	44
8	Ralston Ave And Villa Ave	No	0.5	0.8	0.0	1.3	BEL_6	BEL_58	BEL_42	0	0	11	11
9	Ralston Ave And Chula Vista Dr	No	0.5	0.8	0.0	1.3	BEL_9	BEL_48	BEL_21	22	11	0	33
10	Granada St And Ralston Ave	No	0.5	0.8	0.0	1.3	BEL_9	BEL_48	BEL_27	22	0	0	22
11	Notre Dame Ave And Ralston Ave	No	0.5	0.8	0.0	1.3	BEL_9	BEL_53	BEL_42	11	0	0	11
12	Ralston Ave And Misty Ln	No	0.5	0.8	0.0	1.3	BEL_9	BEL_53	BEL_42	11	0	0	11
13	Ralston Ave And Chevy St	No	0.5	0.8	0.0	1.3	BEL_9	BEL_58	BEL_42	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Belmont Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Anita Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_1**	**BEL_34**	**BEL_16**	**22**	**0**	**0**	**22**
2	**Ruth Ave And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_2**	**BEL_11**	**BEL_16**	**17**	**0**	**0**	**17**
3	**El Camino Real And Belmont Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_2**	**BEL_31**	**BEL_16**	**17**	**22**	**0**	**39**
4	**El Camino Real And North Rd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**BEL_4**	**BEL_11**	**BEL_16**	**6**	**0**	**0**	**6**
5	**El Camino Real And Davey Glen Rd**	**Yes**	**0.5**	**0.7**	**0.0**	**1.2**	**BEL_5**	**BEL_23**	**BEL_29**	**17**	**0**	**0**	**17**
6	Belmont Canyon Rd (W) And Ralston Ave	No	0.2	1.0	0.0	1.2	BEL_6	BEL_8	BEL_40	263	0	0	263
7	Pullman Ave And Lyall Way	No	0.2	1.0	0.0	1.2	BEL_7	BEL_5	BEL_2	247	11	0	258
8	**El Camino Real And 5th Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_8**	**BEL_11**	**BEL_16**	**50**	**0**	**0**	**50**
9	**Flashner Ln And El Camino Real**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_9**	**BEL_11**	**BEL_16**	**29**	**0**	**0**	**29**
10	**El Camino Real And Broadway**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_10**	**BEL_11**	**BEL_14**	**17**	**0**	**22**	**39**
11	**El Camino Real And Emmett Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_10**	**BEL_11**	**BEL_15**	**17**	**0**	**11**	**28**
12	Davis Dr And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_12	BEL_6	BEL_2	11	0	0	11
13	Oneill Ave And Old County Rd	No	0.0	1.0	0.0	1.0	BEL_12	BEL_34	BEL_16	11	0	0	11
14	Ralston Ave And Belmont Canyon Rd	No	0.0	1.0	0.0	1.0	BEL_14	BEL_6	BEL_2	0	0	0	0
15	Merry Moppet Ln And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_8	BEL_1	0	0	11	11
16	Belmont Canyon Rd € And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_8	BEL_40	0	0	0	0
17	**Hill St And El Camino Real**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_14**	**BEL_11**	**BEL_16**	**0**	**0**	**0**	**0**
18	Sterling View Ave And Old County Rd	No	0.0	1.0	0.0	1.0	BEL_14	BEL_11	BEL_16	0	0	0	0
19	Belmont Canyon Rd And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_11	BEL_57	0	0	0	0
20	Lassen Dr And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_11	BEL_57	0	0	0	0
21	Old County Rd And Waltermire St	No	0.0	1.0	0.0	1.0	BEL_14	BEL_33	BEL_16	0	6	0	6
22	**El Camino Real And Waltermire St**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_14**	**BEL_34**	**BEL_16**	**0**	**0**	**0**	**0**
23	Belmont Canyon Rd And Ralston Ave	No	0.0	1.0	0.0	1.0	BEL_14	BEL_34	BEL_57	0	0	0	0
24	**Harbor Blvd And Us Highway 101 Hwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**BEL_14**	**BEL_34**	**BEL_57**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Belmont Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
BEL_1	Belmont	El Camino Real, North Road to F Street	Yes	1.6	11	0	0	11
BEL_2	Belmont	Ralston Avenue, Villa Street to west of South Road	No	0.8	0	7	0	7
BEL_3	Belmont	Ralston Avenue, Christrian Drive to Villa Street	No	1.9	9	5	6	10

Brisbane Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Guadalupe Canyon Pkwy And Bayshore Blvd	No	0.7	0.6	0.0	1.3	BRI_1	BRI_13	BRI_58	6	240	0	246
2	Bayshore Blvd And Tunnel Ave	No	0.5	0.6	0.0	1.1	BRI_2	BRI_3	BRI_58	170	0	0	170
3	Bayshore Blvd And Valley Dr	No	0.5	0.6	0.0	1.1	BRI_2	BRI_10	BRI_58	28	0	0	28
4	Valley Dr And Park Ln	No	0.0	0.8	0.0	0.8	BRI_4	BRI_16	BRI_1	11	0	0	11
5	Park Pl And Valley Dr	No	0.0	0.8	0.0	0.8	BRI_4	BRI_17	BRI_1	0	0	0	0
6	San Bruno Ave And Mendocino St	No	0.2	0.6	0.0	0.7	BRI_6	BRI_25	BRI_7	0	191	0	191
7	Bayshore Blvd And Main St	No	0.0	0.6	0.0	0.6	BRI_7	BRI_1	BRI_4	33	0	0	33
8	Bayshore Blvd And San Bruno Ave	No	0.0	0.6	0.0	0.6	BRI_7	BRI_2	BRI_4	17	0	0	17
9	Cypress Ln And Valley Dr	No	0.0	0.6	0.0	0.6	BRI_9	BRI_17	BRI_1	0	0	0	0
10	Bayshore Blvd And Industrial Way	No	0.0	0.6	0.0	0.6	BRI_10	BRI_12	BRI_58	11	0	0	11

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Valley Dr And Park Ln	No	0.0	0.8	0.0	0.8	BRI_1	BRI_16	BRI_4	11	0	0	11
2	Park Pl And Valley Dr	No	0.0	0.8	0.0	0.8	BRI_1	BRI_17	BRI_4	0	0	0	0
3	Cypress Ln And Valley Dr	No	0.0	0.8	0.0	0.8	BRI_1	BRI_17	BRI_9	0	0	0	0
4	Bayshore Blvd And Main St	No	0.0	0.8	0.0	0.8	BRI_4	BRI_1	BRI_7	33	0	0	33
5	Bayshore Blvd And San Bruno Ave	No	0.0	0.8	0.0	0.8	BRI_4	BRI_2	BRI_7	17	0	0	17
6	Hill Dr And Silverspot Dr	No	0.0	0.6	0.0	0.6	BRI_6	BRI_17	BRI_22	0	0	0	0
7	San Francisco Ave And Old County Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_20	BRI_11	11	6	0	17
8	San Bruno Ave And Mariposa St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_20	BRI_29	11	0	0	11
9	Old County Rd And Park Ln	No	0.0	0.5	0.0	0.5	BRI_7	BRI_23	BRI_12	6	0	0	6
10	Klamath St And Visitacion Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_23	BRI_29	6	0	0	6
11	San Bruno Ave And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_6	0	191	0	191
12	Santa Clara St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
13	San Bruno Ave And Alvarado St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
14	Glen Pkwy And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
15	Lake St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
16	San Bruno Ave And Tulare St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
17	Monterey St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_12	0	0	0	0
18	Ross Way And Glen Pkwy	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
19	San Francisco Ave And Plumas St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
20	Park Pl And Park Ln	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
21	San Francisco Ave And Inyo St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
22	Mariposa St And Visitacion Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
23	Visitacion Ave And Monterey St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
24	Mariposa St And Inyo St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
25	Sierra Point Rd And Humboldt Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
26	Solano St And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
27	Solano St And San Francisco Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
28	Mariposa St And Solano St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
29	Sierra Point Rd And Lassen St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
30	Mono St And Klamath St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
31	Visitacion Ave And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
32	Humboldt Rd And Lassen St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
33	Humboldt Rd And Lake St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
34	Solano St And Humboldt Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
35	Main St And Hill Dr	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
36	Gladys Ave And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
37	Klamath St And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
38	San Bruno Ave And Thomas Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
39	Sierra Point Rd And Ross Way	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
40	Humboldt Rd And Glen Pkwy	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
41	Sierra Point Rd And Glen Pkwy	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
42	Humboldt Rd And Kings Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
43	Humboldt Rd And Sierra Point Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
44	Humboldt Rd And San Diego Ct	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
45	Mariposa St And Plumas St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
46	Alvarado St And Visitacion Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
47	Alvarado St And Monterey St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
48	Alvarado St And Mendocino St	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
49	William Ave And San Bruno Ave	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
50	Humboldt Rd And Annis Rd	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0
51	Lake St And	No	0.0	0.5	0.0	0.5	BRI_7	BRI_25	BRI_29	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Bayshore Blvd And Main St	No	0.0	1.0	0.0	1.0	BRI_1	BRI_7	BRI_4	33	0	0	33
2	Bayshore Blvd And San Bruno Ave	No	0.0	1.0	0.0	1.0	BRI_2	BRI_7	BRI_4	17	0	0	17
3	Bayshore Blvd And Tunnel Ave	No	0.1	0.7	0.0	0.9	BRI_3	BRI_2	BRI_58	170	0	0	170
4	Sierra Point Pkwy And Lagoon Rd	No	0.0	0.8	0.0	0.8	BRI_4	BRI_23	BRI_52	11	0	0	11
5	Beatty Rd And Tunnel Ave	No	0.0	0.8	0.0	0.8	BRI_5	BRI_23	BRI_52	0	0	0	0
6	Esta Ave And Tunnel Ave	No	0.0	0.8	0.0	0.8	BRI_5	BRI_23	BRI_52	0	0	0	0
7	**Alana Way And Beatty Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**BRI_5**	**BRI_23**	**BRI_52**	**0**	**0**	**0**	**0**
8	**Sierra Point Pkwy 101 Nb Hwy And 101 Nb Sierra Point Pkwy Hwy**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**BRI_5**	**BRI_23**	**BRI_52**	**0**	**0**	**0**	**0**
9	Tunnel Ave And Lagoon Rd	No	0.0	0.8	0.0	0.8	BRI_5	BRI_23	BRI_52	0	0	0	0
10	Bayshore Blvd And Valley Dr	No	0.0	0.7	0.0	0.7	BRI_10	BRI_2	BRI_58	28	0	0	28
11	Guadalupe Canyon Pkwy And Hill Dr	No	0.0	0.7	0.0	0.7	BRI_11	BRI_19	BRI_58	22	0	0	22
12	Bayshore Blvd And Industrial Way	No	0.0	0.7	0.0	0.7	BRI_12	BRI_10	BRI_58	11	0	0	11

Note: Gray shaded cells are locations on the State Highway Network.

Brisbane Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
BRI_1	Brisbane	Bayshore Boulevard, Geneva Avenue to S town limits	No	2.6	5	2	6	6
BRI_2	Brisbane	Valley Drive, Bayshore Boulevard to Hills Drive	No	0.6	1	3	4	4
BRI_3	Brisbane	Tunnel Avenue, N town limit to Bayshor Boulevard	No	1.6	4	0	1	4

Colma Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Junipero Serra Blvd And Colma Blvd	No	0.5	0.8	0.0	1.3	CMA_1	CMA_3	CMA_4	0	0	0	0
2	Junipero Serra Blvd And Southgate Ave	No	0.5	0.6	0.0	1.1	CMA_2	CMA_1	CMA_4	11	0	0	11
3	**El Camino Real And F St**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_3**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
4	Hillside Blvd And Evergreen Dr	No	0.0	0.6	0.0	0.6	CMA_4	CMA_2	CMA_4	6	0	0	6
5	Phillip Dr And Junipero Serra Blvd	No	0.0	0.6	0.0	0.6	CMA_4	CMA_3	CMA_1	0	0	0	0
6	Hillside Blvd And Sand Hill Rd	No	0.0	0.6	0.0	0.6	CMA_4	CMA_3	CMA_3	0	0	11	11
7	**El Camino Real And Mission Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
8	**El Camino Real And Collins Ave**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
9	**Villa Ave And El Camino Real**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
10	**El Camino Real And Olivet Pkwy**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
11	Lawndale Blvd And Mission Rd	No	0.0	0.6	0.0	0.6	CMA_11	CMA_13	CMA_12	17	0	0	17
12	**El Camino Real And F St**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_12**	**CMA_12**	**CMA_23**	**0**	**0**	**0**	**0**
13	Serramonte Blvd And 280 Nb On Ramp Hwy	No	0.0	0.6	0.0	0.6	CMA_13	CMA_14	CMA_2	11	0	0	11
14	**El Camino Real And Serramonte Blvd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_13**	**CMA_15**	**CMA_24**	**0**	**0**	**0**	**0**
15	**Colma Blvd And El Camino Real**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**CMA_13**	**CMA_15**	**CMA_24**	**0**	**0**	**0**	**0**
16	Hoffman St And Villa St	No	0.0	0.4	0.1	0.5	CMA_16	CMA_20	CMA_13	11	0	0	11
17	Hoffman St And Sylvan St	No	0.0	0.4	0.1	0.5	CMA_17	CMA_21	CMA_14	11	0	0	11
18	Lisbon St And Hoffman St	No	0.0	0.4	0.1	0.5	CMA_17	CMA_23	CMA_14	0	0	0	0
19	Hoffman St And Linden St	No	0.0	0.4	0.1	0.5	CMA_17	CMA_23	CMA_14	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Colma Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Phillip Dr And Junipero Serra Blvd	No	0.5	0.8	0.0	1.3	CMA_1	CMA_3	CMA_4	0	0	0	0
2	Serramonte Blvd And 280 Nb On Ramp Hwy	No	0.5	0.5	0.0	1.0	CMA_2	CMA_14	CMA_13	11	0	0	11
3	Hillside Blvd And Sand Hill Rd	No	0.0	0.8	0.0	0.8	CMA_3	CMA_3	CMA_4	0	0	11	11
4	Junipero Serra Blvd And Southgate Ave	No	0.0	0.8	0.0	0.8	CMA_4	CMA_1	CMA_2	11	0	0	11
5	Hillside Blvd And Evergreen Dr	No	0.0	0.8	0.0	0.8	CMA_4	CMA_2	CMA_4	6	0	0	6
6	Junipero Serra Blvd And Colma Blvd	No	0.0	0.8	0.0	0.8	CMA_4	CMA_3	CMA_1	0	0	0	0
7	**El Camino Real And F St**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_3**	**0**	**0**	**0**	**0**
8	**El Camino Real And Mission Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
9	**El Camino Real And Collins Ave**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
10	**Villa Ave And El Camino Real**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
11	**El Camino Real And Olivet Pkwy**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**CMA_4**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
12	Lawndale Blvd And Mission Rd	No	0.0	0.7	0.0	0.7	CMA_12	CMA_13	CMA_11	17	0	0	17
13	Hoffman St And Villa St	No	0.0	0.5	0.1	0.7	CMA_13	CMA_20	CMA_16	11	0	0	11
14	Hoffman St And Sylvan St	No	0.0	0.5	0.1	0.7	CMA_14	CMA_21	CMA_17	11	0	0	11
15	Lisbon St And Hoffman St	No	0.0	0.5	0.1	0.7	CMA_14	CMA_23	CMA_17	0	0	0	0
16	Hoffman St And Linden St	No	0.0	0.5	0.1	0.7	CMA_14	CMA_23	CMA_17	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Colma Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Junipero Serra Blvd And Southgate Ave	No	0.0	1.0	0.0	1.0	CMA_1	CMA_2	CMA_4	11	0	0	11
2	Hillside Blvd And Evergreen Dr	No	0.0	1.0	0.0	1.0	CMA_2	CMA_4	CMA_4	6	0	0	6
3	Junipero Serra Blvd And Colma Blvd	No	0.0	1.0	0.0	1.0	CMA_3	CMA_1	CMA_4	0	0	0	0
4	**El Camino Real And F St**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_3**	**CMA_4**	**0**	**0**	**0**	**0**
5	Phillip Dr And Junipero Serra Blvd	No	0.0	1.0	0.0	1.0	CMA_3	CMA_4	CMA_1	0	0	0	0
6	Hillside Blvd And Sand Hill Rd	No	0.0	1.0	0.0	1.0	CMA_3	CMA_4	CMA_3	0	0	11	11
7	**El Camino Real And Mission Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
8	**El Camino Real And Collins Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
9	**Villa Ave And El Camino Real**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
10	**El Camino Real And Olivet Pkwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**CMA_3**	**CMA_4**	**CMA_4**	**0**	**0**	**0**	**0**
11	Lawndale Blvd And Hillside Blvd	No	0.1	0.7	0.0	0.8	CMA_11	CMA_20	CMA_24	131	0	0	131
12	**El Camino Real And F St**	**Yes**	**0.0**	**0.7**	**0.0**	**0.8**	**CMA_12**	**CMA_12**	**CMA_23**	**0**	**0**	**0**	**0**
13	Lawndale Blvd And Mission Rd	No	0.0	0.7	0.0	0.7	CMA_13	CMA_11	CMA_12	17	0	0	17
14	Serramonte Blvd And 280 Nb On Ramp Hwy	No	0.0	0.7	0.0	0.7	CMA_14	CMA_13	CMA_2	11	0	0	11
15	**El Camino Real And Serramonte Blvd**	**Yes**	**0.0**	**0.7**	**0.0**	**0.7**	**CMA_15**	**CMA_13**	**CMA_24**	**0**	**0**	**0**	**0**
16	**Colma Blvd And El Camino Real**	**Yes**	**0.0**	**0.7**	**0.0**	**0.7**	**CMA_15**	**CMA_13**	**CMA_24**	**0**	**0**	**0**	**0**
17	Hillside Blvd And Serramonte Blvd	No	0.0	0.7	0.0	0.7	CMA_15	CMA_20	CMA_24	0	0	0	0
18	Olivet Pkwy And Hillside Blvd	No	0.0	0.7	0.0	0.7	CMA_15	CMA_20	CMA_24	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Colma Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
CMA_1	Colma	El Camino Real, N town limit to S town limit	Yes	1.1	8	5	8	8
CMA_2	Colma	Junipero Serra Boulevard, N town limit to S town limit	No	1.3	4	4	4	4
CMA_3	Colma	Hillside Boulevard, Serramonte Boulevard to S town limit	No	1.2	4	2	2	4
CMA_4	Colma	Hoffman Street, Hillside Boulevard to E town limit	No	0.3	0	4	4	4

East Palo Alto Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Bay Rd And Palo Verde Ave	No	0.5	1.0	0.8	2.3	EPA_1	EPA_17	EPA_13	0	0	0	0
2	Bay Rd And Addison Ave	No	0.5	1.0	0.6	1.6	EPA_2	EPA_21	EPA_19	6	11	0	17
3	Oakwood Dr And Bay Rd	No	0.5	1.0	0.6	1.6	EPA_3	EPA_22	EPA_19	0	0	0	0
4	Gloria Way And Bay Rd	No	0.5	0.8	0.8	1.8	EPA_4	EPA_15	EPA_32	11	6	0	17
5	Dumbarton Ave And Bay Rd	No	0.5	0.8	0.7	1.7	EPA_5	EPA_19	EPA_14	0	0	11	11
6	Bay Rd And Ralmar Ave	No	0.5	1.0	0.4	1.4	EPA_6	EPA_25	EPA_7	11	0	0	11
7	Glen Way And Bay Rd	No	0.5	0.6	0.8	1.8	EPA_7	EPA_16	EPA_30	6	0	12	18
8	Clarke Ave And Illinois St	No	0.7	0.8	0.4	1.4	EPA_8	EPA_27	EPA_80	0	191	11	202
9	**Bay Rd And University Ave**	**Yes**	**0.5**	**0.6**	**0.7**	**2.2**	**EPA_9**	**EPA_5**	**EPA_17**	**312**	**28**	**0**	**340**
10	Demeter St And Bay Rd	No	0.5	0.6	0.6	1.6	EPA_10	EPA_20	EPA_39	11	0	0	11
11	Bay Rd And Fordham St	No	0.5	0.8	0.4	1.4	EPA_11	EPA_24	EPA_81	23	11	0	34

Note: Gray shaded cells are locations on the State Highway Network.

East Palo Alto Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**University Ave And Adams Dr**	**Yes**	**0.7**	**1.0**	**0.8**	**2.5**	**EPA_1**	**EPA_3**	**EPA_17**	**34**	**0**	**191**	**225**
2	**Purdue Ave And University Ave**	**Yes**	**0.5**	**1.0**	**0.8**	**2.3**	**EPA_2**	**EPA_1**	**EPA_16**	**107**	**11**	**0**	**118**
3	**O'Brien Dr And University Ave**	**Yes**	**0.7**	**0.7**	**0.8**	**2.1**	**EPA_3**	**EPA_10**	**EPA_27**	**11**	**0**	**120**	**131**
4	**University Ave And Michigan Ave**	**Yes**	**0.5**	**0.8**	**0.8**	**2.0**	**EPA_4**	**EPA_4**	**EPA_26**	**29**	**11**	**6**	**46**
5	**Notre Dame Ave And University Ave**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_5**	**EPA_6**	**EPA_27**	**34**	**0**	**11**	**45**
6	**University Ave And Kavanaugh Dr**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_6**	**EPA_6**	**EPA_27**	**39**	**0**	**0**	**39**
7	Bay Rd And Ralmar Ave	No	0.5	1.0	0.4	1.9	EPA_7	EPA_25	EPA_6	11	0	0	11
8	Newbridge St And Menalto Ave	No	0.5	0.8	0.5	1.8	EPA_8	EPA_31	EPA_46	203	0	11	214
9	**Donohoe St And University Ave**	**Yes**	**0.8**	**0.5**	**0.5**	**1.8**	**EPA_9**	**EPA_9**	**EPA_118**	**327**	**0**	**279**	**606**
10	Newbridge St And Poplar Ave	No	0.5	0.8	0.5	1.8	EPA_10	EPA_59	EPA_46	11	0	0	11
11	**University Ave And Sacramento St**	**Yes**	**0.5**	**0.8**	**0.5**	**1.8**	**EPA_11**	**EPA_8**	**EPA_43**	**0**	**0**	**11**	**11**
12	**University Ave And Weeks St**	**Yes**	**0.5**	**0.8**	**0.5**	**1.8**	**EPA_12**	**EPA_2**	**EPA_45**	**404**	**197**	**0**	**601**
13	Bay Rd And Palo Verde Ave	No	0.0	1.0	0.8	1.8	EPA_13	EPA_17	EPA_1	0	0	0	0
14	Dumbarton Ave And Bay Rd	No	0.0	1.0	0.7	1.7	EPA_14	EPA_19	EPA_5	0	0	11	11
15	**Cooley Ave And University Ave**	**Yes**	**0.5**	**0.8**	**0.4**	**1.7**	**EPA_15**	**EPA_11**	**EPA_54**	**12**	**0**	**11**	**23**
16	Woodland Ave And University Ave	No	0.7	0.5	0.5	1.7	EPA_16	EPA_14	EPA_83	62	0	153	215
17	**Bay Rd And University Ave**	**Yes**	**0.5**	**0.5**	**0.7**	**1.7**	**EPA_17**	**EPA_5**	**EPA_9**	**312**	**28**	**0**	**340**
18	**University Ave And Runnymede St**	**Yes**	**0.7**	**0.5**	**0.5**	**1.6**	**EPA_18**	**EPA_12**	**EPA_82**	**266**	**17**	**148**	**431**
19	Bay Rd And Addison Ave	No	0.0	1.0	0.6	1.6	EPA_19	EPA_21	EPA_2	6	11	0	17
20	Oakwood Dr And Bay Rd	No	0.0	1.0	0.6	1.6	EPA_19	EPA_22	EPA_3	0	0	0	0
21	**University Ave And**	**Yes**	**0.7**	**0.5**	**0.5**	**1.6**	**EPA_21**	**EPA_18**	**EPA_118**	**12**	**0**	**120**	**132**
22	Mello St And Newbridge St	No	0.5	0.6	0.5	1.6	EPA_22	EPA_33	EPA_85	197	0	11	208
23	Saratoga Ave And Newbridge St	No	0.5	0.6	0.5	1.6	EPA_22	EPA_34	EPA_85	191	0	11	202

Note: Gray shaded cells are locations on the State Highway Network.

East Palo Alto Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Purdue Ave And University Ave**	**Yes**	**0.6**	**1.0**	**0.8**	**2.3**	**EPA_1**	**EPA_16**	**EPA_2**	**107**	**11**	**0**	**118**
2	**University Ave And Weeks St**	**Yes**	**0.8**	**1.0**	**0.5**	**2.3**	**EPA_2**	**EPA_45**	**EPA_12**	**404**	**197**	**0**	**601**
3	**University Ave And Adams Dr**	**Yes**	**0.5**	**1.0**	**0.8**	**2.3**	**EPA_3**	**EPA_17**	**EPA_1**	**34**	**0**	**191**	**225**
4	**University Ave And Michigan Ave**	**Yes**	**0.5**	**1.0**	**0.8**	**2.3**	**EPA_4**	**EPA_26**	**EPA_4**	**29**	**11**	**6**	**46**
5	**Bay Rd And University Ave**	**Yes**	**0.8**	**0.7**	**0.7**	**2.2**	**EPA_5**	**EPA_9**	**EPA_17**	**312**	**28**	**0**	**340**
6	**Notre Dame Ave And University Ave**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_6**	**EPA_27**	**EPA_5**	**34**	**0**	**11**	**45**
7	**University Ave And Kavanaugh Dr**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_6**	**EPA_27**	**EPA_6**	**39**	**0**	**0**	**39**
8	**University Ave And Sacramento St**	**Yes**	**0.5**	**1.0**	**0.5**	**2.0**	**EPA_8**	**EPA_43**	**EPA_11**	**0**	**0**	**11**	**11**
9	**Donohoe St And University Ave**	**Yes**	**0.8**	**0.7**	**0.5**	**2.0**	**EPA_9**	**EPA_118**	**EPA_9**	**327**	**0**	**279**	**606**
10	**O'Brien Dr And University Ave**	**Yes**	**0.5**	**0.7**	**0.8**	**2.0**	**EPA_10**	**EPA_27**	**EPA_3**	**11**	**0**	**120**	**131**
11	**Cooley Ave And University Ave**	**Yes**	**0.5**	**1.0**	**0.4**	**1.9**	**EPA_11**	**EPA_54**	**EPA_15**	**12**	**0**	**11**	**23**
12	**University Ave And Runnymede St**	**Yes**	**0.7**	**0.7**	**0.5**	**1.9**	**EPA_12**	**EPA_82**	**EPA_18**	**266**	**17**	**148**	**431**
13	**University Ave And Bell St**	**Yes**	**0.7**	**0.7**	**0.5**	**1.9**	**EPA_13**	**EPA_57**	**EPA_31**	**226**	**137**	**44**	**407**
14	Woodland Ave And University Ave	No	0.6	0.7	0.5	1.8	EPA_14	EPA_83	EPA_16	62	0	153	215
15	Gloria Way And Bay Rd	No	0.0	1.0	0.8	1.8	EPA_15	EPA_4	EPA_32	11	6	0	17
16	Glen Way And Bay Rd	No	0.0	1.0	0.8	1.8	EPA_16	EPA_7	EPA_30	6	0	12	18
17	Bay Rd And Palo Verde Ave	No	0.0	1.0	0.8	1.8	EPA_17	EPA_1	EPA_13	0	0	0	0
18	**University Ave And**	**Yes**	**0.5**	**0.7**	**0.5**	**1.7**	**EPA_18**	**EPA_118**	**EPA_21**	**12**	**0**	**120**	**132**
19	Dumbarton Ave And Bay Rd	No	0.0	1.0	0.7	1.7	EPA_19	EPA_5	EPA_14	0	0	11	11
20	Demeter St And Bay Rd	No	0.0	1.0	0.6	1.6	EPA_20	EPA_10	EPA_39	11	0	0	11
21	Bay Rd And Addison Ave	No	0.0	1.0	0.6	1.6	EPA_21	EPA_2	EPA_19	6	11	0	17
22	Oakwood Dr And Bay Rd	No	0.0	1.0	0.6	1.6	EPA_22	EPA_3	EPA_19	0	0	0	0
23	Pulgas Ave And Bay Rd	No	0.2	1.0	0.3	1.5	EPA_23	EPA_14	EPA_83	202	11	17	230
24	Bay Rd And Fordham St	No	0.0	1.0	0.4	1.4	EPA_24	EPA_11	EPA_81	23	11	0	34

Note: Gray shaded cells are locations on the State Highway Network.

East Palo Alto Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
EPA_1	East Palo Alto	Bay Road, Newbridge to Pulgas	No	1.0	10	6	11	12
EPA_2	East Palo Alto	University Ave (SR 109), N town limits to Donohoe Rd	Yes	1.3	13	12	1	13
EPA_3	East Palo Alto	Newbridge Street,Bay Road to W town limits	No	0.4	0	5	1	5

Foster City Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Catamaran St And Shell Blvd	No	0.7	0.8	0.0	1.5	FC_1	FC_3	FC_22	11	202	0	213
2	Galleon Ln And Foster City Blvd	No	0.5	0.8	0.0	1.3	FC_2	FC_3	FC_9	11	0	0	11
3	Foster City Blvd And Caravel Ln	No	0.5	0.8	0.0	1.3	FC_2	FC_16	FC_9	0	0	0	0
4	Balclutha Dr And Foster City Blvd	No	0.5	0.8	0.0	1.3	FC_4	FC_3	FC_22	11	11	0	22
5	Hillsdale Blvd And Parkway Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_3	FC_3	11	0	0	11
6	Marlin Ave And Foster City Blvd	No	0.5	0.8	0.0	1.3	FC_5	FC_3	FC_22	11	0	0	11
7	Shell Blvd And Bounty Dr	No	0.5	0.8	0.0	1.3	FC_5	FC_14	FC_22	6	0	0	6
8	Hillsdale Blvd And Meridian Bay Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_2	0	0	11	11
9	Hillsdale Blvd And Admiralty Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_3	0	0	0	0
10	Foster City Blvd And Civic Center Dr	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0
11	Foster City Blvd And Admiralty Ln	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0
12	Shell Blvd And Civic Center Dr	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0
13	Shell Blvd And Beach Park Blvd	No	0.5	0.8	0.0	1.3	FC_5	FC_16	FC_22	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Foster City Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Beach Park Blvd And Gull Ave	No	0.5	1.0	0.0	1.5	FC_1	FC_16	FC_28	0	11	11	22
2	Hillsdale Blvd And Meridian Bay Ln	No	0.5	0.8	0.0	1.3	FC_2	FC_16	FC_5	0	0	11	11
3	Hillsdale Blvd And Parkway Ln	No	0.5	0.8	0.0	1.3	FC_3	FC_3	FC_5	11	0	0	11
4	Hillsdale Blvd And Admiralty Ln	No	0.5	0.8	0.0	1.3	FC_3	FC_16	FC_5	0	0	0	0
5	Hillsdale Blvd And Portal Ln	No	0.5	0.8	0.0	1.3	FC_3	FC_16	FC_16	0	0	0	0
6	Promontory Point Ln And Hillsdale Blvd	No	0.5	0.8	0.0	1.3	FC_3	FC_16	FC_53	0	0	0	0
7	Foster City Blvd And Hillsdale Blvd	No	0.7	0.5	0.0	1.1	FC_7	FC_77	FC_14	45	131	120	296
8	Edgewater Blvd And Dorado Ln	No	0.0	1.0	0.0	1.0	FC_8	FC_16	FC_29	0	6	11	17
9	Galleon Ln And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_9	FC_3	FC_2	11	0	0	11
10	Foster City Blvd And Caravel Ln	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_2	0	0	0	0
11	Beach Park Blvd And Egret St	No	0.0	1.0	0.0	1.0	FC_9	FC_3	FC_30	11	0	0	11
12	Beach Park Blvd And Swordfish St	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_30	0	0	0	0
13	Edgewater Blvd And Ram Ln	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_30	0	0	0	0
14	Tarpon St And Beach Park Blvd	No	0.0	1.0	0.0	1.0	FC_9	FC_16	FC_30	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Foster City Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Chess Dr And Foster City Blvd	No	0.1	1.0	0.0	1.1	FC_1	FC_16	FC_22	66	0	0	66
2	Regulus St And Edgewater Blvd	No	0.0	1.0	0.0	1.0	FC_2	FC_39	FC_22	45	0	0	45
3	Catamaran St And Shell Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_1	FC_22	11	202	0	213
4	Galleon Ln And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_2	FC_9	11	0	0	11
5	Balclutha Dr And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_4	FC_22	11	11	0	22
6	Hillsdale Blvd And Parkway Ln	No	0.0	1.0	0.0	1.0	FC_3	FC_5	FC_3	11	0	0	11
7	Marlin Ave And Foster City Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_5	FC_22	11	0	0	11
8	Foster City Blvd And 3rd Ave	No	0.0	1.0	0.0	1.0	FC_3	FC_16	FC_22	11	0	0	11
9	Beach Park Blvd And Egret St	No	0.0	1.0	0.0	1.0	FC_3	FC_30	FC_9	11	0	0	11
10	Altair Ave And Edgewater Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_39	FC_22	11	0	0	11
11	Marlin Ave And Beach Park Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_39	FC_22	11	0	0	11
12	3rd Ave And Mariners Island Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_53	FC_20	11	0	22	33
13	Commons Ln And Metro Center Blvd	No	0.0	1.0	0.0	1.0	FC_3	FC_53	FC_22	11	0	0	11

Note: Gray shaded cells are locations on the State Highway Network.

Foster City Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
FC_1	Foster City	Foster City Boulevard, Chess Drive to Bounty Drive	No	1.0	2	3	5	6
FC_2	Foster City	Hillsdale Boulevard, Sea Spray Lane to north of Pilgrim Drive	No	1.1	1	5	3	5
FC_3	Foster City	Shell Boulevard, Hillsdale Boulevard to Beach Park Boulevard	No	0.9	1	0	4	4
FC_4	Foster City	Edgewater Boulevard, Hillsdale Boulevard to Beach Park Boulev	No	0.7	2	2	0	4
FC_5	Foster City	Hillsdale/Beach Park Boulevard, Pilgrim Drive to Foster City Bou	No	2.5	2	4	0	5

Half Moon Bay Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Main St And Poplar St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
2	Main St And Metzgar St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
3	Main St And Bloom Ln	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
4	Correas St And Main St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
5	Miramontes St And Main St	No	0.0	1.0	0.3	1.3	HMB_1	HMB_10	HMB_9	0	0	0	0
6	Arnold Way And Main St	No	0.0	1.0	0.2	1.2	HMB_6	HMB_20	HMB_18	0	0	0	0
7	Main St And Magnolia St	No	0.0	1.0	0.1	1.1	HMB_7	HMB_23	HMB_19	0	0	0	0
8	Main St And Grove St	No	0.0	1.0	0.1	1.1	HMB_8	HMB_24	HMB_20	0	0	0	0
9	Kelly Ave And Main St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_9	HMB_9	11	0	0	11
10	Main St And Filbert St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_10	HMB_5	0	0	11	11
11	Mill St And Main St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_10	HMB_9	0	0	0	0
12	Main St And Spruce St	No	0.0	0.8	0.3	1.1	HMB_9	HMB_10	HMB_9	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Half Moon Bay Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Cabrillo Hwy And Kelly Ave**	**Yes**	**0.7**	**0.7**	**0.2**	**1.5**	**HMB_1**	**HMB_43**	**HMB_19**	**33**	**0**	**120**	**153**
2	**Cabrillo Hwy And Belleville Blvd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_2**	**HMB_36**	**HMB_15**	**0**	**0**	**0**	**0**
3	**Cabrillo Hwy And San Mateo Rd**	**Yes**	**0.5**	**0.7**	**0.1**	**1.3**	**HMB_3**	**HMB_46**	**HMB_31**	**0**	**0**	**0**	**0**
4	**Cabrillo Hwy And Grandview Blvd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_4**	**HMB_32**	**HMB_20**	**11**	**0**	**11**	**22**
5	Main St And Filbert St	No	0.0	1.0	0.3	1.3	HMB_5	HMB_10	HMB_9	0	0	11	11
6	**Terrace Ave And Cabrillo Hwy**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_6**	**HMB_32**	**HMB_20**	**11**	**0**	**0**	**11**
7	**Cabrillo Hwy And Silver Ave**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_6**	**HMB_32**	**HMB_20**	**11**	**0**	**0**	**11**
8	**Cabrillo Hwy And Frontage Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**HMB_6**	**HMB_36**	**HMB_57**	**0**	**0**	**0**	**0**
9	Kelly Ave And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_9	HMB_9	11	0	0	11
10	Main St And Poplar St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
11	Main St And Metzgar St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
12	Main St And Bloom Ln	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
13	Correas St And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
14	Miramontes St And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_1	0	0	0	0
15	Mill St And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_9	0	0	0	0
16	Main St And Spruce St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_10	HMB_9	0	0	0	0
17	**Cabrillo Hwy And Main St**	**Yes**	**0.5**	**0.7**	**0.0**	**1.2**	**HMB_17**	**HMB_47**	**HMB_67**	**62**	**0**	**0**	**62**
18	Arnold Way And Main St	No	0.0	1.0	0.2	1.2	HMB_18	HMB_20	HMB_6	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Half Moon Bay Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Osborn Ave And Cabrillo Hwy**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**HMB_1**	**HMB_20**	**HMB_53**	**202**	**0**	**0**	**202**
2	**Cabrillo Hwy And Guerrero Ave**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**HMB_1**	**HMB_57**	**HMB_53**	**202**	**0**	**0**	**202**
3	**Cabrillo Hwy And Roosevelt Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_3**	**HMB_20**	**HMB_24**	**22**	**0**	**191**	**213**
4	**Frenchmans Creek Rd And Cabrillo Hwy**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_3**	**HMB_20**	**HMB_53**	**22**	**0**	**0**	**22**
5	**Cabrillo Hwy And Lowney Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_5**	**HMB_57**	**HMB_53**	**11**	**0**	**0**	**11**
6	**Morris Ave And Cabrillo Hwy**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_6**	**HMB_20**	**HMB_53**	**0**	**0**	**0**	**0**
7	**Cabrillo Hwy And Knewing Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_6**	**HMB_57**	**HMB_53**	**0**	**0**	**0**	**0**
8	**Cabrillo Hwy And Young Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**HMB_6**	**HMB_57**	**HMB_53**	**0**	**0**	**0**	**0**
9	Kelly Ave And Main St	No	0.0	1.0	0.3	1.3	HMB_9	HMB_9	HMB_9	11	0	0	11
10	Main St And Poplar St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
11	Main St And Metzgar St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
12	Main St And Bloom Ln	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
13	Correas St And Main St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
14	Miramontes St And Main St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_1	HMB_9	0	0	0	0
15	Main St And Filbert St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_9	HMB_5	0	0	11	11
16	Mill St And Main St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_9	HMB_9	0	0	0	0
17	Main St And Spruce St	No	0.0	1.0	0.3	1.3	HMB_10	HMB_9	HMB_9	0	0	0	0
18	Main St And Stone Pine Rd	No	0.0	1.0	0.3	1.3	HMB_10	HMB_13	HMB_22	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Half Moon Bay Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
HMB_1	Half Moon Bay	Cabrillo Highway, N town limit to Silver Avenue	Yes	1.9	8	5	0	13
HMB_2	Half Moon Bay	Cabrillo Highway, Silver Avenue to south of Kelly Avenue	Yes	0.6	0	3	0	3
HMB_3	Half Moon Bay	Main Street, Stone Pine Road to Seymour Street	No	1.0	10	10	12	13

Hillsborough Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Hayne Rd And Golf Course Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_1**	**HB_2**	**HB_1**	**0**	**0**	**11**	**11**
2	**Skyline Blvd And Butternut Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_1**	**HB_2**	**HB_2**	**0**	**0**	**0**	**0**
3	**Skyline Blvd And Rowan Tree Ln**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_1**	**HB_2**	**HB_2**	**0**	**0**	**0**	**0**
4	**Skyline Blvd And Skyfarm Dr**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**HB_4**	**HB_1**	**HB_4**	**11**	**0**	**0**	**11**
5	El Cerrito Ave And Gramercy Dr	No	0.0	0.6	0.0	0.6	HB_5	HB_5	HB_5	0	0	0	0
6	Kammerer Ct And Bellevue Ave	No	0.0	0.6	0.0	0.6	HB_6	HB_23	HB_12	0	0	0	0
7	Merner Rd And Crystal Springs Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_9	HB_6	11	0	0	11
8	Crystal Springs Ter And Crystal Springs Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
9	Crystal Springs Rd And Ridgeway Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
10	Woodridge Rd And Crystal Springs Rd	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
11	Crystal Springs Rd And El Cerrito Ave	No	0.0	0.4	0.0	0.4	HB_7	HB_10	HB_6	0	0	0	0
12	Santa Inez Ave And Arlington Ln	No	0.0	0.4	0.0	0.4	HB_12	HB_5	HB_86	0	0	0	0
13	Black Mountain Rd And Denise Dr	No	0.0	0.4	0.0	0.4	HB_12	HB_5	HB_86	0	0	0	0
14	Black Mountain Rd And Wedgewood Dr	No	0.0	0.4	0.0	0.4	HB_12	HB_5	HB_86	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Hayne Rd And Golf Course Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_1**	**HB_2**	**HB_1**	**0**	**0**	**11**	**11**
2	**Skyline Blvd And Rowan Tree Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_2**	**HB_1**	**0**	**0**	**0**	**0**
3	**Skyline Blvd And Butternut Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_2**	**HB_1**	**0**	**0**	**0**	**0**
4	**Skyline Blvd And Skyfarm Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**HB_4**	**HB_1**	**HB_4**	**11**	**0**	**0**	**11**
5	El Cerrito Ave And Gramercy Dr	No	0.0	0.7	0.0	0.7	HB_5	HB_5	HB_5	0	0	0	0
6	Merner Rd And Crystal Springs Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_9	HB_7	11	0	0	11
7	Crystal Springs Ter And Crystal Springs Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
8	Crystal Springs Rd And Ridgeway Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
9	Woodridge Rd And Crystal Springs Rd	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
10	Crystal Springs Rd And El Cerrito Ave	No	0.0	0.6	0.0	0.6	HB_6	HB_10	HB_7	0	0	0	0
11	Stonepine Rd And Barroilhet Ave	No	0.0	0.5	0.0	0.6	HB_11	HB_23	HB_15	0	0	11	11
12	Ralston Ave And Chateau Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_15	HB_15	11	0	0	11
13	Kammerer Ct And Bellevue Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_6	0	0	0	0
14	Homeplace Ct And Barroilhet Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
15	Eucalyptus Ave And Tamarack Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
16	Stonepine Rd And Stonepine Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
17	Tamarack Dr And Farmhill Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
18	Tartan Trail Rd And Lakeview Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
19	Downey Way And Acorn Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
20	Fagan Dr And Margo Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
21	Fagan Dr And Jackling Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
22	Irwin Dr And Forest View Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
23	Forest View Ave And Denham Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
24	Carmelita Ave And Armsby Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
25	Armsby Dr And Reynolds Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
26	Eucalyptus Ave And Geri Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
27	El Cerrito Ave And Waverly Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
28	Warm Canyon Way And Remillard Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
29	Hayne Rd And Darrell Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
30	Remillard Dr And Mosswood Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
31	Barbara Way And Hayne Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
32	Camphor Ct And Rowan Tree Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
33	Sherwood Ct And De Sabla Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
34	Roehampton Rd And Richmond Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
35	El Cerrito Ave And Poett Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
36	Roblar Ave And Milford Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
37	Laureldale Rd And Bridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
38	Roehampton Rd And Poett Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
39	Santa Inez Ave And Santa Maria Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
40	Stonehedge Rd And St Francis Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
41	Roblar Ave And El Cerrito Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
42	El Cerrito Ave And Stonehedge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
43	Roblar Ave And Severn Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
44	Roblar Ave And Ericson Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
45	El Cerrito Ave And Wickham Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
46	Fallenleaf Dr And Bridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
47	Homs Ct And El Cerrito Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
48	Stonehedge Rd And Bridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
49	Floribunda Ave And Pepper Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
50	Floribunda Ave And Highgate Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
51	Fairway Cir And Floribunda Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
52	Pepper Ave And Summerholme Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
53	Newhall Rd And Willow Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
54	Alberta Way And Roberts Way	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
55	Alberta Way And Hayne Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
56	Robinwood Ln And Hayne Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
57	Roberts Way And	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
58	Butternut Dr And Privet Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
59	Churchill Dr And	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
60	Privet Dr And Churchill Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
61	Grevillea Ct And Butternut Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
62	Rowan Tree Ln And Darrell Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
63	Poett Rd And Roblar Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
64	Redwood Dr And Sierra Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
65	Bridge Rd And Redwood Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
66	Fallenleaf Dr And Uplands Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
67	Uplands Dr And Normandy Ct	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
68	Uplands Dr And Redwood Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
69	Uplands Dr And Rockridge Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
70	Rockridge Rd And Greenbriar Way	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
71	Rockridge Rd And Creekwood Way	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
72	Barroilhet Ave And Conifer Ln	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
73	Eucalyptus Ave And Barroilhet Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
74	Woodland Dr And Tournament Dr	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
75	Fairway Cir And	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
76	Floribunda Ave And Walnut Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
77	Eucalyptus Ave And New Place Rd	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
78	Eucalyptus Ave And Floribunda Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
79	Floribunda Ave And Madrone Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
80	Eucalyptus Ave And Ralston Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
81	Eucalyptus Ave And Bayberry Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
82	Parkside Ave And Ralston Ave	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0
83	Eucalyptus Ave And Tevis Pl	No	0.0	0.5	0.0	0.5	HB_12	HB_23	HB_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Skyline Blvd And Skyfarm Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_1**	**HB_4**	**HB_4**	**11**	**0**	**0**	**11**
2	**Hayne Rd And Golf Course Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_1**	**HB_1**	**0**	**0**	**11**	**11**
3	**Skyline Blvd And Butternut Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_1**	**HB_2**	**0**	**0**	**0**	**0**
4	**Skyline Blvd And Rowan Tree Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**HB_2**	**HB_1**	**HB_2**	**0**	**0**	**0**	**0**
5	El Cerrito Ave And Gramercy Dr	No	0.0	0.8	0.0	0.8	HB_5	HB_5	HB_5	0	0	0	0
6	Santa Inez Ave And Arlington Ln	No	0.0	0.8	0.0	0.8	HB_5	HB_12	HB_86	0	0	0	0
7	Black Mountain Rd And Denise Dr	No	0.0	0.8	0.0	0.8	HB_5	HB_12	HB_86	0	0	0	0
8	Black Mountain Rd And Wedgewood Dr	No	0.0	0.8	0.0	0.8	HB_5	HB_12	HB_86	0	0	0	0
9	Merner Rd And Crystal Springs Rd	No	0.0	0.5	0.0	0.5	HB_9	HB_7	HB_6	11	0	0	11
10	Crystal Springs Ter And Crystal Springs Rd	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
11	Crystal Springs Rd And Ridgeway Rd	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
12	Woodridge Rd And Crystal Springs Rd	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
13	Crystal Springs Rd And El Cerrito Ave	No	0.0	0.5	0.0	0.5	HB_10	HB_7	HB_6	0	0	0	0
14	Stonehedge Rd And Baywood Ave	No	0.0	0.3	0.0	0.3	HB_14	HB_88	HB_90	22	0	0	22

Note: Gray shaded cells are locations on the State Highway Network.

Hillsborough Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
HB_1	Hillsborough	Skyline Boulevard (SR 35), N town limit to Hayne Road	Yes	1.6	4	4	4	4
HB_2	Hillsborough	Crystal Springs Road, El Cerrito Road to S town limit	No	1.2	5	5	5	5

Portola Valley Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Brookside Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_2	0	0	22	22
2	Portola Rd And Grove Dr	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_6	0	0	0	0
3	Portola Rd And Georgia Ln	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_6	0	0	0	0
4	Portola Rd And Corte Madera Rd	No	0.0	1.0	0.0	1.0	PV_1	PV_4	PV_6	0	0	0	0
5	Alpine Rd And Indian Xing	No	0.0	0.8	0.0	0.8	PV_5	PV_2	PV_4	11	0	11	22
6	Brookside Dr And Portola Rd	No	0.0	0.8	0.0	0.8	PV_5	PV_4	PV_1	0	0	191	191
7	Alpine Rd And Saddleback	No	0.0	0.8	0.0	0.8	PV_5	PV_4	PV_6	0	0	0	0
8	Alpine Rd And Echo Ln	No	0.0	0.8	0.0	0.8	PV_5	PV_4	PV_6	0	0	0	0
9	Alpine Rd And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_1	PV_15	22	0	0	22
10	Alpine Rd And Golden Oak Dr	No	0.0	0.8	0.0	0.8	PV_9	PV_3	PV_11	6	0	191	197
11	Stonegate Rd And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_11	0	0	191	191
12	Westridge Dr And Alpine Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_13	0	0	11	11
13	Westridge Dr And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_14	0	0	6	6
14	Portola Rd And Unnamed	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
15	Wyndham Dr And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
16	Santa Maria Ave And Portola Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
17	Portola Rd And Farm Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0
18	Golden Oak Dr And Alpine Rd	No	0.0	0.8	0.0	0.8	PV_9	PV_4	PV_15	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Portola Valley Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Brookside Dr And Portola Rd	No	0.7	1.0	0.0	1.7	PV_1	PV_4	PV_5	0	0	191	191
2	Brookside Dr And Portola Rd	No	0.5	1.0	0.0	1.5	PV_2	PV_4	PV_1	0	0	22	22
3	Alpine Rd And Arastradero Rd	No	0.8	0.8	0.0	1.5	PV_3	PV_4	PV_21	0	0	213	213
4	Alpine Rd And Indian Xing	No	0.5	1.0	0.0	1.5	PV_4	PV_2	PV_5	11	0	11	22
5	Los Trancos Rd And Alpine Rd	No	0.8	0.8	0.0	1.5	PV_5	PV_4	PV_21	0	0	202	202
6	Portola Rd And Grove Dr	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_1	0	0	0	0
7	Portola Rd And Georgia Ln	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_1	0	0	0	0
8	Portola Rd And Corte Madera Rd	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_1	0	0	0	0
9	Alpine Rd And Saddleback	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_5	0	0	0	0
10	Alpine Rd And Echo Ln	No	0.5	1.0	0.0	1.5	PV_6	PV_4	PV_5	0	0	0	0
11	Alpine Rd And Golden Oak Dr	No	0.7	0.8	0.0	1.5	PV_11	PV_3	PV_9	6	0	191	197
12	Stonegate Rd And Portola Rd	No	0.7	0.8	0.0	1.5	PV_11	PV_4	PV_9	0	0	191	191

Note: Gray shaded cells are locations on the State Highway Network.

Portola Valley Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Alpine Rd And Portola Rd	No	0.0	1.0	0.0	1.0	PV_1	PV_9	PV_15	22	0	0	22
2	Alpine Rd And Indian Xing	No	0.0	1.0	0.0	1.0	PV_2	PV_5	PV_4	11	0	11	22
3	Alpine Rd And Golden Oak Dr	No	0.0	1.0	0.0	1.0	PV_3	PV_9	PV_11	6	0	191	197
4	Brookside Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_2	0	0	22	22
5	Portola Rd And Grove Dr	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_6	0	0	0	0
6	Portola Rd And Georgia Ln	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_6	0	0	0	0
7	Portola Rd And Corte Madera Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_1	PV_6	0	0	0	0
8	Brookside Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_5	PV_1	0	0	191	191
9	Alpine Rd And Saddleback	No	0.0	1.0	0.0	1.0	PV_4	PV_5	PV_6	0	0	0	0
10	Alpine Rd And Echo Ln	No	0.0	1.0	0.0	1.0	PV_4	PV_5	PV_6	0	0	0	0
11	Stonegate Rd And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_11	0	0	191	191
12	Westridge Dr And Alpine Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_13	0	0	11	11
13	Westridge Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_14	0	0	6	6
14	Portola Rd And Unnamed	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
15	Wyndham Dr And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
16	Santa Maria Ave And Portola Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
17	Portola Rd And Farm Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
18	Golden Oak Dr And Alpine Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_9	PV_15	0	0	0	0
19	Alpine Rd And Arastradero Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_3	0	0	213	213
20	Los Trancos Rd And Alpine Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_5	0	0	202	202
21	Alpine Rd And Unnamed	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
22	Portola Rd And Nathhorst Ave	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
23	Portola Rd And Canyon Dr	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
24	Portola Rd And Willowbrook Dr	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
25	Portola Rd And Wayside Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
26	Portola Rd And Hayfields Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
27	Alpine Rd And Firethorn Way	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
28	Alpine Rd And Paso Del Arroyo	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
29	Alpine Rd And Nathhorst Ave	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
30	Alpine Rd And Null Null	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
31	Portola Rd And Null Null	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_15	0	0	0	0
32	Firethorn Way And Los Trancos Rd	No	0.0	1.0	0.0	1.0	PV_4	PV_21	PV_33	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Portola Valley Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
PV_1	Portola Valley	Portola Road, W town limit to Alpine Road	No	2.3	18	6	12	18
PV_2	Portola Valley	Alpine Road, Corte Madera Road to N town limit	No	2.6	14	6	7	14

San Carlos Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	Brittan Ave And Cordilleras Ave	No	0.7	1.0	0.0	1.7	SC_1	SC_3	SC_52	11	191	0	202
2	**El Camino Real And Eaton Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_2**	**SC_2**	**SC_1**	**191**	**0**	**191**	**382**
3	Brittan Ave And Cedar St	No	0.5	1.0	0.0	1.5	SC_2	SC_3	SC_52	11	0	0	11
4	Greenwood Ave And Tamarack Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_7	SC_52	6	0	0	6
5	Brittan Ave And Rosewood Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
6	Woodland Ave And Brittan Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
7	Brittan Ave And Chestnut St	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
8	Brittan Ave And Orange Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_9	SC_52	0	0	0	0
9	Brittan Ave And Dayton Ave	No	0.5	0.8	0.0	1.3	SC_4	SC_34	SC_52	0	0	0	0
10	Walnut St And Brittan Ave	No	0.5	0.8	0.0	1.3	SC_10	SC_9	SC_74	0	0	0	0
11	Brittan Ave And Brook St	No	0.5	0.8	0.0	1.3	SC_10	SC_34	SC_74	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

San Carlos Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**El Camino Real And Eaton Ave**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**SC_1**	**SC_2**	**SC_2**	**191**	**0**	**191**	**382**
2	Alameda De Las Pulgas And San Carlos Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_23	SC_42	28	0	0	28
3	Cambridge St And San Carlos Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_25	SC_31	11	0	0	11
4	San Carlos Ave And Charlton St	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_31	0	0	0	0
5	San Carlos Ave And Kenton Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_31	0	0	0	0
6	San Carlos Ave And Beverly Dr	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_31	0	0	0	0
7	San Carlos Ave And Arundel Rd	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_42	0	0	0	0
8	Plymouth Ave And San Carlos Ave	No	0.5	1.0	0.0	1.5	SC_2	SC_34	SC_42	0	0	0	0
9	Wellington Dr And San Carlos Ave	No	0.7	0.7	0.0	1.4	SC_9	SC_124	SC_60	0	0	120	120
10	Howard Ave And Alameda De Las Pulgas	No	0.8	0.6	0.0	1.3	SC_10	SC_137	SC_134	0	0	202	202
11	Rockridge Rd And Alameda De Las Pulgas	No	0.5	0.8	0.0	1.3	SC_11	SC_131	SC_64	22	0	0	22
12	Lupin Ave And Alameda De Las Pulgas	No	0.5	0.8	0.0	1.3	SC_11	SC_137	SC_96	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

San Carlos Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Belmont Ave And El Camino Real**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**SC_1**	**SC_47**	**SC_13**	**230**	**0**	**11**	**241**
2	**El Camino Real And Eaton Ave**	**Yes**	**0.7**	**1.0**	**0.0**	**1.7**	**SC_2**	**SC_2**	**SC_1**	**191**	**0**	**191**	**382**
3	Brittan Ave And Cordilleras Ave	No	0.5	1.0	0.0	1.5	SC_3	SC_1	SC_52	11	191	0	202
4	Brittan Ave And Cedar St	No	0.5	1.0	0.0	1.5	SC_3	SC_2	SC_52	11	0	0	11
5	Brittan Ave And Elm St	No	0.5	1.0	0.0	1.5	SC_3	SC_18	SC_74	11	0	0	11
6	**El Camino Real And Greenwood Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_3**	**SC_76**	**SC_16**	**11**	**0**	**0**	**11**
7	Greenwood Ave And Tamarack Ave	No	0.5	1.0	0.0	1.5	SC_7	SC_4	SC_52	6	0	0	6
8	**White Oak Way And El Camino Real**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_7**	**SC_76**	**SC_16**	**6**	**0**	**0**	**6**
9	Brittan Ave And Rosewood Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
10	Woodland Ave And Brittan Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
11	Brittan Ave And Chestnut St	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
12	Brittan Ave And Orange Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_4	SC_52	0	0	0	0
13	Walnut St And Brittan Ave	No	0.5	1.0	0.0	1.5	SC_9	SC_10	SC_74	0	0	0	0
14	**El Camino Real And Central Ave**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**SC_9**	**SC_76**	**SC_13**	**0**	**0**	**11**	**11**
15	Brittan Ave And Old County Rd	No	0.7	0.7	0.0	1.5	SC_15	SC_14	SC_310	285	120	11	416

Note: Gray shaded cells are locations on the State Highway Network.

San Carlos Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
SC_1	San Carlos	Brittan Avenue, Alameda De Las Pulgas to Laurel Street	No	1.0	10	0	10	12
SC_2	San Carlos	El Camino Real, Belmont Avenue to E town limit	Yes	0.5	4	1	1	4
SC_3	San Carlos	San Carlos, west of Wellington Drive to W town limit	No	0.8	0	7	0	7

Woodside Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Miramontes Rd And Woodside Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_1**	**WSD_15**	**WSD_3**	**0**	**0**	**0**	**0**
2	**Woodside Rd And Fox Hollow Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_1**	**WSD_15**	**WSD_3**	**0**	**0**	**0**	**0**
3	**Woodside Rd And Albion Ave**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_1**	**WSD_15**	**WSD_46**	**0**	**0**	**0**	**0**
4	**La Honda Rd And Skyline Blvd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_6**	**WSD_2**	**22**	**0**	**202**	**224**
5	**La Honda Rd And Fox Hill Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_6**	**WSD_47**	**22**	**0**	**0**	**22**
6	Portola Rd And Mountain Home Rd	No	0.0	0.8	0.0	0.8	WSD_4	WSD_9	WSD_8	11	0	11	22
7	**La Honda Rd And Grandview Dr**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_9**	**WSD_13**	**11**	**0**	**0**	**11**
8	Portola Rd And Montecito Rd	No	0.0	0.8	0.0	0.8	WSD_4	WSD_15	WSD_8	0	0	11	11
9	Portola Rd And Phillip Rd	No	0.0	0.8	0.0	0.8	WSD_4	WSD_15	WSD_13	0	0	0	0
10	**Skywood Way And La Honda Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
11	**Tripp Rd And Woodside Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_4**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
12	**Churchill Ave And Woodside Rd**	**Yes**	**0.0**	**0.8**	**0.0**	**0.8**	**WSD_12**	**WSD_105**	**WSD_41**	**11**	**0**	**0**	**11**
13	Canada Rd And Corto Ln	No	0.2	0.6	0.0	0.8	WSD_13	WSD_15	WSD_8	0	191	11	202
14	**Woodside Rd And Lindenbrook Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_1**	**WSD_47**	**202**	**0**	**0**	**202**
15	**Martinez Rd And La Honda Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_2**	**WSD_5**	**191**	**0**	**191**	**382**
16	Portola Rd And Old La Honda Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_2	WSD_13	191	0	0	191
17	**Woodside Rd And Northgate Dr**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_4**	**WSD_13**	**33**	**0**	**0**	**33**
18	**Interstate Highway 280 Hwy And Farm Hill Blvd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_4**	**WSD_47**	**28**	**0**	**0**	**28**
19	**La Honda Rd And Portola Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_6**	**WSD_1**	**22**	**0**	**404**	**426**
20	Portola Rd And Home Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_9	WSD_13	11	0	0	11
21	**Woodside Rd And Bear Gulch Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_9**	**WSD_13**	**11**	**0**	**0**	**11**
22	**Canada Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_9**	**WSD_47**	**11**	**0**	**0**	**11**
23	**High Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_14**	**WSD_8**	**6**	**0**	**11**	**17**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
24	**Woodside Rd And Unnamed**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_5**	**0**	**0**	**191**	**191**
25	Canada Rd And Olive Hill Ln	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_8	0	0	11	11
26	Portola Rd And Forest View Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
27	**Southgate Dr And State Highway 84 Hwy**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
28	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
29	Canada Rd And Eucalyptus Ct	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
30	Canada Rd And Bardet Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
31	Canada Rd And Arbor Ct	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
32	Canada Rd And Alta Vista Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
33	Canada Rd And Neuman Ln	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
34	Canada Rd And Runnymede Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
35	**Why Worry Ln And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
36	**Woodside Rd And Roberta Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
37	**La Honda Rd And Friars Ln**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
38	**Kings Mountain Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
39	**Woodside Rd And Martin Ln**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
40	**Woodside Rd And Bridle Ln**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Pedestrian Priority Intersections

ID	Location	State Hwy	Ped Crash History Score (0 to 1)	Ped Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Ped Total Score (0 to 3)	Jurisdiction Ped Rank	Jurisdiction MV Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
41	**Woodside Rd And Montelena Ct**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_13**	**0**	**0**	**0**	**0**
42	Canada Rd And Mission Trail Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
43	Canada Rd And Glenwood Ave	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
44	Canada Rd And Laning Dr	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
45	Tadin Ln And Portola Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_13	0	0	0	0
46	**Moore Rd And State Highway 84 Hwy**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
47	**Whiskey Hill Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
48	**Quail Meadows Dr And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
49	**Woodside Rd And Hobart Heights Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
50	**Shine Rd And Woodside Rd**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
51	Canada Ln And Canada Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
52	**Woodside Rd And Haciendas Dr**	**Yes**	**0.0**	**0.6**	**0.0**	**0.6**	**WSD_14**	**WSD_15**	**WSD_47**	**0**	**0**	**0**	**0**
53	Dean Rd And Canada Rd	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
54	Canada Rd And Monticello Ct	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
55	Canada Rd And Jefferson Ave	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0
56	Canada Rd And Godetia Dr	No	0.0	0.6	0.0	0.6	WSD_14	WSD_15	WSD_47	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**La Honda Rd And Portola Rd**	**Yes**	**1.0**	**0.8**	**0.0**	**1.8**	**WSD_1**	**WSD_6**	**WSD_14**	**22**	**0**	**404**	**426**
2	**La Honda Rd And Skyline Blvd**	**Yes**	**0.8**	**0.8**	**0.0**	**1.5**	**WSD_2**	**WSD_6**	**WSD_4**	**22**	**0**	**202**	**224**
3	**Miramontes Rd And Woodside Rd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**WSD_3**	**WSD_15**	**WSD_1**	**0**	**0**	**0**	**0**
4	**Woodside Rd And Fox Hollow Rd**	**Yes**	**0.5**	**1.0**	**0.0**	**1.5**	**WSD_3**	**WSD_15**	**WSD_1**	**0**	**0**	**0**	**0**
5	**Martinez Rd And La Honda Rd**	**Yes**	**0.7**	**0.8**	**0.0**	**1.5**	**WSD_5**	**WSD_2**	**WSD_14**	**191**	**0**	**191**	**382**
6	**Woodside Rd And Unnamed**	**Yes**	**0.7**	**0.8**	**0.0**	**1.5**	**WSD_5**	**WSD_15**	**WSD_14**	**0**	**0**	**191**	**191**
7	Kings Mountain Rd And Greer Rd	No	1.0	0.5	0.0	1.5	WSD_7	WSD_57	WSD_60	0	0	382	382
8	Portola Rd And Mountain Home Rd	No	0.5	0.8	0.0	1.3	WSD_8	WSD_9	WSD_4	11	0	11	22
9	Portola Rd And Montecito Rd	No	0.5	0.8	0.0	1.3	WSD_8	WSD_15	WSD_4	0	0	11	11
10	Canada Rd And Corto Ln	No	0.5	0.8	0.0	1.3	WSD_8	WSD_15	WSD_13	0	191	11	202
11	**High Rd And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_8**	**WSD_14**	**WSD_14**	**6**	**0**	**11**	**17**
12	Canada Rd And Olive Hill Ln	No	0.5	0.8	0.0	1.3	WSD_8	WSD_15	WSD_14	0	0	11	11
13	Portola Rd And Old La Honda Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_2	WSD_14	191	0	0	191
14	**Woodside Rd And Northgate Dr**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_4**	**WSD_14**	**33**	**0**	**0**	**33**
15	**La Honda Rd And Grandview Dr**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_9**	**WSD_4**	**11**	**0**	**0**	**11**
16	Portola Rd And Home Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_9	WSD_14	11	0	0	11
17	**Woodside Rd And Bear Gulch Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_9**	**WSD_14**	**11**	**0**	**0**	**11**
18	Portola Rd And Phillip Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_4	0	0	0	0
19	**Skywood Way And La Honda Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_4**	**0**	**0**	**0**	**0**
20	**Tripp Rd And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_4**	**0**	**0**	**0**	**0**
21	Portola Rd And Forest View Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
22	**Southgate Dr And State Highway 84 Hwy**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
23	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Bike Priority Intersections

ID	Location	State Hwy	Bike Crash History Score (0 to 1)	Bike Risk Factors Score (0 to 1)	Social Equity Score (0 to 1)	Bike Total Score (0 to 3)	Jurisdiction Bike Rank	Jurisdiction MV Rank	Jurisdiction Ped Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
24	Canada Rd And Eucalyptus Ct	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
25	Canada Rd And Bardet Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
26	Canada Rd And Arbor Ct	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
27	Canada Rd And Alta Vista Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
28	Canada Rd And Neuman Ln	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
29	Canada Rd And Runnymede Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
30	**Why Worry Ln And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
31	**Woodside Rd And Roberta Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
32	**La Honda Rd And Friars Ln**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
33	**Kings Mountain Rd And Woodside Rd**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
34	**Woodside Rd And Martin Ln**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
35	**Woodside Rd And Bridle Ln**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
36	**Woodside Rd And Montelena Ct**	**Yes**	**0.5**	**0.8**	**0.0**	**1.3**	**WSD_13**	**WSD_15**	**WSD_14**	**0**	**0**	**0**	**0**
37	Canada Rd And Mission Trail Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
38	Canada Rd And Glenwood Ave	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
39	Canada Rd And Laning Dr	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0
40	Tadin Ln And Portola Rd	No	0.5	0.8	0.0	1.3	WSD_13	WSD_15	WSD_14	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
1	**Woodside Rd And Lindenbrook Rd**	**Yes**	**0.2**	**1.0**	**0.0**	**1.2**	**WSD_1**	**WSD_14**	**WSD_47**	**202**	**0**	**0**	**202**
2	**Martinez Rd And La Honda Rd**	**Yes**	**0.2**	**1.0**	**0.0**	**1.2**	**WSD_2**	**WSD_14**	**WSD_5**	**191**	**0**	**191**	**382**
3	Portola Rd And Old La Honda Rd	No	0.2	1.0	0.0	1.2	WSD_2	WSD_14	WSD_13	191	0	0	191
4	**Woodside Rd And Northgate Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_4**	**WSD_14**	**WSD_13**	**33**	**0**	**0**	**33**
5	**Interstate Highway 280 Hwy And Farm Hill Blvd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_4**	**WSD_14**	**WSD_47**	**28**	**0**	**0**	**28**
6	**La Honda Rd And Portola Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_6**	**WSD_14**	**WSD_1**	**22**	**0**	**404**	**426**
7	**La Honda Rd And Skyline Blvd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_6**	**WSD_4**	**WSD_2**	**22**	**0**	**202**	**224**
8	**La Honda Rd And Fox Hill Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_6**	**WSD_4**	**WSD_47**	**22**	**0**	**0**	**22**
9	Portola Rd And Mountain Home Rd	No	0.0	1.0	0.0	1.0	WSD_9	WSD_4	WSD_8	11	0	11	22
10	**La Honda Rd And Grandview Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_9**	**WSD_4**	**WSD_13**	**11**	**0**	**0**	**11**
11	Portola Rd And Home Rd	No	0.0	1.0	0.0	1.0	WSD_9	WSD_14	WSD_13	11	0	0	11
12	**Woodside Rd And Bear Gulch Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_9**	**WSD_14**	**WSD_13**	**11**	**0**	**0**	**11**
13	**Canada Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_9**	**WSD_14**	**WSD_47**	**11**	**0**	**0**	**11**
14	**High Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_14**	**WSD_14**	**WSD_8**	**6**	**0**	**11**	**17**
15	**Miramontes Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_1**	**WSD_3**	**0**	**0**	**0**	**0**
16	**Woodside Rd And Fox Hollow Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_1**	**WSD_3**	**0**	**0**	**0**	**0**
17	**Woodside Rd And Unnamed**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_5**	**0**	**0**	**191**	**191**
18	Portola Rd And Montecito Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_4	WSD_8	0	0	11	11
19	Canada Rd And Corto Ln	No	0.0	1.0	0.0	1.0	WSD_15	WSD_13	WSD_8	0	191	11	202
20	Canada Rd And Olive Hill Ln	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_8	0	0	11	11
21	Portola Rd And Phillip Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_4	WSD_13	0	0	0	0
22	**Skywood Way And La Honda Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_4**	**WSD_13**	**0**	**0**	**0**	**0**
23	**Tripp Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_4**	**WSD_13**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
24	Portola Rd And Forest View Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
25	**Southgate Dr And State Highway 84 Hwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
26	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
27	**Smoke Tree Ln And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
28	Canada Rd And Eucalyptus Ct	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
29	Canada Rd And Bardet Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
30	Canada Rd And Arbor Ct	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
31	Canada Rd And Alta Vista Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
32	Canada Rd And Neuman Ln	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
33	Canada Rd And Runnymede Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
34	**Why Worry Ln And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
35	**Woodside Rd And Roberta Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
36	**La Honda Rd And Friars Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
37	**Kings Mountain Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
38	**Woodside Rd And Martin Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
39	**Woodside Rd And Bridle Ln**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**
40	**Woodside Rd And Montelena Ct**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_13**	**0**	**0**	**0**	**0**

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Motor Vehicle Priority Intersections

ID	Location	State Hwy	MV Crash History Score (0 to 1)	MV Systemic Factors Score (0 to 1)	Social Equity Score (0 to 1)	MV Total Score (0 to 3)	Jurisdiction MV Rank	Jurisdiction Ped Rank	Jurisdiction Bike Rank	MV Crash Sev Score	Ped Crash Sev Score	Bike Crash Sev Score	Overall Crash Sev Score
41	Canada Rd And Mission Trail Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
42	Canada Rd And Glenwood Ave	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
43	Canada Rd And Laning Dr	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
44	Tadin Ln And Portola Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_13	0	0	0	0
45	**Woodside Rd And Albion Ave**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_1**	**WSD_46**	**0**	**0**	**0**	**0**
46	**Moore Rd And State Highway 84 Hwy**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
47	**Whiskey Hill Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
48	**Quail Meadows Dr And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
49	**Woodside Rd And Hobart Heights Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
50	**Shine Rd And Woodside Rd**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
51	Canada Ln And Canada Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
52	**Woodside Rd And Haciendas Dr**	**Yes**	**0.0**	**1.0**	**0.0**	**1.0**	**WSD_15**	**WSD_14**	**WSD_47**	**0**	**0**	**0**	**0**
53	Dean Rd And Canada Rd	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
54	Canada Rd And Monticello Ct	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
55	Canada Rd And Jefferson Ave	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0
56	Canada Rd And Godetia Dr	No	0.0	1.0	0.0	1.0	WSD_15	WSD_14	WSD_47	0	0	0	0

Note: Gray shaded cells are locations on the State Highway Network.

Woodside Priority Segments

ID	Jurisdiction	Segment	State Highway Network	Length (Miles)	Motor Vehicle Priority Intersections Included	Bike Priority Intersections Included	Pedestrian Priority Intersections Included	Unique Priority Intersections Included (Any Mode)
WSD_1	Woodside	Portola Road, Family Farm Road to E town limit	No	0.8	4	4	4	4
WSD_2	Woodside	Canada Road, W town limit to Woodside Road (SR84)	No	2.0	17	11	17	17
WSD_3	Woodside	Portola Road, Woodside Road (SR84) to E town limit	No	0.8	4	4	4	4
WSD_4	Woodside	Woodside Road, E town limit to Haciendas Dr	Yes	1.3	4	4	4	4
WSD_5	Woodside	Woodside Road, Haciendas Dr to Mountain Home Road	Yes	0.3	2	0	2	2
WSD_6	Woodside	Woodside Road, Mountain Home Road to Kings Mountain Road	Yes	0.7	6	4	6	6
WSD_7	Woodside	Woodside Road/La Honda Road, Kings Mountain Road to S tow	Yes	5.3	16	15	16	16

Attachment 2
Draft Prioritized Project Maps

Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-1

Priority Intersections and Segments
City of Atherton, CA

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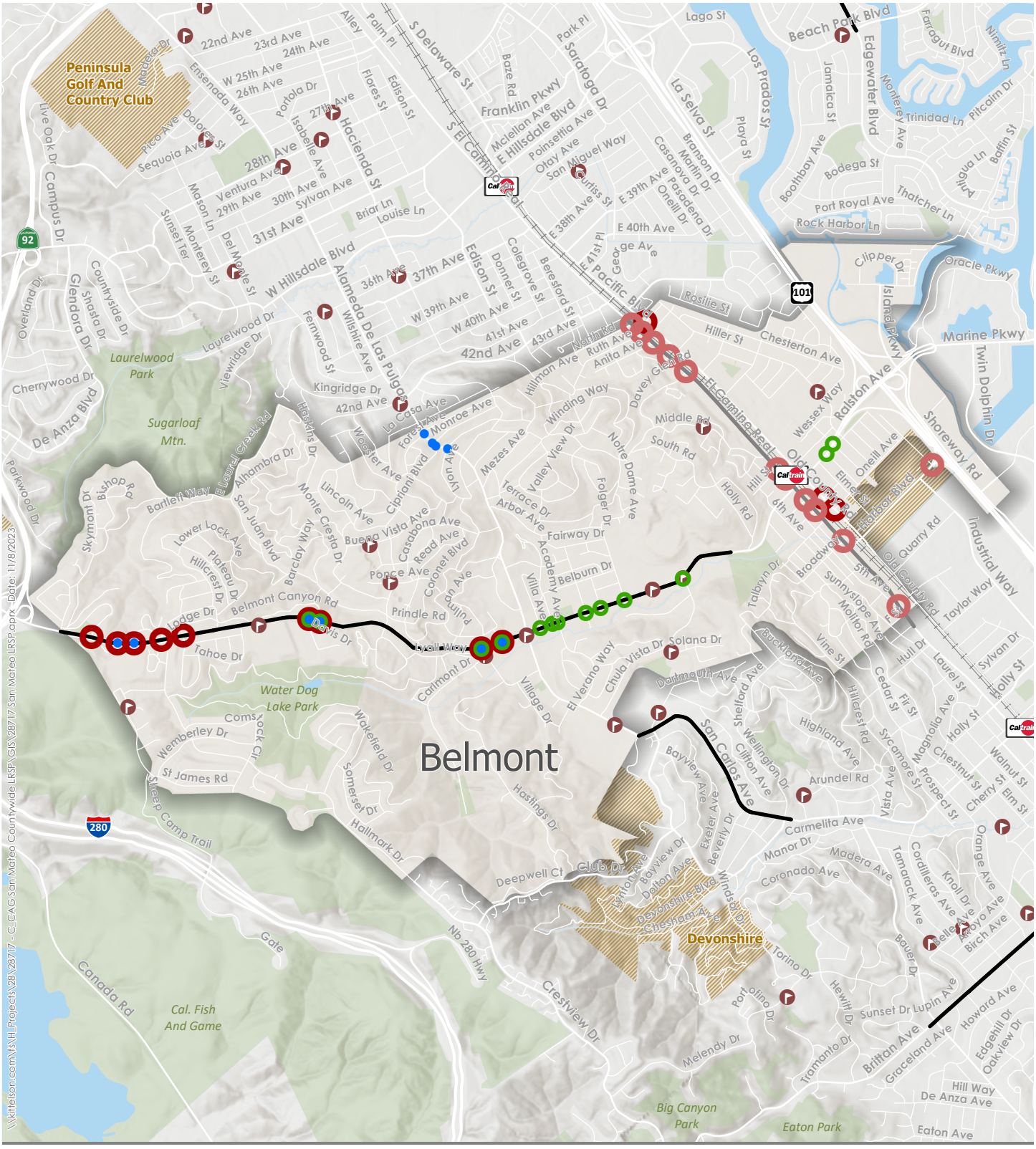

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Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-2

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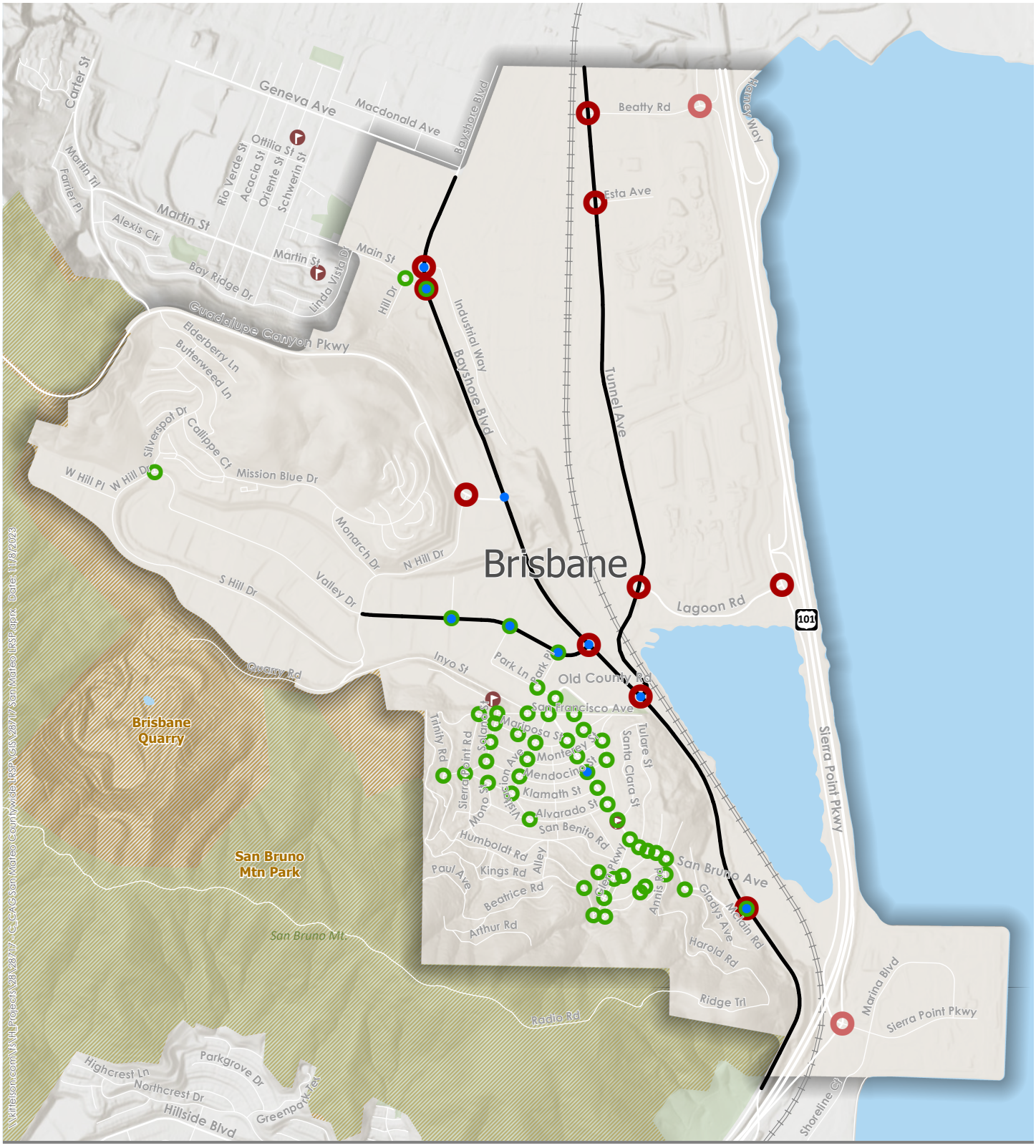
Priority Intersections and Segments
City of Belmont, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-3

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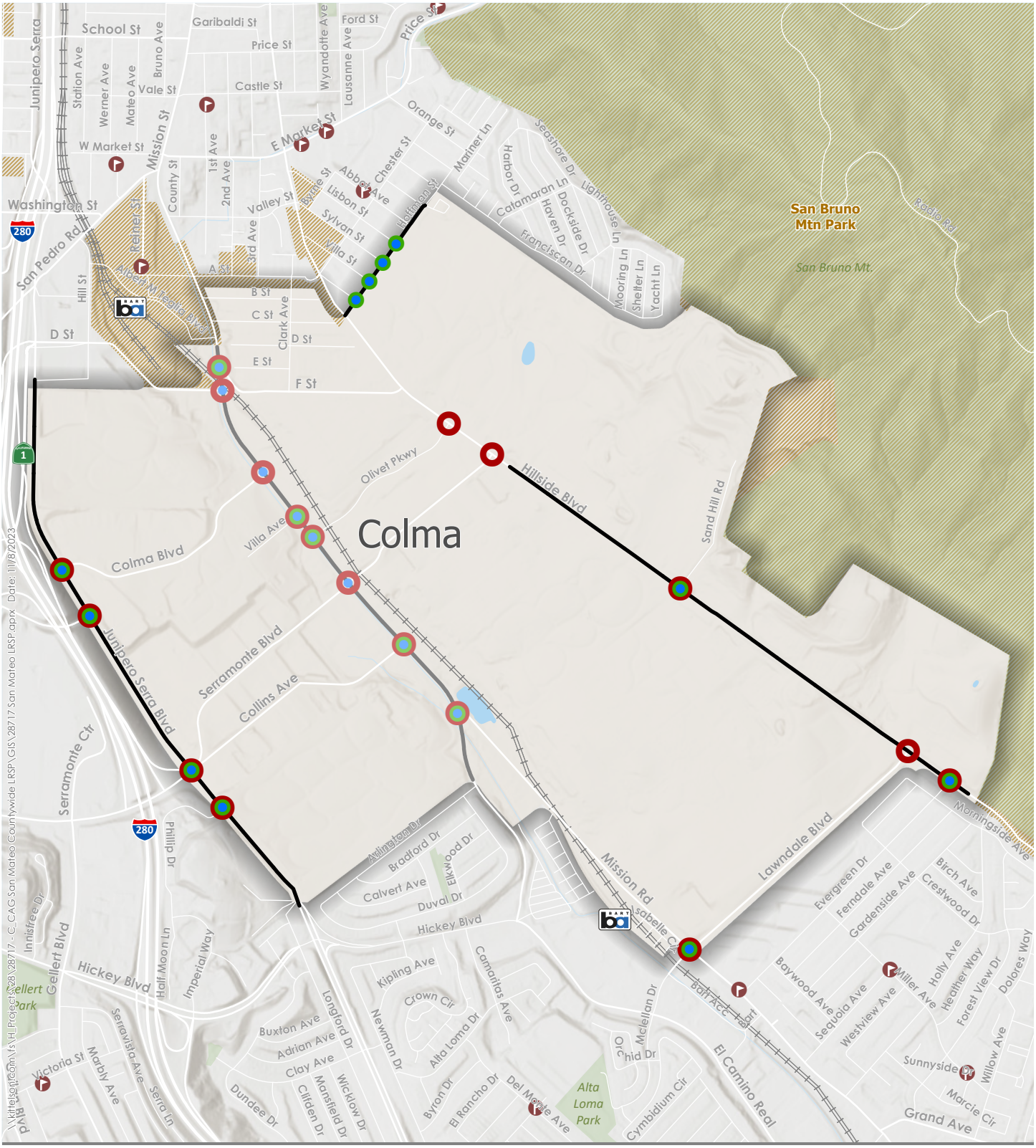
Priority Intersections and Segments
City of Brisbane, CA



Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

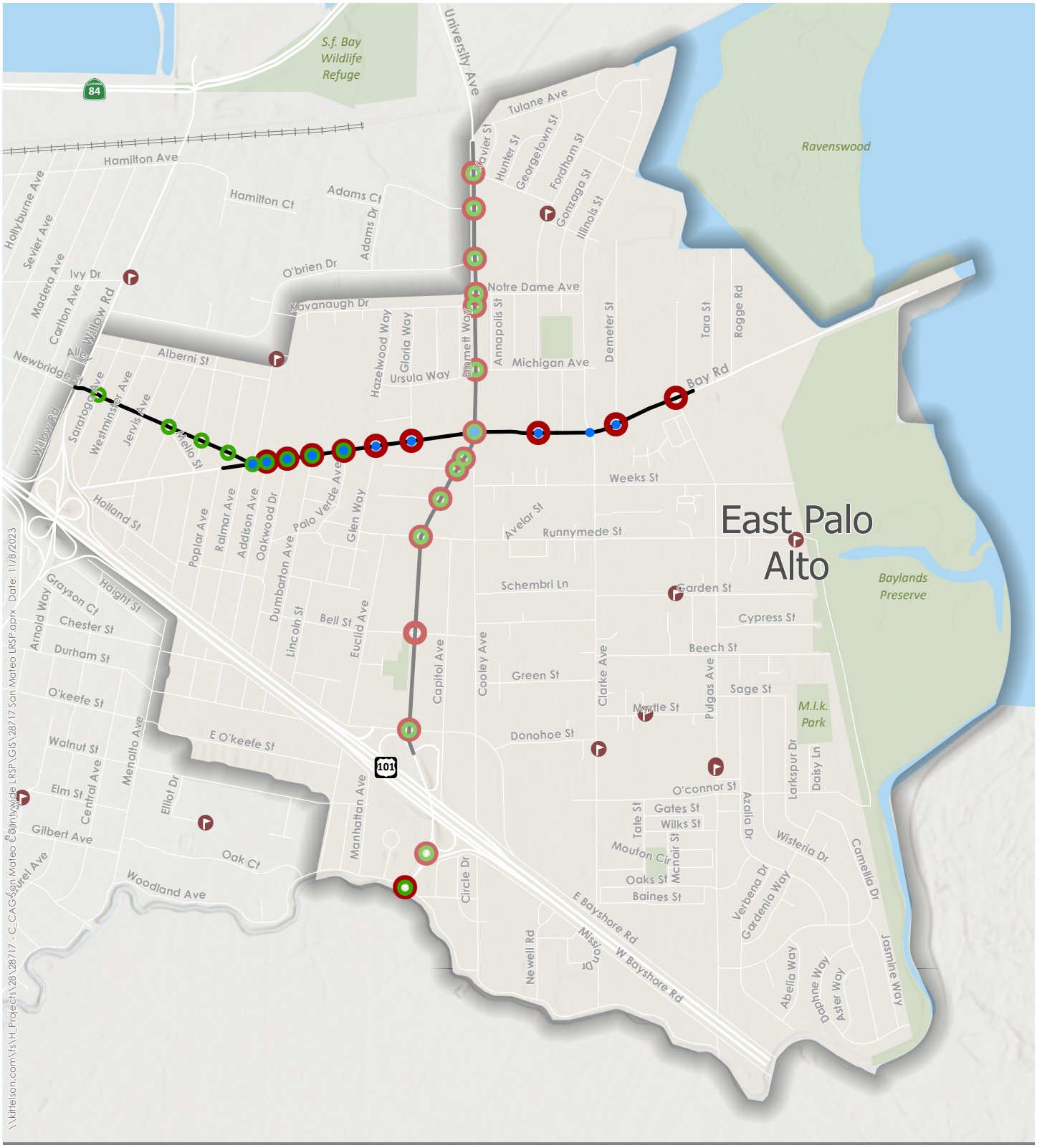
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-4

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Colma, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

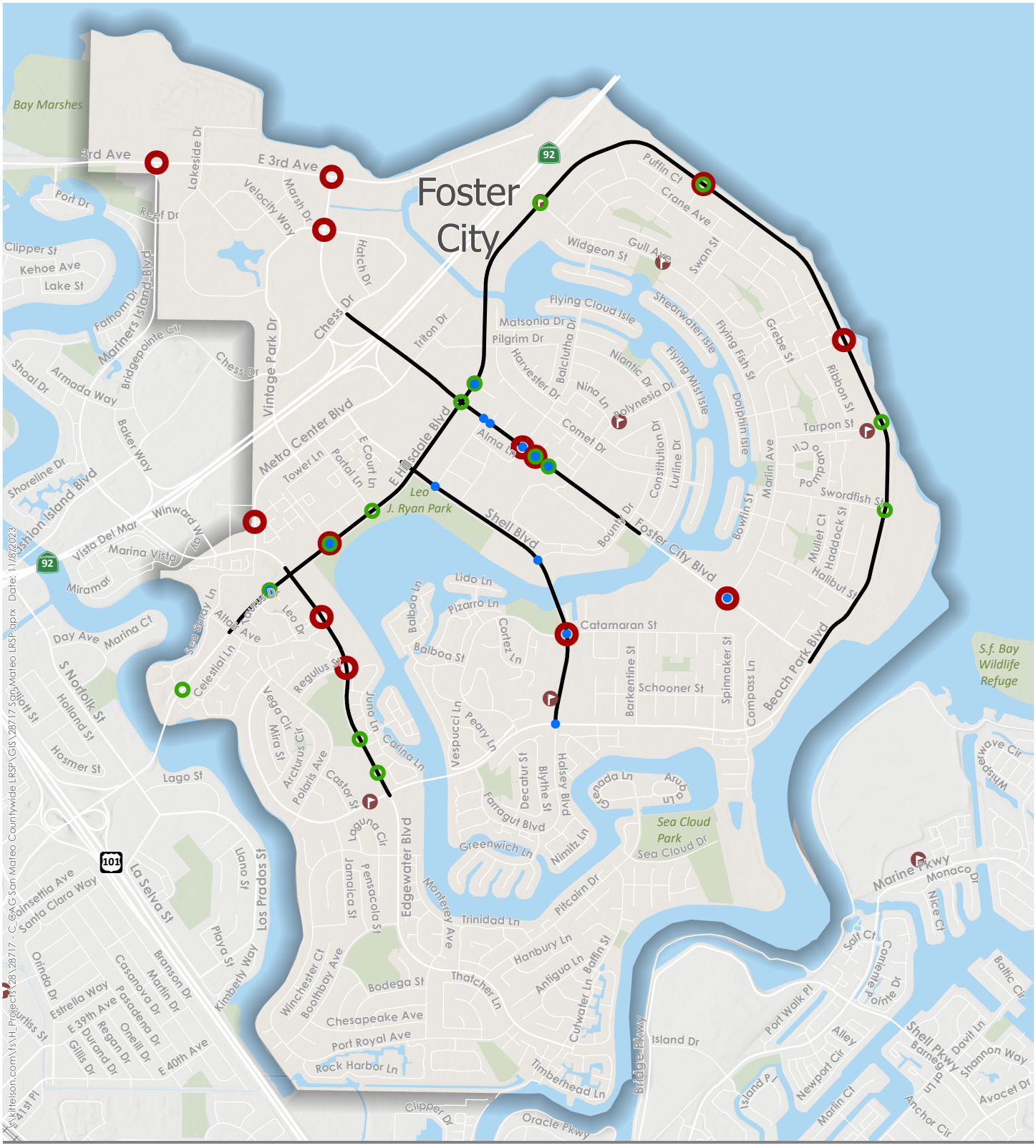
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-5

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of East Palo Alto, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

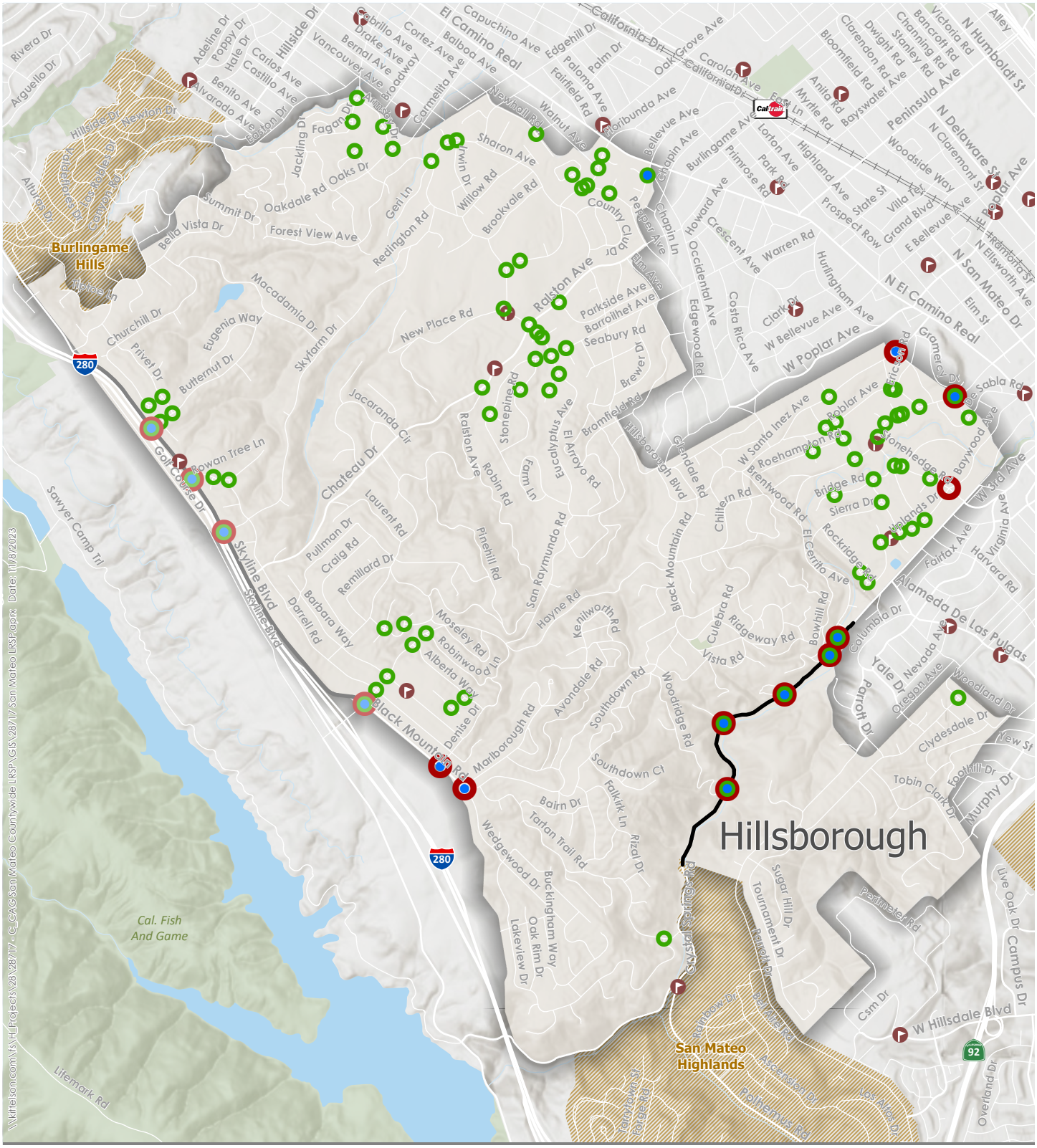
- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-6

KITTELSON & ASSOCIATES

Priority Intersections and Segments
City of Foster City, CA



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Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-7

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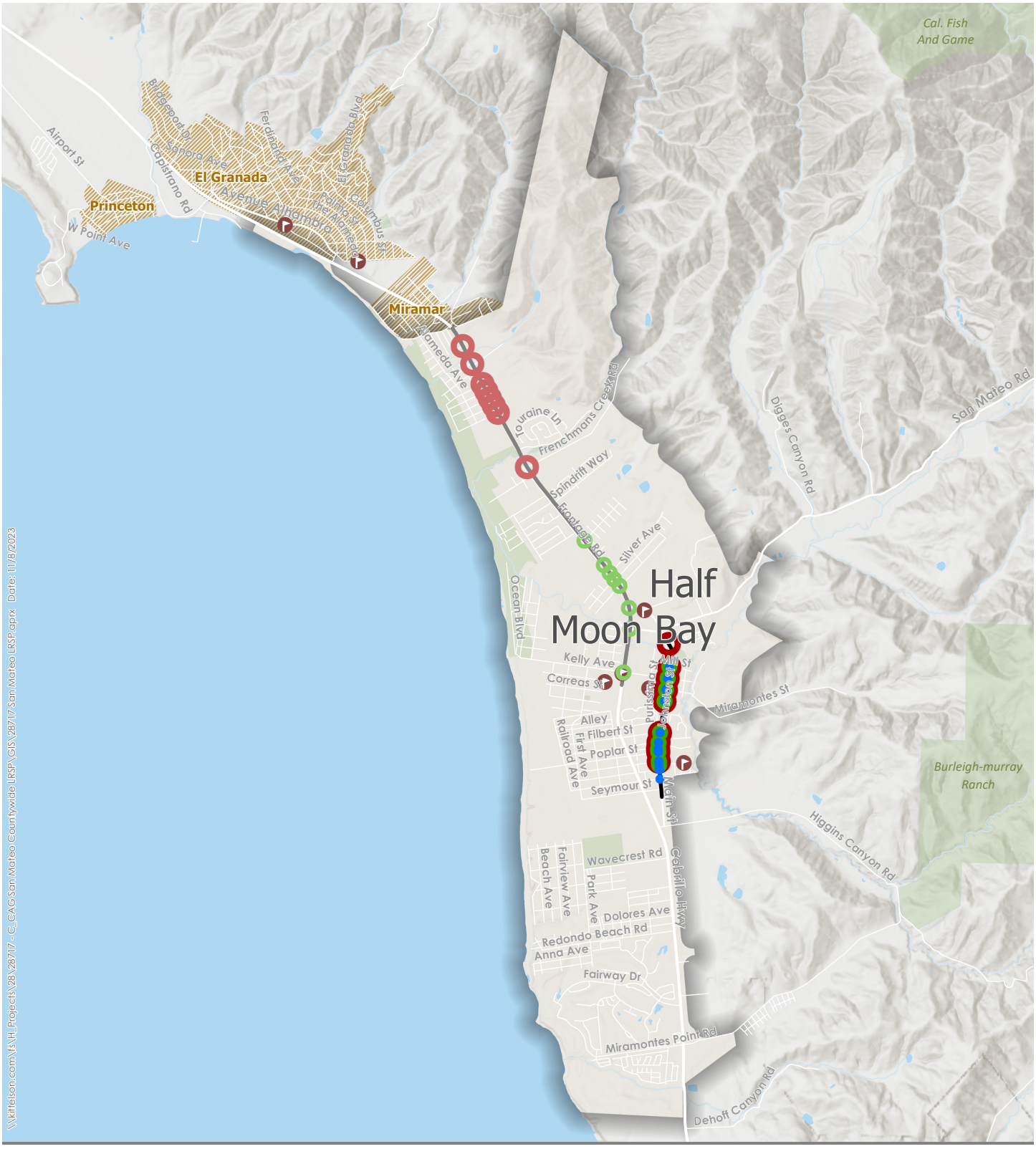
Priority Intersections and Segments
City of Hillsborough, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 1 Miles

Figure C-8

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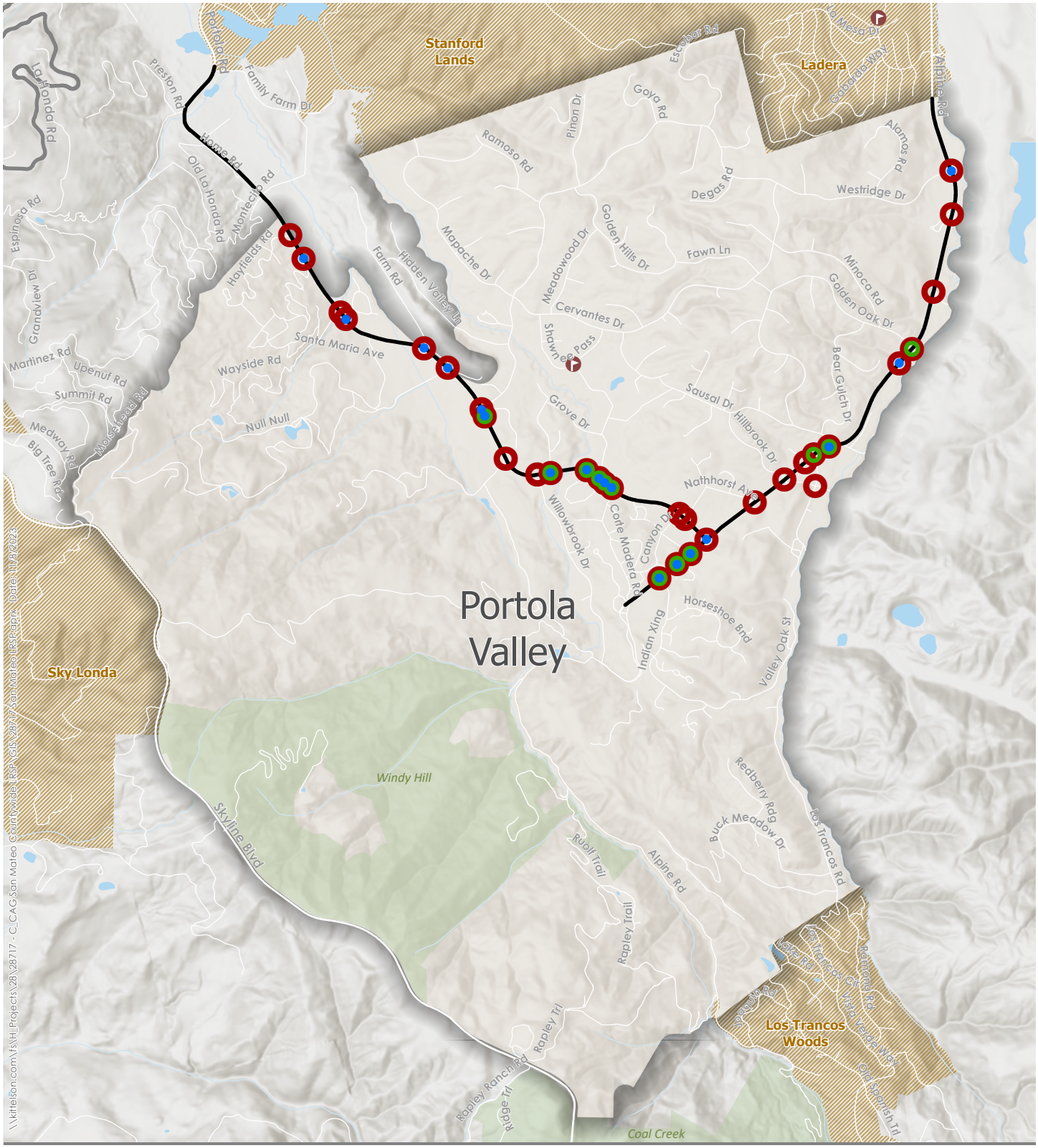
Priority Intersections and Segments
City of Half Moon Bay, CA



Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-9

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Priority Intersections and Segments
City of Portola Valley, CA

Non-Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections

- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 Miles

Figure C-10

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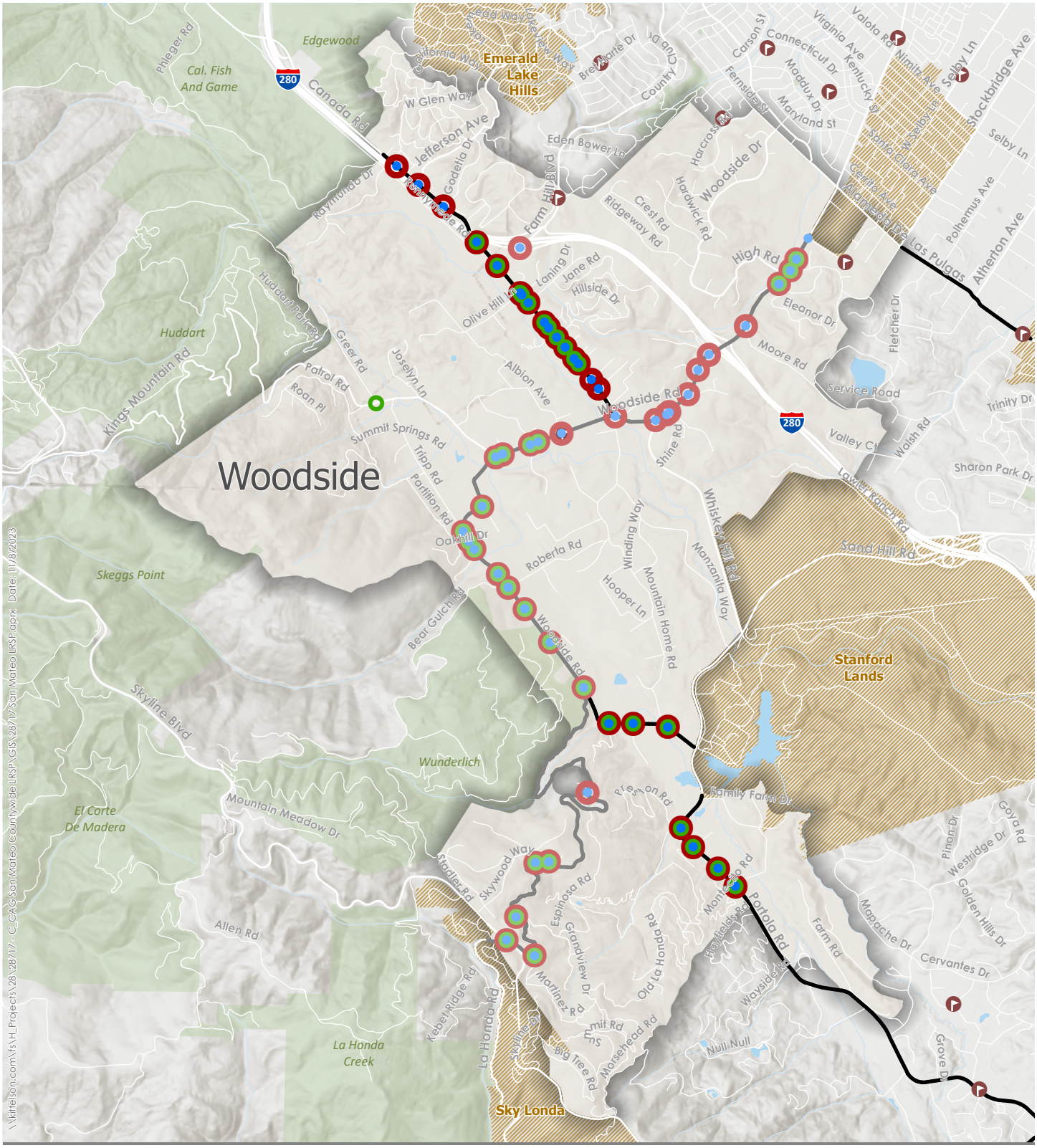
Priority Intersections and Segments
City of San Carlos, CA



Non-Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

Highway Priority Intersections
- Pedestrian
- Bicycle Priority
- Motor Vehicle

- Schools
- Non-Highway Priority Segments
- Highway Priority Segments

0 0.5 1 Miles

Figure C-11

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Priority Intersections and Segments
City of Woodside, CA

Attachment 3
Explanation of Social Equity Scoring

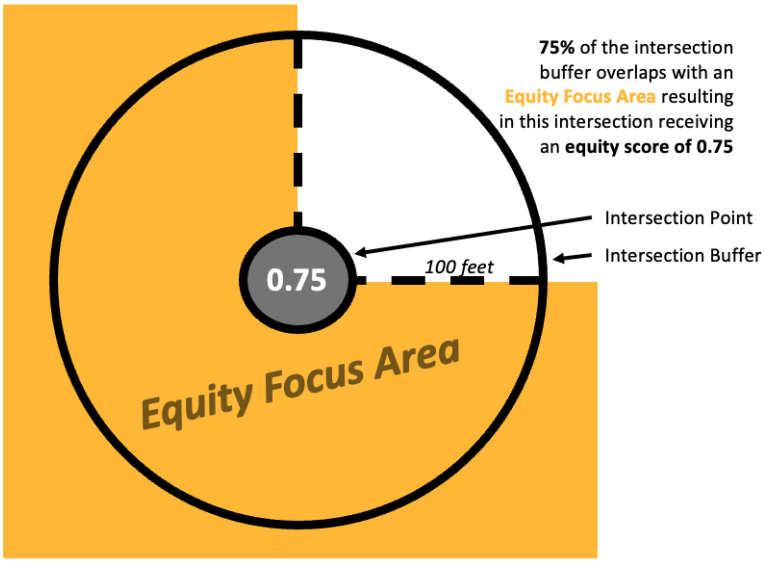
An intersection can lie just within or just beyond a social equity priority area boundary. As a result, binary scoring ("in" or "out") does not consistently reflect whether an intersection serves an identified social equity priority area.

Therefore, we employed an area-weighted proportional allocation approach. The equity data used in this analysis include binary indicators (yes/no) for C/CAG's Equity Focus Areas, MTC's Equity Priority Communities, USDOT's Historically Disadvantaged Communities, and USDOT's Areas of Persistent Poverty.

The area-weighted allocation approach is applied to each location for each of the four equity indicators. A score is determined based on the percentage of a 100-foot buffer that overlaps with the equity indicator geometry. For example, if 100% of the buffer overlaps with an equity indicator geometry, a score of 1.0 is assigned. If 75% of the buffer overlaps (as shown in Figure 4), a score of 0.75 is assigned.

The area-weighted proportional allocation approach adds granularity to the prioritization process and is recommended over a typical "intersection" approach, which awards the full score to each intersection/roadway segment if the road/intersection touches the equity data indicator and may therefore over-prioritize longer roadway segments.

Figure 4: Example of Area-Weighted Proportional Allocation Approach



San Mateo C/CAG Countywide LRSP

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