Local Roadway Safety Plan (LRSP)

City of Emeryville

DRAFT Final Project Report

April 5, 2025

Submitted to:

Iteris. Moving smarter, together

TABLE OF CONTENTS

TABLES

FIGURES

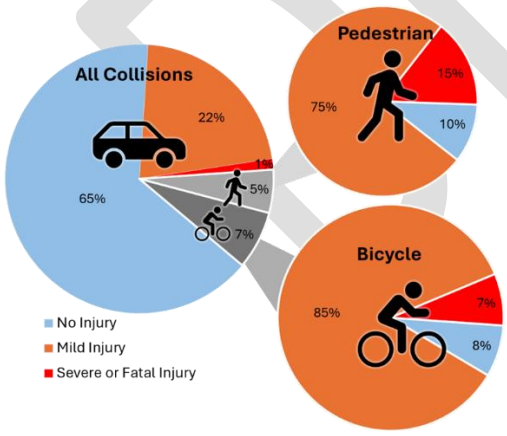
APPENDICES

EXECUTIVE SUMMARY

Introduction

The Local Roadway Safety Plan (LRSP) is a strategic initiative aimed at enhancing traffic safety for the City of Emeryville, addressing critical safety needs and challenges. The City of Emeryville, located in Alameda County with a population of approximately 13,000, benefits from significant transportation infrastructure, including Interstate-80 and various bus services connecting to Oakland, San Francisco, and beyond. The city fosters multimodal transport options, featuring the free Emery-Go-Round shuttle, which links residents to regional rail services. Emeryville's planning initiatives, encapsulated in the General Plan and the Active Transportation Plan, prioritize equitable and sustainable development with an emphasis on safety, walkability, and reduced automobile dependency. Additionally, these plans are being enhanced by the Local Roadway Safety Plan (LRSP) to improve traffic safety resource allocation and decision-making.

Over the past five years, the city has experienced an average of 77 collisions per year, including 2.0 that have resulted in fatal or serious injuries. The LRSP sets forth a comprehensive framework to identify, prioritize, and pursue improvements that mitigate these dangers and enhance road safety. By analyzing traffic and collision data alongside Caltrans and FHWA guidelines, the LRSP aims to identify key opportunities for safety enhancements on local roadways. Safe infrastructure systems help prevent fatal and severe injury collisions. The plan will also include input from essential stakeholders to ensure a comprehensive understanding of local conditions and perspectives.



With a total of 385 collisions recorded over the past five years, including concerning incidents involving vulnerable users—20 pedestrian collisions and 27 bicycle collisions, the LRSP is particularly focused on safeguarding those at higher risk. Through targeted actions and collaborative efforts, the City of Emeryville aims to enhance roadway safety and protect its community members effectively.

This plan not only demonstrates the City's commitment to safety but also positions Emeryville for future funding opportunities, thus reinforcing its readiness to address ongoing and emerging safety challenges in the local roadway system.

Collision Analysis

The City of Emeryville collected collision data from the SWITRS database, documenting incidents from May 8, 2019, to May 7, 2024. During this five-year period, there were 385 reported collisions, which were categorized by location, including intersections and corridor segments. Notably, collisions involving

vulnerable users, such as pedestrians and cyclists, represented only 12 percent of total collisions yet accounted for 50 percent of fatal or severe outcomes. Despite Emeryville's relatively low overall collision levels, attributed to its small size and high density, the rate of injuries among vulnerable users matches that of nearby cities, with such injuries comprising 30 percent of total injuries. Emeryville's fatality rate for vulnerable users stands at 0.7 percent of total injuries, positioned between Oakland's 1.1 percent and Berkeley's 0.6 percent. According to the California Office of Traffic Safety, Emeryville rated in the top quarter of 104 similar cities for transportation-related injuries and fatalities; however, the generally low speeds within the city contribute to lesser injury severity compared to its peers.

Geographic Designations

Emeryville prioritizes effective and equitable road safety solutions, recognizing that marginalized and underprivileged communities face a higher risk of traffic-related injuries and fatalities. An equity analysis, using American Community Survey data, identifies the location and size of these populations to guide fair and inclusive planning. Public input is essential, especially from low-income groups who may lack vehicle access and face transportation challenges. For instance, outreach for the 40th Street Multimodal Project revealed that 40% of residents lived in disadvantaged areas and reported barriers to walking and accessing key trails. Improving infrastructure for those who walk, bike, or use transit will greatly enhance safety and access for these communities.

Emphasis Area Identification

The City of Emeryville is advancing several initiatives—some completed, others underway or upcoming—centered on cycling, pedestrian, and traffic safety, as outlined in the 2023 Active Transportation Plan (ATP). Given the city's compact size, safety improvements are integrated with development projects and the annual Capital Improvement Program (CIP). The Local Road Safety Plan (LRSP) supports this by identifying research gaps and proposing cost-effective safety projects suitable for grants or other funding. A detailed collision analysis by Iteris highlighted trends and key problem areas, especially involving pedestrians and cyclists, leading to five priority focus areas: corridor and intersection collision history, speeding, pedestrian safety, and bicycle safety.

Corridor and Intersection Collision History

High corridor and intersection collision locations were identified by the collision study, as previously described. The tables that follow lists the top ten high-priority locations along with ongoing and upcoming initiatives that incorporate safety measures at those sites.

Corridor Collision History

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Pedestrian Collisions	Bicycle Collisions	F+SI	Total Collisions	On-Going/Planned Projects
1a	Powell St	Vallejo St	Frontage Rd	4	5	2	69	MTC I-80/Powell Street Interchange Transit Access Improvements
2	San Pablo Av	53rd St	36th St	3	4	0	41	San Pablo Avenue Corridor Bus-Bike Lanes Project
5	40th St	East of Adeline St/City Limit	Hubbard St	1	2	3	33	40th Street Multimodal Project (Phases I and II)

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Pedestrian Collisions	Bicycle Collisions	F+SI	Total Collisions	On-Going/Planned Projects
3b	Hollis St	Powell St	67th St	1	0	1	31	Hollis Street Sustainable Streetscape Project
4a	Shellmound St	67th St	Christie Av	1	2	0	21	The Emeryville Loop Project Shellmound Street Paving Project
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	0	3	0	20	Capital Street Improvements Project (CIP) MTC I-80/Powell Street Interchange Transit Access Improvements
6a	Christie Av	65th St	Powell St	0	0	0	15	The Emeryville Loop Project
1b	Powell St	Frontage Rd	Marina Park/City Limit	0	0	0	14	-
6b	Christie Av	Powell St	Bay St Parking Garage	0	0	0	14	The Emeryville Loop Project
4b	Shellmound St	Christie Av	40th St	1	1	1	13	The Emeryville Loop Project Shellmound Street Paving Project

Intersection Collision History

ID	Cross Street A	Cross Street B	Traffic Control	Pedestrian Collisions	Bicycle Collisions	F+SI	Total Collisions	On-Going/Planned Projects
1	Powell St	Christie Av	Signal	1	1	0	25	The Emeryville Loop Project
2	Powell St	Rt 80	Signal	1	2	0	22	MTC I-80/Powell Street Interchange Transit Access Improvements
3	San Pablo Av	40th St	Signal	2	1	0	17	San Pablo Avenue Corridor Bus-Bike Lanes Project
4	Shellmound St	Christie Av	Signal	1	0	0	10	The Emeryville Loop Project
5	Powell St	Doyle St	Signal	1	1	2	11	-
6	Hollis St	67th St	Signal	0	1	1	10	Capital Improvements Program (Completed)
7	Frontage Rd	Powell St	Signal	0	1	0	9	MTC I-80/Powell Street Interchange Transit Access Improvements
13	Powell St	Peladeau St	Two-Way Stop	0	0	0	7	-
10	Hollis St	66th St	Two-Way Stop	0	0	1	6	-
12	Frontage Rd	Access Rd/Rt 80	Signal	0	1	0	6	-

Speeding

The primary cause of most traffic collisions in Emeryville is unsafe speed, accounting for 21% (82 out of 385) of incidents over five years. In response, the city—alongside advisory committees—is implementing measures to lower vehicle speeds and enhance safety for all users. This includes reviewing speed limits under updated AB 43 guidelines, especially in areas with high pedestrian and bicycle activity. The table below summarizes the top ten corridors with the highest number of unsafe speed collisions.

Corridors with Speed-Related Collisions

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Speed Related Collisions	On-Going/Planned Projects
5	40th St	East of Adeline St/City Limit	Hubbard St	16	40th Street Multimodal Project (Phases I and II)
1a	Powell St	Vallejo St	Frontage Rd	10	-
2	San Pablo Av	53rd St	36th St	10	San Pablo Avenue Corridor Bus-Bike Lanes Project
3b	Hollis St	Powell St	67th St	4	-
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	4	-
1b	Powell St	Frontage Rd	Marina Park/City Limit	4	-
4b	Shellmound St	Christie Av	40th St	4	-
6b	Christie Av	Powell St	Bay St Parking Garage	3	-
3a	Hollis St	Yerba Buena Av	Powell St	3	Hollis Street Sustainable Streetscape Project
4a	Shellmound St	67th St	Christie Av	2	Shellmound Street Paving Project

Pedestrian Safety

Between May 2019 and May 2024, Emeryville recorded 20 pedestrian-related collisions, with about 60% occurring in crosswalks. These incidents underscore the importance of pedestrian safety in the City's Local Road Safety Plan (LRSP), aligning with its broader vision and Resolution No. 20-10, which prioritizes bicycle and pedestrian safety. The table below lists all intersections and mid-block crosswalks where such collisions occurred, all of which are controlled by signals or signage.

Locations with Pedestrian Collisions

ID	Cross Street A	Cross Street B	Traffic Control	Pedestrian Collisions	On-Going/Planned Projects
3	San Pablo Av	40th St	Signal	2	40th Street Multimodal Project (Phases I and II)
45	Hollis St	45th St	Signal	2	-
1	Powell St	Christie Av	Signal	1	The Emeryville Loop Project
2	Powell St	Rt 80	Signal	1	MTC I-80/Powell Street Interchange Transit Access Improvements
4	Shellmound St	Christie Av	Signal	1	The Emeryville Loop Project
5	Powell St	Doyle St	Signal	1	-
15	Bay St	Ohlone Wy	Signal	1	Developer Project (Completed)
17	Hollis St	59th St	Signal	1	-
19	San Pablo Av	53rd St	Signal	1	San Pablo Avenue Corridor Bus-Bike Lanes Project
47	Shellmound St	IKEA Exit	Signal	1	40th Street Multimodal Project (Phases I and II)

ID	Cross Street A	Cross Street B	Traffic Control	Pedestrian Collisions	On-Going/Planned Projects
50	West Macarthur Bl	Emery St	Signal	1	San Pablo Avenue Corridor Bus-Bike Lanes Project
27	Powell St	Vallejo St	Two-way Stop	1	-
36	Horton St	62nd St	One-Way Stop	1	-
37	61st St	Hollis St	One-Way Stop	1	-
-	Emery St	Nordstorm Rack Dwy Crosswalk	One-Way Stop	1	-

Bicycle Safety

The table below summarizes all corridors within the city with bicycle collisions.

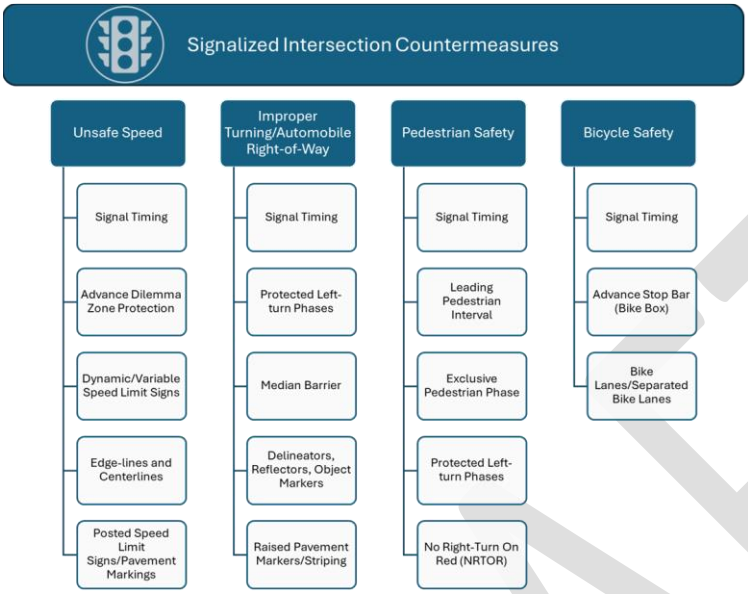
Corridors with Bicycle Collisions

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Bicycle Related Collisions	On-Going/Planned Projects
1a	Powell St	Vallejo St	Frontage Rd	5	-
2	San Pablo Av	53rd St	36th St	4	San Pablo Avenue Corridor Bus-Bike Lanes Project
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	3	-
3a	Hollis St	Yerba Buena Av	Powell St	3	Hollis Street Sustainable Streetscape Project
5	40th St	East of Adeline St/City Limit	Hubbard St	2	40th Street Multimodal Project (Phases I and II)
4a	Shellmound St	67th St	Christie Av	2	Shellmound Street Paving Project
4b	Shellmound St	Christie Av	40th St	1	Shellmound Street Paving Project The Emeryville Loop Project
8	Bay St	Christie Av	Ohlone Wy	1	-
12	Adeline St	47th St	36th St	1	-
18b	62nd St	Overland Av	Vallejo St	1	-
20	61st St	Hollis St	Vallejo St	1	-
22	43rd St	San Pablo Av	East of Adeline St/City Limit	1	-
24	Peladeau St	59th St	Stanford Av	1	-
35	67th St	Shellmound St	East of Emeryville Greenway/City Limits Cir	1	-

Countermeasure Identification and Selection

The Local Road Safety Plan (LRSP) is a strategic framework aimed at enhancing safety on local roads by identifying, analyzing, and prioritizing improvements to reduce fatalities and severe injuries, aligning with the U.S. Department of Transportation's mission. It supports initiatives like the California Strategic Highway Safety Plan, backed by grants from the Highway Safety Improvement Program (HSIP) and Safe Streets for All (SS4A). The plan advocates countermeasures such as reducing speed limits and implementing infrastructure changes for pedestrians and cyclists. The countermeasure identification process involved resources such as the HSIP Analyzer Manual and the Crash Modification Factors Clearinghouse, along with a review of twenty-eight proven safety countermeasures provided by the Federal Highway Administration.

The LRSP includes ongoing city projects addressing safety concerns through both low-cost and high-cost treatments. It proposes additional countermeasures classified by collisions near intersections and mid-block locations, highlighting primary causes of accidents that include unsafe speed and improper turning. Countermeasure toolkits were developed to serve as a comprehensive resource for future interventions as funding permits.



Program Identification

Project countermeasures identified in the previous efforts were categorized into programs based on their type and implementation locations, with evaluations focused on project readiness, effectiveness, and cost-effectiveness. Project readiness was divided into near-term (2-5 years), mid-term (5-10 years), and long-term (greater than 10 years), although no long-term projects were identified in the LRSP. The effectiveness of the countermeasures was assessed by analyzing historical collision data to determine the anticipated reduction in collisions through their implementation, using collision reduction factors for quantification. The monetized benefits of these countermeasures, which include reductions in property damage and injuries, were based on the U.S. Department of Transportation's guidelines for benefit-cost analysis, while project costs were calculated individually for each location and aggregated by program.

Programs were identified based on recommended countermeasures, detailing specific locations, additional treatment information, resolved collisions from these measures, and an evaluation of their overall effectiveness. The following programs were identified through this effort.

Signal Timing Program

The signal timing program project aims to update traffic signal timings to reduce collision patterns. It includes recommendations for implementing leading pedestrian intervals (LPIs) at select intersections to enhance pedestrian safety. A total of 21 locations have been identified for timing updates, with five specifically recommended for LPI programming.

Daylighting Program

California's Daylighting Law, effective January 1, 2025, aims to enhance safety by prohibiting parking near crosswalks. Under Assembly Bill 413 (AB 413), it is illegal to park within 20 feet of any approach to marked or unmarked crosswalks and within 15 feet of crosswalks with curb extensions, regardless of the presence of red curbs. The Local Road Safety Program (LRSP) has identified seven locations where the installation of red curbs is recommended to reduce traffic collisions at these intersections and crosswalks, including two locations suggested for preemptive measures in accordance with the Vehicle Code.

Pedestrian Improvements Program

The pedestrian improvements program has identified six specific locations where enhanced safety measures for pedestrians are recommended. These measures include the installation of rapid rectangular flashing beacons (RRFB), appropriate signage and striping, implementation of no right-turn-on-red (NRTOR) restrictions, and other enhancements to improve safety.

Signal Upgrade Program

This program outline's locations for upgrading traffic signal hardware, implementing protected left-turn phases, and installing new traffic signals, focusing on three sites.

Frontage Road Safety Improvements

This program encompasses recommended safety improvements along Frontage Road from Powell Street to north of Point Emery Lane/City Limit. Proposed measures include dynamic speed variable signs, chevron signs, speed limit postings, warning and regulatory signs for the westbound freeway off-ramp at Frontage Road/Point Emery Lane, lane movement pavement markings, a median barrier at Frontage Road/Hilton Driveway, and curb extensions at Frontage Rd/Rt 80.

Signing and Striping Program

The signing and striping program consists of two main components: addressing all unsignalized intersection locations and signalized intersection locations where collisions can be mitigated through recommended countermeasures. The program for unsignalized intersections identifies 25 locations. Implemented countermeasures include dynamic and variable speed signs, pavement markings, warning and regulatory signs, bike lanes, as well as edge-lines and centerlines.

The program for signalized intersections includes five locations, four of which are within Caltrans jurisdiction. All countermeasures recommended in this program will be implemented by on-going projects.

Corridor Spot Improvements

The corridor improvements program, akin to the signing and striping initiative, addresses all roadway segments where collisions can be remedied by specified countermeasures. These measures were assessed for incidents occurring over 200 ft from intersections, driveways, and utility poles, paralleling those suggested in the signing and striping program. This program encompasses 14 designated locations.

Program Prioritization

To allocate limited funds effectively, the projects were evaluated based on readiness, cost-effectiveness, collision severity, and their potential to reduce accidents. Collaborating with city staff, Iteris categorized projects by implementation timeframe: short term (2-5 years), mid-term (5-10 years), and long-term (over 10 years). The analysis factors in the benefits of reduced fatalities and crashes, referencing the U.S. Department of Transportation's Benefit-Cost Analysis Guidance. Near-term projects, such as the Daylighting Program and Pedestrian Improvements, are prioritized for their lower costs and complexities. Mid-term projects, while generally more expensive and complex, offer additional benefits not directly assessed here. Long-term projects were not identified but will require ongoing evaluation of the effectiveness of implemented measures for future prioritization.

The table that follows presents these programs along with criteria for prioritization, indicated by color coding from yellow (lower priority) to green (higher priority).

Project	Readiness	Addressed Collisions per Year	Effectiveness of Counter measures	Monetized Benefits	Cost of Improvements	Safety Benefit/ Cost Ratio
Daylighting Program	Near-Term	1.2	20%	$139,200	$14,000	9.9
Pedestrian Improvements	Near-Term	1.4	29%	$578,125	$205,000	2.8
Signing & Striping Program (Unsignalized Intersections)	Near-Term	8.6	27%	$1,386,300	$528,000	2.6
Signal Timing Program	Medium-Term	15.8	19%	$2,816,557	$430,000	6.6
Signal Upgrade	Medium-Term	2.8	51%	$1,245,225	$900,000	1.4
Frontage Rd-Safety Improvements	Medium-Term	1.2	33%	$306,075	$54,000	5.7
Corridor Spot Improvements	Medium-Term	3.4	26%	$1,006,825	$1,346,000	0.7
Signing & Striping Program (Signalized Intersections)	Medium-Term	0.8	25%	$9,500	$50,000	0.2

Next Steps

Over the next five years, Emeryville will utilize its Local Road Safety Plan as a dynamic framework to enhance road safety, revising objectives as necessary. While significant long-term projects will be managed through the Capital Improvement Program (CIP), emphasis will be placed on low-cost safety enhancements that can be quickly implemented. The city's success in this endeavor will rely on securing funding from various sources, including the Highway Safety Improvement Program (HSIP), ATP, CMAQ, Sustainable Transportation grants, stimulus funds, and the CIP. Moreover, the city will assess the effectiveness of the measures implemented to inform future safety initiatives, reaffirming its dedication to transportation safety.

1. PROJECT SUMMARY

The Local Roadway Safety Plan (LRSP) is a traffic safety planning document for local agencies to proactively address safety needs and challenges in the City of Emeryville. Over the past five years, the City of Emeryville has averaged 77 collisions per year, with an average of 2.0 of those involving a fatal or serious injury. The document develops a systemic framework to identify a prioritized list of improvements and actions to address defined needs and will allow eligibility for funding of these improvements in future Caltrans Highway Safety Improvement Program (HSIP) calls-for-projects cycles and other funding sources. An LRSP (or an equivalent Systemic Safety Analysis Report (SSAR) or Vision Zero Action Plan) is required starting HSIP Cycle 12.

Furthermore, the City of Emeryville's LRSP includes the Safety Action Plan elements for the Federal Safe Streets and Roads for All Program—either through reference to other existing plans or the LRSP itself—to allow the City to self-certify its eligibility for SS4A implementation grants.

Understanding transportation system safety to prevent life-changing injuries or loss of life is of the utmost importance to the City of Emeryville. The city prepared an LRSP to facilitate the development of local agency partnerships and collaboration, resulting in a prioritized list of improvements and actions that can demonstrate a defined need and contribute to California's Strategic Highway Safety Plan (SHSP) overall vision and goals. The LRSP is a proactive approach to addressing safety needs and demonstrates agency readiness and responsiveness to safety challenges.

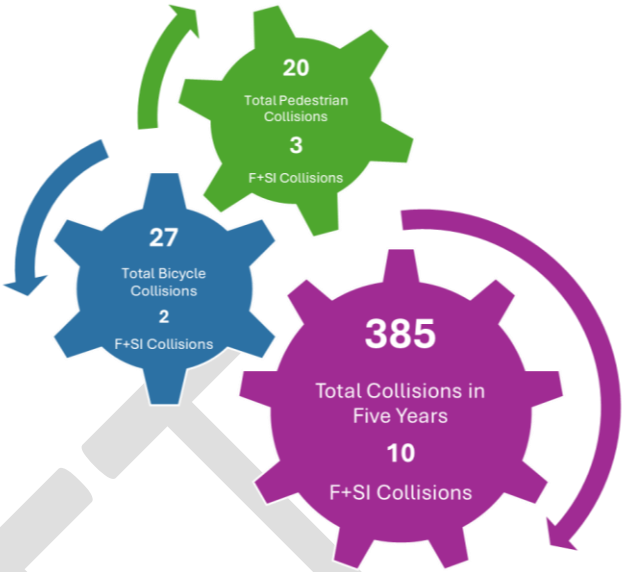
The LRSP focuses on reducing fatal and severe injury collisions (FSI collisions) with focused challenge areas adopting the Five "E's" of Traffic Safety, as illustrated in **Figure 1** and summarized below.

Figure 1: The Five E's of Traffic Safety

1. **Education**: Educate all road users on safe behaviors
2. **Enforcement**: Enforce actions that reduce high-risk behavior
3. **Engineering**: Apply effective and/or innovative countermeasures
4. **Emergency Response**: Improve emergency response times and actions
5. **Emerging Technologies**: Apply emerging technologies to roadway, vehicle, and user

The City of Emeryville's LRSP focuses on identifying opportunities to implement safety improvements on local roadways based on analysis of traffic and collision data within the city, as well as guidelines set forth

in the Caltrans Strategic Highway Safety Plan and by the Federal Highway Administration (FHWA). Solutions are anticipated to range in scope from education and enforcement to engineering and infrastructure projects focusing on the Five "E's". The plan will incorporate important stakeholders to ensure the data is rounded out with local experience to provide an LRSP that addresses the City's needs.



Of the 385 total collisions over the past five years in the City, collisions with vulnerable users totaled 20 with pedestrians and 27 with bicycles. Vulnerable user collisions are of particular concern due to less protection afforded to persons walking and bicycle as opposed to traveling in vehicles.

The City of Emeryville is leading several ongoing initiatives aimed at enhancing the safety and mobility of all modes of transportation. This project will provide the city with a strategic plan for implementation which will strive to reduce fatalities and serious injuries on public roads, consistent with the goal of the LRSP program.

This plan aims to prevent serious injuries and fatalities on the roads, supporting the US Department of Transportation's (US DOT) objective of having no traffic fatalities across the country. The Safe Systems Approach, often known as Vision Zero, is the strategy that the US DOT has chosen to accomplish the transportation safety objective. Building a transportation system with the understanding "humans make mistakes and that humans have limited ability to tolerate crash impacts" is the goal of the safe system approach. The City of Emeryville has actively embraced the Safe System Approach, which creates measures to minimize human errors before they occur. Principles and elements of the Safe System Approach can be seen in **Figure 2**.

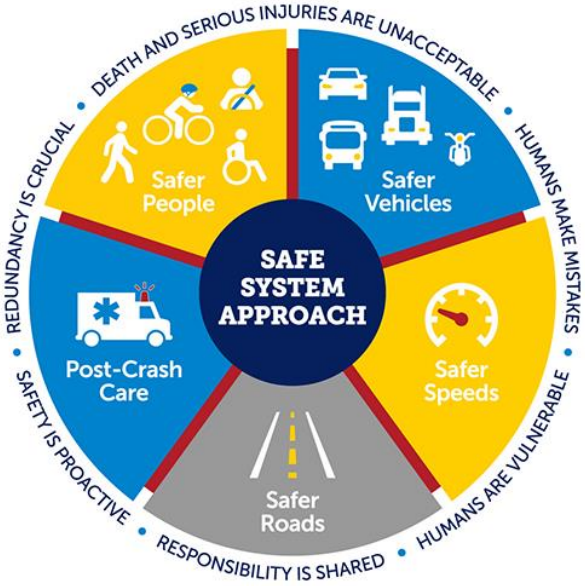


Figure 2: Safe System Approach

A Safe System Approach provides a safety net for the user by adhering to the following principles:

1. **Death/serious injury is unacceptable**: While no crashes are desirable, the Safe System Approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.
2. **Humans make mistakes**: People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.

3. **Humans are vulnerable**: People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.
4. **Responsibility is shared**: All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes do not lead to fatal or serious injuries.
5. **Safety is proactive**: Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.
6. **Redundancy is crucial**: Reducing risks requires that all parts of the transportation system are strengthened, so if one part fails, the other parts still protect people.

Achieving a zero-death target requires addressing all accident risk factors using the five components of a safe system, illustrated in **Figure 3**.

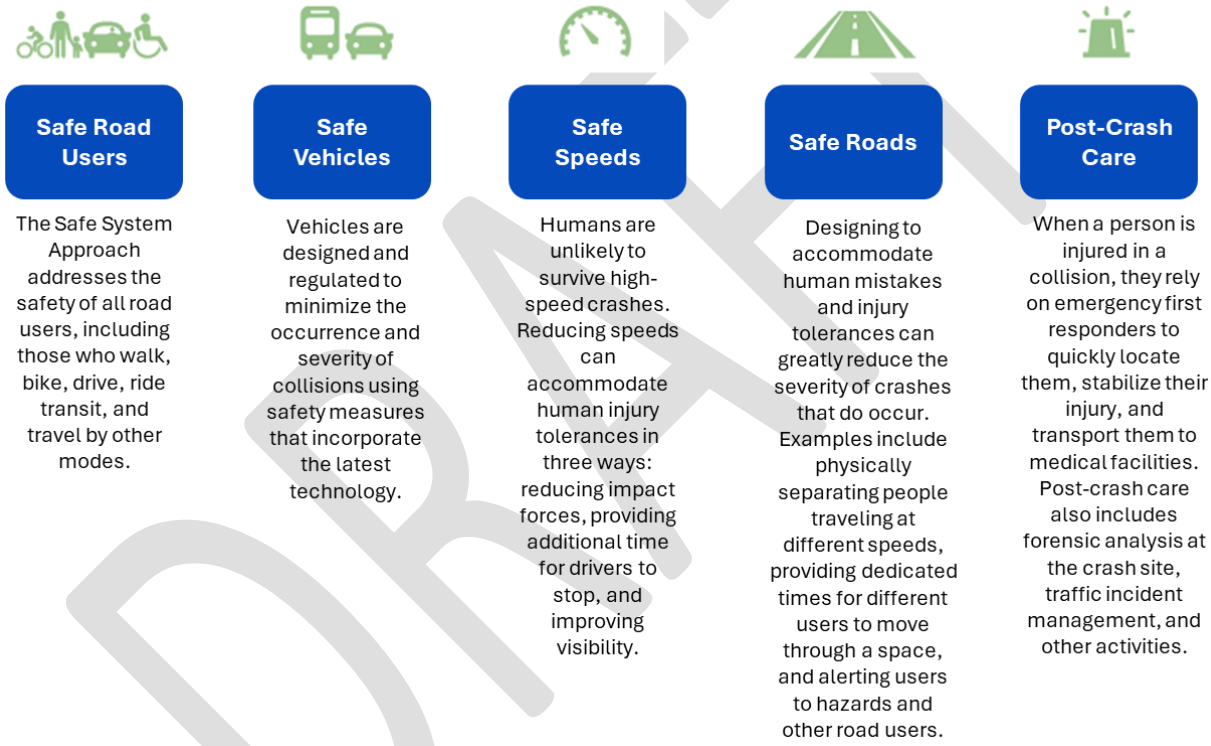


Figure 3: Safe System Elements

The following sections outline the approach and recommendations for developing and implementing the City of Emeryville's LRSP. Overall, competitive HSIP applications are for projects with low cost solutions for severe safety issues. Due to the relatively safer transportation conditions in the City of Emeryville as compared to other areas of the State, a competitive HSIP application would need to be for a very low cost project, a project in partnership with the Cities of Berkeley and/or Oakland or Alameda County, or for a severe safety issue identified in the future. Since low-cost improvements are implemented faster through the City's own budget, a competitive HSIP application project is not identifed at this time. Higher-cost improvements may need to be further studied for potential incorporation in the City's five-year Capital Improvement Program (CIP).

In addition to supporting the city's transportation goals, the plan gives the city the ability to apply for

grants and federal funding. Specifically, projects must be included in an approved safety action plan in order to be eligible for implementation money under the Safe Streets for All (SS4A) program.

2. BACKGROUND REVIEW

2.1 Purpose and Need

The City of Emeryville is located in Alameda County, south of Berkeley and west of Oakland, with an approximate population of 13,000 (**Figure 4**). Interstate-80 (I-80) crosses through the city in the north-south direction and provides two interchanges in Emeryville: at Frontage Road and at Powell Street. The access road at the Frontage Road/Point Emery Lane intersection also connects to southbound I-80. The city receives a mix of both local and commuter traffic. Numerous multimodal transportation options are available, even though the freeways offer a high degree of automobile regional access. AC Transit local bus service and TransBay buses connect Emeryville, Oakland and other communities across the Bay to Downtown San Francisco. The free Emery-Go-Round shuttle service connects Emeryville's residents and workplaces to Amtrak rail service, Capitol Corridor, and BART. San Pablo Avenue is also the route of frequent local buses and the regional Rapid bus. The San Francisco Bay Trail and the wider Bay Trail, a recreational area with 350 miles of continuous trails and connections to many parks, are accessible from a section of Emeryville's 40th Street/Shellmound Street corridor.

The City Council of Emeryville has approved two comprehensive, long-range planning documents that set forth guidelines for the city's physical development: the General Plan and the Active Transportation Plan.

Through its General Plan and Active Transportation Plan, the City of Emeryville has outlined a thorough blueprint for equitable and sustainable development which aligns with the physical characteristics of the city and the facilities within the city. With a focus on safety, walkability, accessibility to necessary services, and a decreased reliance on cars, the General Plan and the Active Transportation Plan aim to create a thriving and varied community.

In order to allocate resources where they will have the biggest safety impact and to guide traffic safety decisions, the City's Transportation Element of the General Plan and the Active Transportation Plan are being expanded into the Local Roadway Safety Plan (LRSP).

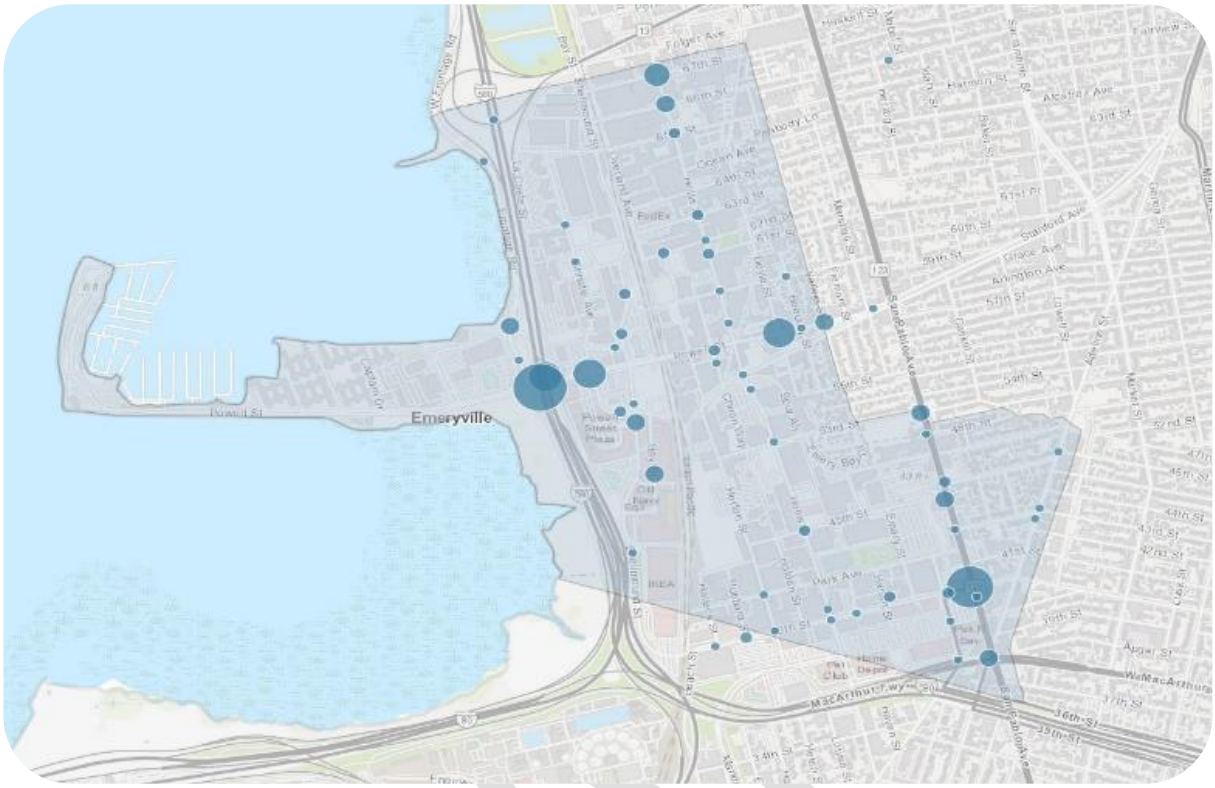


Figure 4: City Limits and Injury Collisions (2019 - 2024)

2.2 Vision and Guiding Principles

The vision and goals for the LRSP are drawn from the City's General Plan and Active Transportation Plan.

The vision statement provided in the Emeryville General Plan Transportation Element expresses a city which is intended for multimodal transportation with an emphasis on safe, comfortable access, and travel for users of all ages and abilities. The City's Active Transportation Plan describes a preference for safe active and sustainable transportation. These two visions are combined for a draft vision for the City's LRSP.

The City of Emeryville is a community where active, sustainable transportation is the easy choice: it is safe, comfortable, equitable, and accessible to all. The design, construction, operation, and maintenance of city streets shall be based on a "complete streets" concept that enables safe, comfortable, and attractive access and travel for pedestrians, bicyclists, motorists, and transit users of all ages and abilities.

The guiding principles provided in the General Plan relevant to the LRSP are paraphrased below:

1. **A connected place**
   Improved connections to the Peninsula; new, secure routes for bikers and pedestrians; and new connections for cars, walkers, and bicyclists between the city's eastern and western sections. Additionally, the Plan aims to expand the options for transportation.

2. **A walkable, fine-grained city, emphasizing pedestrians**
   A walkable and accessible city must have a well-defined grid of streets and blocks. The General Plan encourages walkability by supporting active uses, breaking up large sites into smaller parcels and blocks and creating connections between them, and improving sidewalks, pathways, and streetscapes.

2.3 Goals and Policies

2.3.1 Emeryville General Plan

The Transportation Element of the General Plan contains the following goals relevant to the LRSP for Emeryville's transportation system (see **Table 1**):

Table 1: Goals from Transportation Element, Emeryville General Plan

#	Goals	Description
T-G-1	A comprehensive transportation system	A transportation system that is efficient, safe, removes barriers (e.g. accessibility near freeways and rail lines), and optimizes travel by all modes.
T-G-2	Universally accessible	A transportation system that meets the needs of all segments of the population, including youth, seniors, persons with disabilities, and low-income households.
T-G-3	Multimodal	A transportation system that eliminates the necessity of owning and/or driving personal vehicles because of the availability of convenient and accessible alternative modes of transportation.
T-G-4	A walkable city	A universally accessible, safe, pleasant, convenient, and integrated pedestrian system that provides links within the city and to surrounding communities and reduces vehicular conflicts.
T-G-5	A safe, comprehensive, and integrated bicycle system	A system and support facilities throughout the city that encourage accessible bicycling for all community members.
T-G-6	A safe, efficient, comprehensive, and integrated transit system	A public transit system that allows for a reduction in automobile dependence for residents, employees, and visitors.
T-G-7	A multi-functional street system	A system that will ensure the safe and efficient movement of people, goods, and services and support a high quality of life and economic vitality.
T-G-8	A balanced parking supply system	Parking supply that balances economic development, livable neighborhoods, environmental and energy sustainability, and public safety, while reducing dependence on the automobile.
T-G-9	Safe and efficient movement of goods	Goods movement that supports commerce and industry while maintaining a high quality of life.
T-G-11	Transportation demand management strategies	TDM strategies that decrease single-occupant automobile demand and reduce vehicle miles traveled.

The Transportation Element of the General Plan contains the following policies relevant to the LRSP for Emeryville's transportation system (see **Table 2**):

Table 2: Policies from Transportation Element, Emeryville General Plan

#	Description
T-P-2	The design, construction, operation, and maintenance of city streets shall be based on a "complete streets" concept that enables safe, comfortable, and attractive access and travel for pedestrians, bicyclists, motorists, and transit users of all ages and abilities.
T-P-7	The City shall continue to study and evaluate appropriate traffic and transportation improvements.
T-P-12	The City will plan, upgrade, and maintain pedestrian crossings at intersections and mid-block locations by providing safe, well-marked crosswalks with audio/visual warnings, bulb-outs, and median refuges that reduce crossing widths.
T-P-13	Pedestrian routes will be provided across large blocks, pursuing creative options if necessary, such as purchasing private alleys, designating pathways through buildings, and acquiring public access easements.

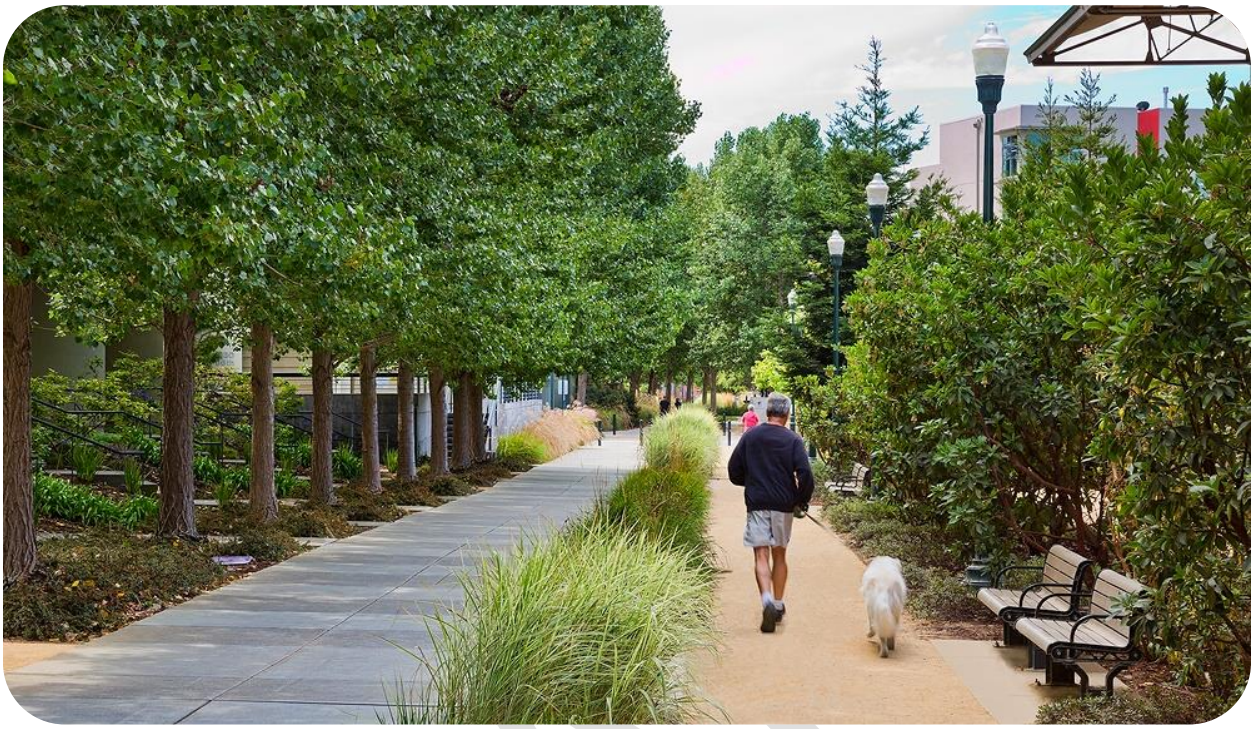
#	Description
T-P-14	Establish Pedestrian Priority Zones in Neighborhood Centers, around schools, and in other locations as indicated in Figure 3-4, where wider sidewalks, street lighting, crosswalks, and other pedestrian amenities are emphasized. Link these zones to adjacent land uses to ensure that building frontages respect pedestrians and truck loading takes place on adjacent streets wherever possible.
T-P-15	Walking will be encouraged through building design and ensure that automobile parking facilities are designed to facilitate convenient pedestrian access within the parking area and between nearby buildings and adjacent sidewalks. Primary pedestrian entries to nonresidential buildings should be from the sidewalk, not from parking facilities.
T-P-16	Safe pedestrian walkways that link to streets and adjacent bus stops will be required of new development.
T-P-17	The City will require new development to minimize the number and width of curb cuts for vehicle traffic to reduce vehicle conflicts with pedestrians.
T-P-26	Bicycling will be promoted through public education, including the publication of literature concerning bicycle safety and travel, health and environmental benefits of bicycling.
T-P-30	The City will undertake a study to enhance transit mobility, including feasibility of transit-only lanes (dedicated, peak-hours only/shared with automobiles at other times, or converted from parking lanes to transit-only during peak hours), especially along congested transit streets, providing walking access from most of the city, and connect major destinations within Emeryville and to BART.
T-P-31	The City will develop and implement transit stop amenities such as pedestrian pathways approaching stops, benches, traveler information systems, shelters, and bike racks to facilitate transit stops as place-making destinations and further the perception of transit as an attractive alternative to driving.
T-P-32	Transit stops will be sited at safe, efficient, and convenient locations, and located appropriately within the right of way.
T-P-33	The City supports transit priority on Transit Streets through features such as traffic signal priority, bus queue jump lanes at intersections, exclusive transit lanes, and other techniques as appropriate, with adjustments to technology as conditions change.
T-P-46	Private developments and major public infrastructure projects will provide adequate rights-of-way for all modes of transportation.
T-P-47	The City supports “traffic calming” and other neighborhood traffic management techniques to enhance the quality of life within existing neighborhoods and to discourage through-traffic on bicycle boulevards and local streets.
T-P-48	The City will establish equal priority to bicycles and public transit (and discourage through-traffic by other modes) on streets in the vicinity of the Amtrak station that are designated as both Transit Streets and Bicycle Boulevards.
T-P-62	Provide adequate off-street loading areas in large commercial, industrial, and residential developments that do not conflict with pedestrian, bicycle, transit, or automobile movements.
T-P-64	The City will work with local, regional and state agencies, the Chamber of Commerce, and the Transportation Management Association, as well as employers and residents, to encourage and support programs that reduce vehicle miles traveled, such as preferential carpool parking, parking pricing, flexible work schedules, and ridesharing
T-P-66	The City supports and encourages the expansion of car-sharing programs in Emeryville.

2.3.2 Emeryville Active Transportation Plan

The Emeryville Active Transportation Plan (ATP) has set the following goals relevant to the LRSP to fulfil the vision of the city being an active sustainable transportation community.

1. **Comfortable**: Easy to Navigate, reducing the risk of serious injury.
2. **Connected**: Integrated within Emeryville and externally to neighboring communities.
3. **Equitable**: Needs of the less resourced are prioritized in project and program planning.

2.3.3 Resolution No. 20-10 Bicycle and Pedestrian Safety



In February 2020, the City Council passed Resolution 20-10 to prioritize bicycle and pedestrian safety. The resolution includes the following goals and objectives.

1. Apply for funding through the State of California' s LRSP program to create a Local Road Safety Plan that provides the framework to systematically identify and analyze safety problems and recommend safety improvements on the city' s streets.
2. Use existing funding sources and identify grant funding sources to support several " quick build" projects addressing pedestrian and bicycle safety based on the results of the Local Road Safety Plan and UC Berkeley SafeTREC Powell Street Corridor Study.
3. Complete an Engineering and Traffic Survey on Bicycle Boulevards to establish 20mph speed limits.
4. Assure completion of existing funded Capital Improvement Program Projects and that address pedestrian and bicycle safety, including the following:
    a) Finalize construction of South Bayfront Bridge and Horton Landing Park.
    b) Finalize construction of ATP Greenway Crossing Improvements Project at 65th, 66th, and 67th Streets.
    c) Finalize construction of two new traffic signal projects at Powell/ Doyle and 40th/ Harlan.
    d) Finalize design and obtain Caltrans permitting for the San Pablo Avenue mid -block crosswalk adjacent to the Avalon senior housing project.
    e) Include appropriate traffic calming measures on Overland Avenue, Horton Street, Doyle Street, 62nd Street, and 59th Street as part of Fiscal Year 2019/ 2020 annual paving project.
    f) Include appropriate traffic calming measures along 45th Street and 53rd Street as part of

Fiscal Year 2020- 2021 annual paving project.

g) Conduct Streetlight Survey and develop City standards.

5. Collaborate with private property developers to maximize the impact of bicycle and pedestrian improvements as a development condition in a manner consistent with the City' s transportation plans and policies.
6. Explore additional and different approaches for enforcement in order to prevent obstructions in bicycle lanes and sidewalks.
7. Identify and pursue funding sources for the Design and Construction of the 40th Street Transit Hub Project which includes a transit only lane with cycle track.
8. Work with AC Transit and the Alameda County Transportation Commission to expedite improvements on San Pablo Avenue to reduce transit travel times and improve bicycle safety.

2.3.4 Traffic Calming

Given the small physical size and densely built out land use and transportation infrastructure of the City of Emeryville, there are limited transportation system improvement options to directly address safety for all transportation system users. The City of Emeryville staff, working with the Transportation and Sustainability Committee and Bicycle/Pedestrian Advisory Committee, review safe streets opportunities through programs and projects to reduce vehicle speeds to improve safety for all road users. Bicycle Boulevards are prioritized for reduced speeds. The City's speed survey program is used to determine appropriate speeds along with State speed limit guidance most recently amended by AB 43, to accommodate high bicycle/pedestrian concentration and business district activity.

2.3.5 Assembly Bill No. 43 (AB 43) Speed Limit Recommendations and City Council Adoption

The California Legislature passed Assembly Bill 43 – Traffic Safety in September 2021, the bill was introduced by Assembly Member Laura Friedman from the 43rd Assembly District in Southern California. The bill changes the process by which engineering and traffic survey studies are prepared by authorizing local agencies to consider the safety of vulnerable pedestrian groups in addition to the traditional speed limit determination process based on prevailing speeds and road conditions. The bill also introduces the ability to establish permanent 15- and 20-MPH speed limits on roads that were historically only implemented as part of special speed zone segments along school routes or senior center areas. The speed limits determined by AB 43 took effect on June 30, 2024.

The City of Emeryville proactively updated their Citywide Engineering and Traffic Survey Study (E&TS), which is now complete and adopted by City Council to include recommendations for further reduction in speed limits to 15-mph and 20-mph along eligible segments. Adoption of AB 43 is in conjunction with the traffic calming efforts applied by the city.

The street segments included in the Citywide E&TS study qualified for the additional five-mph speed reduction per AB 43 are summarized in **Table 3**.

Table 3: Street Segments with AB 43 Adopted Speed Limits

#	Street	Segment Limits	Speed Limit per AB 43 (mph)
1	Horton St	62nd St to 40th St	15
2	Christie Av	65th St to Powell St	20
3	65th St	Hollis St to Vallejo St	20
4	53rd St	Horton St to San Pablo Av	15
5	Park Av	Halleck St to San Pablo Av	20

Several other street segments that were not included in the Citywide speed survey are also eligible for the five-mph speed reduction per AB 43. These street segments will be evaluated as a part of future E&TS cycles. **Table 4** summarizes street segments eligible for further speed reduction per AB 43, pending new engineering and traffic survey study.

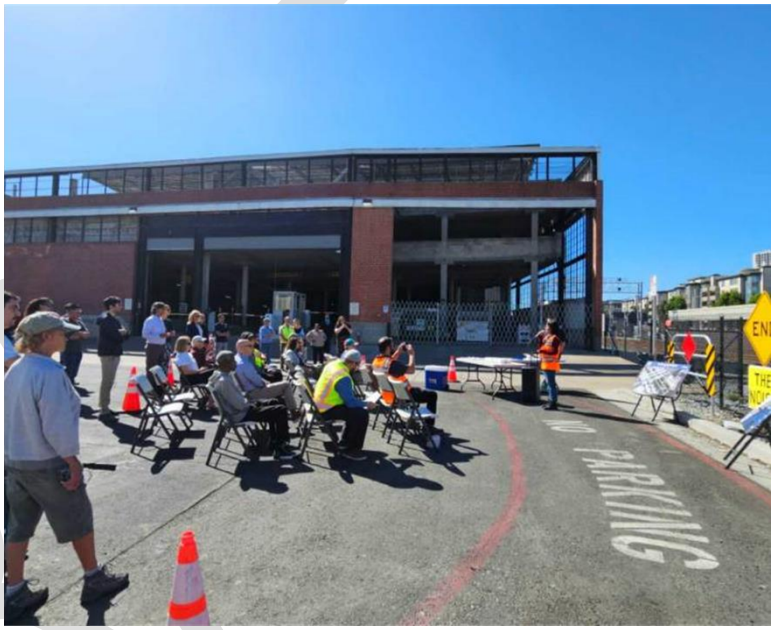
Table 4: Street Segments Eligible for AB 43 Adopted Speed Limits Pending New E&TS Study

#	Street	Segment Limits
1	61st St	Hollis St to Vallejo St
2	Doyle St	Ocean Av to 55th St
3	47th St	Doyle St to Adeline St
4	Shellmound St	63rd St to Christie Av
5	Hollis St	45th St to 40th St
6	Powell St	Captain Dr to I-80 Frontage Rd

2.3.6 Quiet Zone

A Quiet Zone is a section of rail line at least one-half mile in length containing one or more consecutive public highway-rail grade crossings at which locomotive horns are not routinely sounded. Routine sounding can be silenced at specific highway-rail grade crossings after a safety system or procedure established by the appropriate traffic control authority is determined, by the Federal Railroad Administration (FRA), to be an effective substitute for the locomotive horn.

In August 2024, the City of Emeryville implemented a Quiet Zone to add safety measures so that trains do not have to sound their horns as often. The added safety measures include new quad gates, a full street closure at 66th Street, and new traffic signals. Class IV bike lanes were also installed on Shellmound Street as part of the project.



2.4 Guiding Documents

In developing the City of Emeryville's LRSP, the following standards and guidelines were followed:

1. "Local Roadway Safety, A Manual for California's Local Road Owners", Caltrans, Version 1.5, April 2020.
2. 2020-2024 California's Strategic Highway Safety Plan (SHSP), "California Safe Roads: 2020-2024 Strategic Highway Safety Plan", Caltrans.
3. "Local and Rural Road Safety Briefing Sheets: Local Road Safety Plans," Federal Highway Administration, November 2014.
4. "Developing Safety Plans, A Manual for Local Rural Road Owners", Federal Highway Administration, March 2012.
5. "Systemic Safety Project Selection Tool," Federal Highway Administration, 2013.
6. "Highway Safety Manual", American Association of State Highway Officials (AASHTO), 1st Edition, 2014 supplement.
7. "California Manual of Uniform Traffic Control Devices (CA MUTCD)", Revision 8, 2014.

3. METHODOLOGY

The City's LRSP will focus on identifying opportunities to implement safety improvements on local roadways based on analysis of traffic and collision data within the city, as well as guidelines set forth in the Caltrans Strategic Highway Safety Plan and by the Federal Highway Administration (FHWA).

Solutions are anticipated to range in scope from education and enforcement to engineering and infrastructure projects. The plan will incorporate important stakeholders to ensure the data is rounded out with local experience to provide an LRSP that addresses the City's needs.

This project will provide the city with a strategic plan for implementation which will strive to reduce fatalities and serious injuries on public roads, consistent with the goal of the LRSP program.

The LRSP methodology followed the FHWA's LRSP development process as shown in **Figure 5** which illustrates the roadmap created by FHWA and applied to creating the City's LRSP.

Figure 5: FHWA LRSP Process

The following items were the primary steps used to create this plan:

1. **Identify Stakeholders**

    a. *City Staff identified all relevant stakeholders and interested representatives that could have input in the LRSP development process.*

2. Use Safety Data

a. *Past five (5) years collision data was used for the analysis. Collision data from May 8, 2019, to May 7, 2024, was used for the analysis. It should be noted that the city experienced a shortage in staff in the police department in 2023 and the data available through the Statewide Integrated Traffic Records System (SWITRS) and provided by the city was incomplete.*

3. Choose Proven Solutions

a. *FHWA Proven Countermeasures and Caltrans safety countermeasures will be used in the mitigation of collision trends and risk characteristics.*

4. Implement Solutions

a. *Projects were identified for specific locations and system-wide.*

3.1 Stakeholder Identification and Engagement

A project such as this requires establishing the leadership and stakeholders responsible for contributing to the plan. Involving stakeholders in the decision-making process is essential because it enables thoughtful consideration and input from interested parties. Stakeholders can provide local authorities with insightful thoughts, observations, and relevant viewpoints regarding the needs and performance of the transportation system because they are regular users of it. Stakeholders may be able to identify important hotspots and safety zones by participating in the LRSP development process.

An established working group with important players from the "5E's" of highway safety, engineering, enforcement, education, emergency response, and emerging technologies—is emphasized as being crucial by the FHWA. The City of Emeryville and the Iteris Team will schedule and coordinate four stakeholder meetings to gather feedback on transportation safety in the City of Emeryville from stakeholders in order to address this crucial component.

Per the City's direction, the meetings will be held with the following stakeholders:

- Bicycle/Pedestrian Advisory Committee (BPAC) (two meetings)
- Transportation Committee (two meetings)

The following stakeholders were identified for input in the overall development of the plan.

- Emeryville Bicycle/Pedestrian Advisory Committee (BPAC)
- Emeryville Transportation and Sustainability Committee
- Escuela Bilingüe Internacional (EBI) School
- AC Transit
- Emeryville City Council
- Caltrans
- Alameda County Transportation Commission (ACTC)
- East Bay German International School
- Emeryville-AC Transit Interagency Liaison Committee (ILC)
- Emery Go-Round
- ECCL Schools

Obtaining support from the stakeholders on the plan's implementation is crucial, as many safety countermeasures involve engineering, enforcement, and emergency response.

3.2 Use Safety Data

Relevant background information, data and documents were gathered during the background review and safety data analysis effort.

Following gathering of the data from the city and relevant data sources, the data was collated and organized to locate the City's collision "hot spots" or emphasis areas (i.e. corridors, intersections, etc.).

This analysis will narrow down the data to key emphasis areas which are then analyzed with much finer detail to determine collision causes and other collision factors contributing to the safety of the location. The approach to the data review is illustrated by the simple flowchart shown in **Figure 6**.

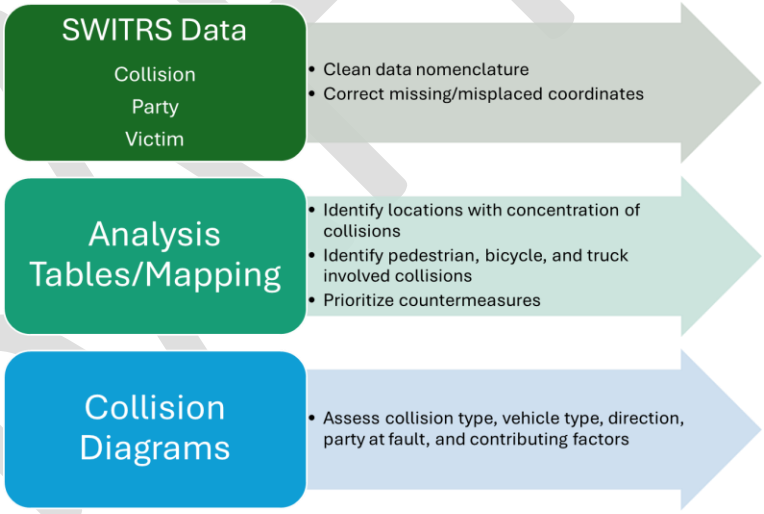


Figure 6: Collision Data Analysis Process

4. ANALYZE AVAILABLE AND SAFETY DATA

The gathered data was reviewed and organized to successfully use for the determination of emphasis areas and countermeasures.

There are several safety projects and programs that are currently in progress, nearly complete, recently completed or will begin in the near future. Some of these projects include:

1. 40th Street Multimodal Project (Phases I and II)
2. Hollis Street Sustainable Streetscape Project
3. The Emeryville Loop Project
4. Quiet Zone at 65th, 66th, and 67th Street At-Grade Crossings
5. San Pablo Avenue Corridor Bus-Bike Lanes Project
6. MTC I-80/Powell Street Interchange Transit Access Improvements
7. Annual Street Rehabilitation and Preventive Maintenance Project
8. Shellmound Street Paving Project
9. Capital Street Improvements Project (CIP)
10. Various Development Projects including 5063 Bay Street Grocery Store Development and Sherwin-Williams Mixed-Use Development

The City of Emeryville is proactively implementing various safety policies/guidelines from their General Plan and Active Transportation Plan (ATP) for traffic safety, pedestrian and bicycle improvements.

Generally, these projects install new or modify existing traffic signals, upgrade transit, pedestrian and bicycle facilities, and upgrade existing pavement and streetscape.

This section summarizes the data collected and evaluated including ongoing, upcoming, and completed projects as a part of the background review and safety analysis task.

4.1 On-going, Upcoming, Completed Projects

As aforementioned, numerous initiatives and programs run by the city are either under way, almost finished, finished recently, or about to start. ***The City's 2023 ATP includes plans for cycling, pedestrian, and traffic safety at most of the City's corridors and crossings.*** Given the size of the city, several safety measures tie-in with development projects and the City of Emeryville's annual CIP program. The LRSP can identify and close any gaps in existing research by reviewing ongoing and planned studies. It will also suggest potential low-cost safety projects that qualify for grant funding or enhancements from other sources.

Some of the on-going, planned, and in construction studies and efforts include:

#	Corridor/Intersection	Segment Limits	Project Status	Improvements
1	Horton St	45th St to 53rd St	Completed	Bike lanes are sidewalk grade to constrain roadway, traffic diverter, speed feedback signs, and speed humps
2	65th St	La Coste St to Vallejo St	On-going Construction	Speed cushions
3	66th St	Shellmound St to Vallejo St	On-going Construction	Speed cushions
4	67th St	Shellmound St to Emeryville Greenway	On-going Construction	Speed cushions
5	Hollis St	40th St to Powell St	On-going Construction	Curb bulb-outs, bus-bulbs, closure of eastbound right-turn slip lane
6	Shellmound St	62nd St to Berkeley Border	Completed	Class IV bike lanes
7	40th St	Adeline St to Christie Av	On-going Study/Under Caltrans Coordination Process/Anticipated Construction in 2026	Refer to 40th St Multimodal Project – Class IV bike lanes, pedestrian and transit improvements
8	Christie Av, Shellmound St, Shellmound Wy	-	Emeryville Loop – On-going Study scoped for 35% design	Build two-way cycle track and bus lanes around the streets of commercial core – Christie Av, Shellmound St, and Shellmound Wy, one portion is already one-way coming out of Trader Joes, remove oncoming traffic counterclockwise
9	Powell St	Frontage Rd to Marina Park	Planning Stage	Class IV bike lanes from Frontage Rd to tip of Marina
10	Horton St	-	On-going Study	Class IV bike lanes
11	Horton St	Stanford Av to 65th St	On-going Construction	Repaving Class IV bike lanes
12	Powell St/I-80 Interchange	-	On-going Study/Design Stage	Bus Lane in the westbound direction and pedestrian curb ramps
13	Frontage Rd	Point Emery Ln to Powell St	No Design	Median divider concept

Appendix A summarizes all relevant projects, recommended improvements, and construction/study status by corridor and intersection.

4.2 Traffic Volumes

Traffic volumes at corridors and intersections are crucial when evaluating collision data. Average Daily Traffic (ADT) volumes are used to determine crash rates along the corridors and compare them to the statewide average crash rate using the most recent or relevant Caltrans manual for Crash Data on California State Highways. This analysis uses the 2019 manual for comparison.

ADT data was collected from previous studies and relevant documents provided by the city staff. Some of these studies are provided below.

1. Hollis Street Retiming (data collected in 2022)
2. 40th Street Multimodal Project (data collected in 2019)
3. Citywide Engineering and Traffic Survey (E&TS) (data collected in 2023)
4. MTC PASS Project and IDEA Grant Project (data collected in 2017)
5. Other ADT data provided by the city (data collected in 2017 and 2019)
6. 5063 Bay Street Grocery Store Development (data collected in 2017 and 2018)
7. Sherwin-Williams Mixed-Use Development (data collected in 2015)

Intersection approach turning movement counts were utilized for estimation of ADT volumes along corridors/segments that did not have any ADT data.

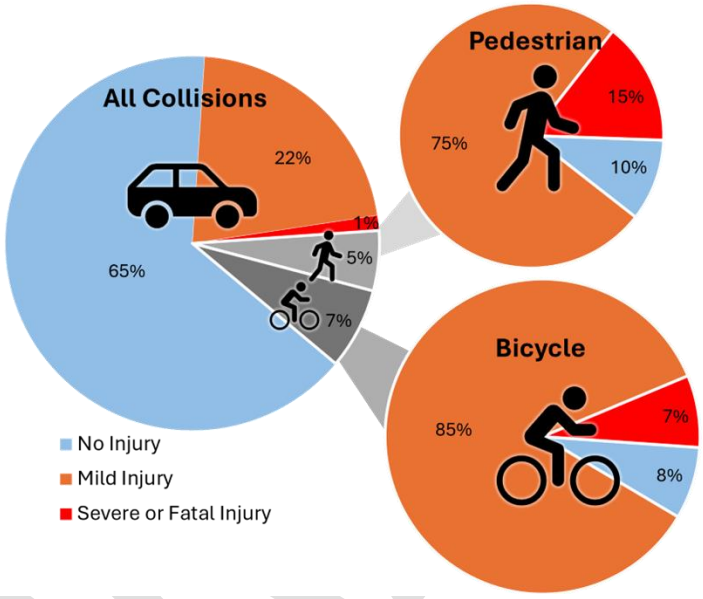
No ADT data or intersection turning movement counts were available for the following corridors:

1. 56th Street
2. 43rd Street
3. West MacArthur Boulevard
4. Peladeau Street
5. 66th Street
6. Point Emery Lane
7. 61st Street
8. 63rd Street
9. 46th Street
10. Peralta Street
11. 47th Street
12. Commodore Drive
13. Vallejo Street
14. Watts Street
15. 41st Street

4.3 Collision Analysis

The City of Emeryville collision data was gathered using collisions from the SWITRS collision database. The data set contains five complete years' worth of collisions spanning from May 8, 2019, to May 7, 2024. It should be noted that the city experienced a shortage of staff in the police department in 2023 and the data available through the SWITRS database and provided by the city was incomplete.

During this period, a total of 385 collisions were reported in the City of Emeryville. These collisions were classified based on location: intersection and corridor segment. Collisions involving vulnerable users had a much higher proportion of injury and fatal/severe injury outcomes. Collisions involving a pedestrian or bicyclists were only 12 percent of collisions but 50 percent of fatal or severe outcome collisions citywide.



Emeryville, partially due to its small physical size, lack of wide roadways, and high development density has relatively low overall levels of collisions, however the rate of vulnerable user injury is similar to other nearby Cities. Vulnerable user injuries due to transportation system collisions compose 30 percent of total injuries, a rate between that of Oakland 22 percent, and Berkeley at 39 percent. Similarly, fatal collision outcomes for vulnerable users as a percentage of total injuries for Emeryville (0.7 percent) is between that of Oakland at 1.1 percent and Berkeley at 0.6 percent. Based on analysis by the California Office of Traffic Safety, Emeryville ranked as in the top quarter of peer cities (104 cities with populations between 10,000 and 25,000) in terms of transportation system injuries and fatalities. However, due to low speeds within the City, the severity of injuries tends to be lower as compared to peer cities.

4.3.1 Collision Trends (Annual/by Severity and Mode)

Figures 7 and **8** illustrate the annual collisions in the city during the data evaluation period by severity and mode of travel, with the highest number of collisions recorded in 2022 with four severe injuries and fatal collisions. The only recorded fatal collision occurred in 2021 at the intersection of 40th Street and Hubbard Street. The collision was a head-on collision with a fixed object, by a motor cyclist under the influence.

There were 20 pedestrian-related and 27 bicycle-related collisions during the data analysis period.

Figure 7: Annual Collisions by Year (May 2019 – May 2024)

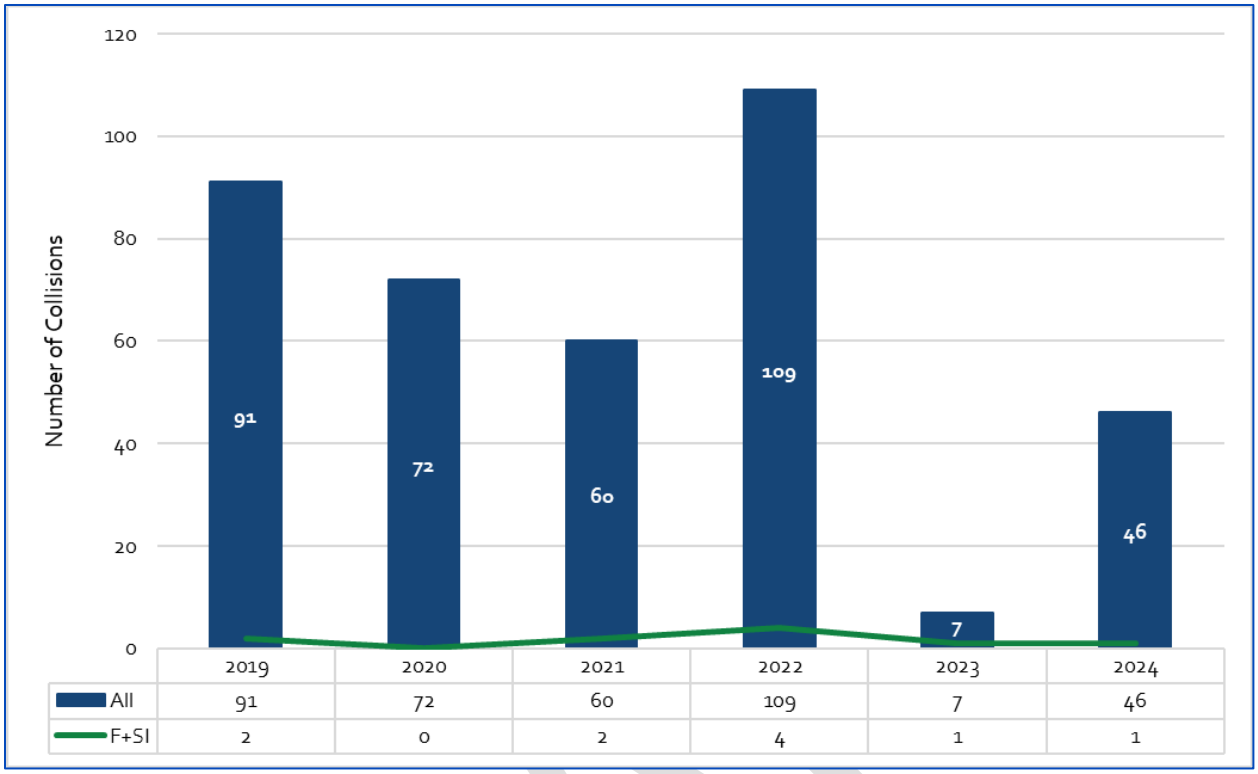
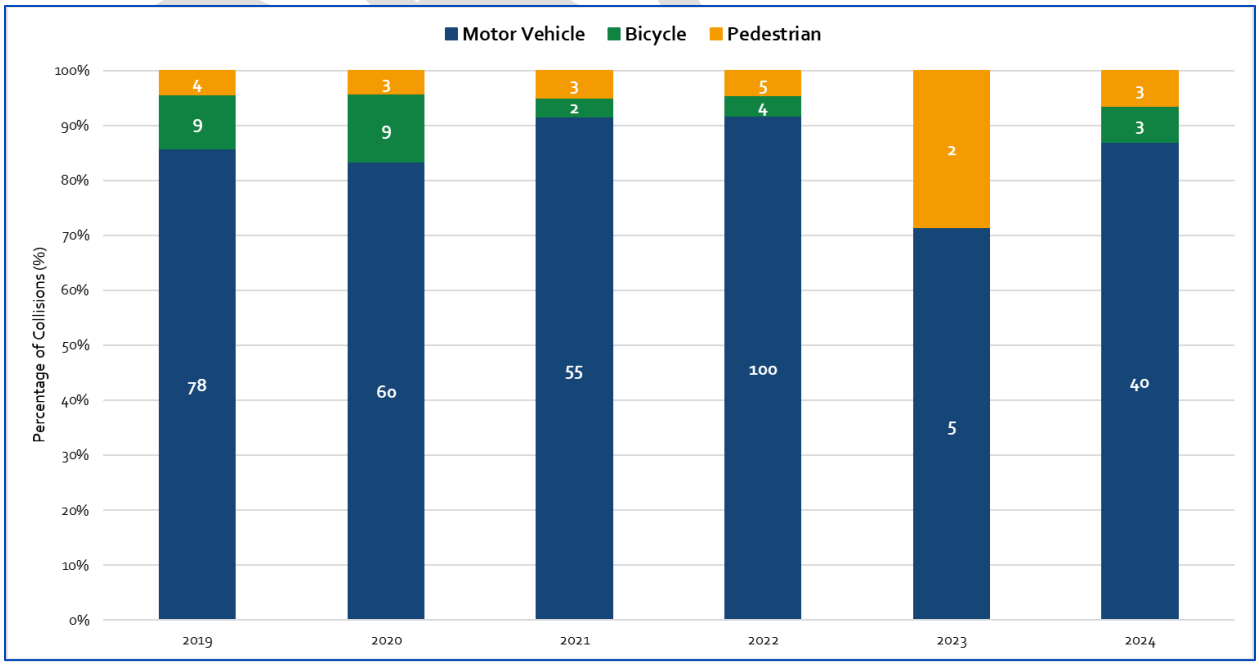


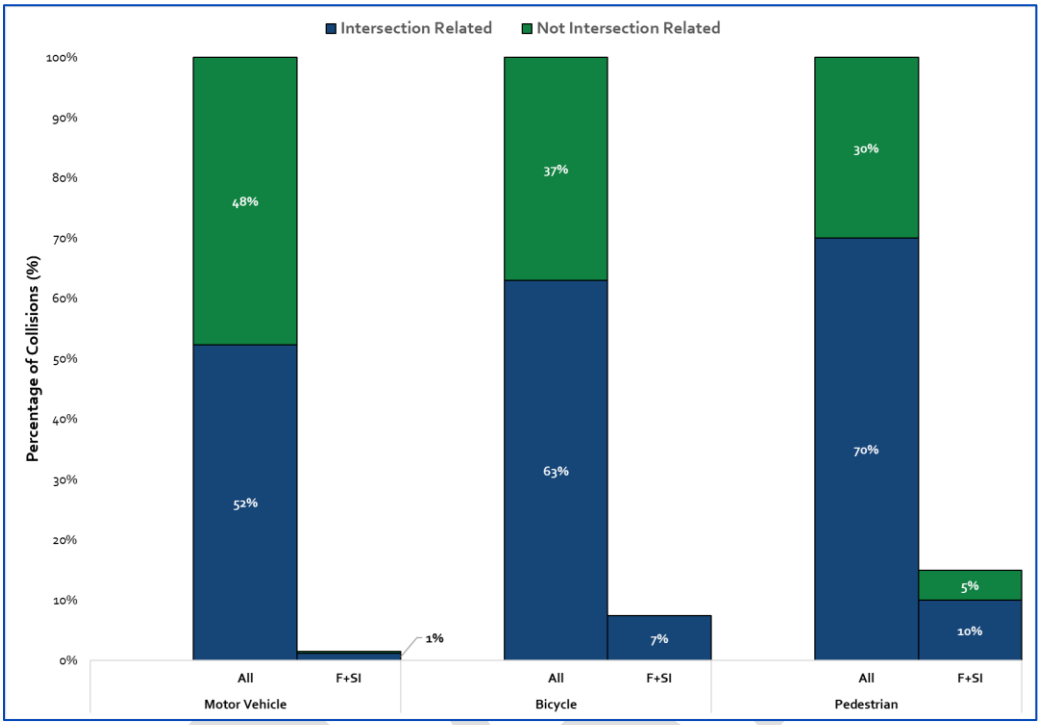
Figure 8: Annual Collisions by Year and Mode (May 2019 – May 2024)

There were 208 intersection related collisions and 177 non-intersection related collisions (midblock, driveways or traffic/light poles) between May 2019 and May 2024. **Figure 9** illustrates collisions by intersection and mode.



Of the 208 collisions at intersections, 14 involved pedestrians and 17 involved bicycles. Of the 177 collisions that did not occur at intersections, six (6) involved pedestrians and ten (10) involved bicycles.

Figure 9: Collisions by Location and Mode



4.3.2 Type of Collisions

Evaluation of the type of collisions helps identify collision patterns and traffic/travel behavior in the city which will lead to effective safety countermeasures. High number of rear-end collisions indicate speeding within the city, whereas high number of broadside collisions reflect nonadherence to existing traffic control devices, improper turning decisions and/or insufficient traffic signal timing settings. Sideswipe collisions could be attributed to distracted or aggressive driving, merging and lane switching, and driving under the influence.

As illustrated in **Figure 10,** sideswipe collisions were the most common type of collisions within the city, followed by broadside collisions and rear end collisions.

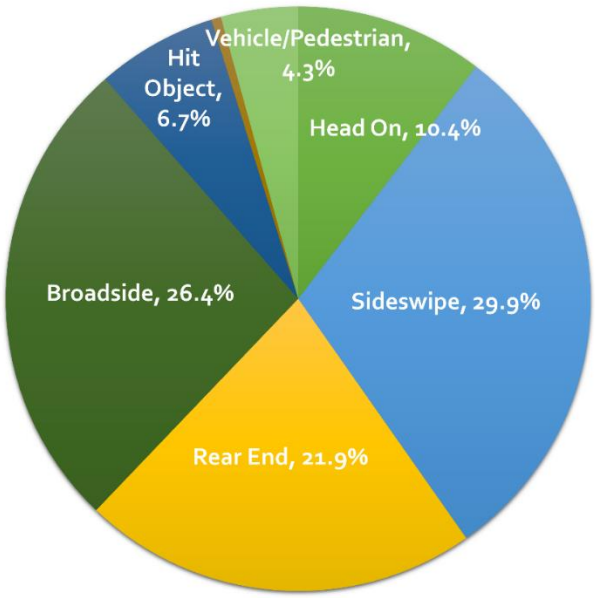


Figure 10: Type of Collisions (May 2019 – May 2024)

4.3.3 Pedestrian/ Bicycle Collisions

There were 20 pedestrian-involved and 27 bicycle-involved collisions in the city between May 2019 and May 2024. Pedestrian-involved collisions occurred in the following corridors as summarized in **Table 5**.

Table 5: Pedestrian Collisions (Corridors)

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Pedestrian-Involved Collisions	F+SI
1a	Powell St	Vallejo St	Frontage Rd	4	0
2	San Pablo Av	53rd St	36th St	3	0
8	Bay St	Christie Av	Ohlone Wy	2	0
10	Emery St	Park Av	MacArthur Bl	2	1
3a	Hollis St	Yerba Buena Av	Powell St	1	1
3b	Hollis St	Powell St	67th St	1	0
4a	Shellmound St	67th St	Christie Av	1	0
4b	Shellmound St	Christie Av	40th St	1	1
5	40th St	East of Adeline St/City Limit	Hubbard St	1	0
11a	45th St	Horton St	San Pablo Av	1	0
17	Horton St	62nd St	40th St	1	0
20	61st St	Hollis St	Vallejo St	1	0
32	West MacArthur Bl	Watts St	East of San Pablo Av/City Limit	1	0

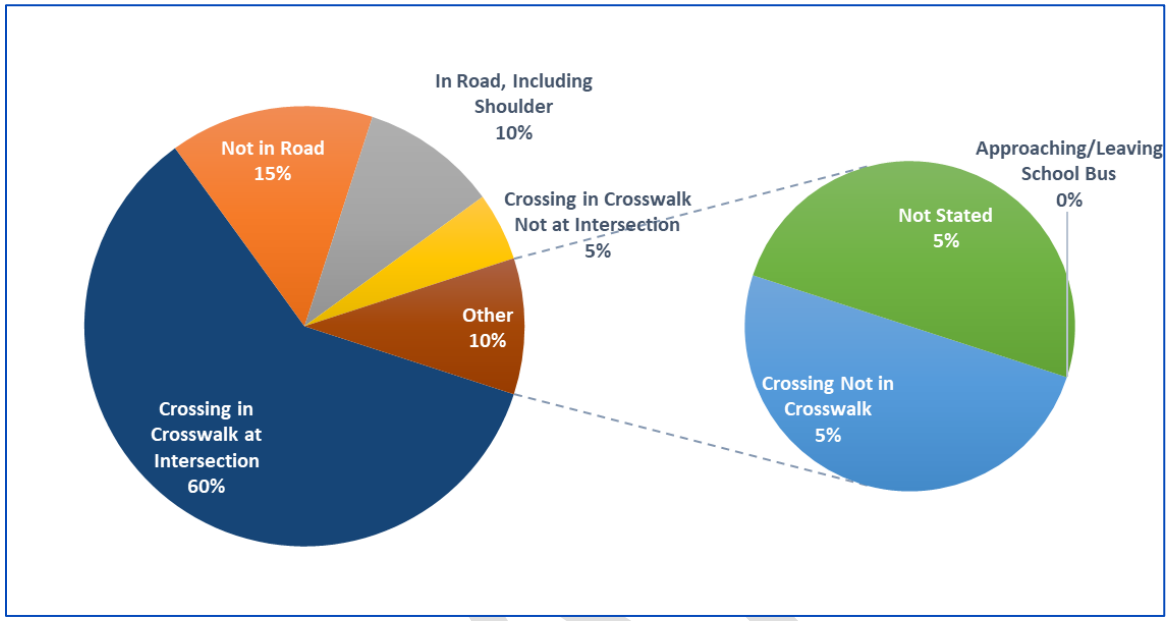
Bicycle-involved collisions occurred along the following corridors as summarized in **Table 6**.

Table 6: Bicycle Collisions (Corridors)

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Total Bicycle Collisions	F+SI
1a	Powell St	Vallejo St	Frontage Rd	5	1
2	San Pablo Av	53rd St	36th St	4	0
3a	Hollis St	Yerba Buena Av	Powell St	3	0
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	3	0
4a	Shellmound St	67th St	Christie Av	2	0
5	40th St	East of Adeline St/City Limit	Hubbard St	2	0
8	Bay St	Christie Av	Ohlone Wy	1	0
4b	Shellmound St	Christie Av	40th St	1	0
20	61st St	Hollis St	Vallejo St	1	0
12	Adeline St	47th St	36th St	1	0
18b	62nd St	Overland Av	Vallejo St	1	0
22	43rd St	San Pablo Av	East of Adeline St/City Limit	1	0
24	Peladeau St	59th St	Stanford Av	1	0
35	67th St	Shellmound St	East of Emeryville Greenway/City Limits Cir	1	1

Pedestrian collisions were further evaluated based on the location of the pedestrian at the time of the collision. Approximately, 60 percent of the pedestrian collisions (12 collisions out of 20) occurred when pedestrians were crossing in crosswalk at an intersection, as illustrated in **Figure 11.**

Figure 11: Collisions by Pedestrian Action



4.3.4 Corridor Collisions by Primary Collision Factor (PCF)

The collision data was further analyzed to identify prevalent PCFs along the corridors. This analysis includes collisions that occurred along a corridor at a distance greater than 200 feet from intersections, collisions with utilities, and at driveways. Identifying collisions along the corridor by PCF allows us to recommend corridor-specific countermeasures. **Appendix B** summarizes all collision data by corridor by PCF.

Table 7 summarizes corridors with five or more collisions citywide between May 2019 and May 2024. Unsafe speed and improper turning were the most prevalent causes of collisions in the city.

Table 7: Corridor Collision Analysis by Primary Collision Factor (PCF)

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Total Collisions	F+SI	Prevalent PCFs
2	San Pablo Av	53rd St	36th St	10	0	Unsafe speed, unsafe lane change
4a	Shellmound St	67th St	Christie Av	9	0	Automobile right-of-way, unsafe starting or backing, bike
5	40th St	East of Adeline St/City Limit	Hubbard St	9	2	Unsafe speed, wrong side of road
3b	Hollis St	Powell St	67th St	7	1	Improper turning
6b	Christie Av	Powell St	Bay St Parking Garage	7	0	Wrong side of road
1a	Powell St	Vallejo St	Frontage Rd	6	2	Improper turning

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Total Collisions	F+SI	Prevalent PCFs
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	6	0	Unsafe speed, bike
4b	Shellmound St	Christie Av	40th St	5	1	Unsafe speed, improper turning

4.3.5 Intersection Collisions by Primary Collision Factor (PCF)

Similar to the corridor analysis conducted above, **Tables 8** and **9** summarize signalized and unsignalized intersections, respectively, with five or more collisions citywide between May 2019 and May 2024 along with the most prevalent PCFs at each intersection. This analysis includes collisions that occurred at or near an intersection at a distance less than 200 feet. **Appendix B** summarizes all collision data by intersection by PCF.

Unsafe speed, improper turning, automobile right-of-way and traffic signs and signals were the most prevalent causes of collisions at the signalized intersections.

Unsafe speed, improper turning, automobile right-of-way and unsafe starting and backing were the most prevalent causes of collisions at unsignalized intersections.

Table 8: Intersection Collision Analysis by PCF (Signalized)

ID	Cross Street A	Cross Street B	Total Collisions	F+SI	Prevalent PCFs
1	Powell St	Christie Av	25	0	Unsafe speed, unsafe lane change, improper turning, automobile right-of-way, traffic signals and signs
2	Powell St	Rt 80	22	0	Unsafe speed, improper turning, traffic signals and signs, bike
3	San Pablo Av	40th St	17	0	Unsafe speed, unsafe lane change, improper turning, traffic signals and signs, pedestrian
5	Powell St	Doyle St	11	2	Unsafe speed, automobile right-of-way, traffic signals and signs
4	Shellmound St	Christie Av	10	0	Unsafe speed
6	Hollis St	67th St	10	1	Automobile right-of-way, traffic signals and signs
7	Frontage Rd	Powell St	9	0	Unsafe lane change, improper turning, automobile right-of-way
8	40th St	Emery St	6	0	Unsafe speed, unsafe lane change, improper turning, automobile right-of-way
11	40th St	Harlan St	6	0	Unsafe speed
12	Frontage Rd	Access Rd/Rt 80	6	0	No prevalent PCF
15	Bay St	Ohlone Wy	6	0	Unsafe speed
16	Powell St	Towers Access Rd	5	0	No prevalent PCF
18	Hollis St	65th St	5	0	Improper turning
19	San Pablo Av	53rd St	5	0	No prevalent PCF

Table 9: Intersection Collision Analysis by PCF (Unsignalized)

ID	Cross Street A	Cross Street B	Total Collisions	F+SI	Prevalent PCFs
13	Powell St	Peladeau St	7	0	Improper turning
10	Hollis St	66th St	6	1	Automobile right-of-way

4.3.6 Corridor Crash Rate Analysis

The total collisions along each corridor were used to determine the crash rate per million vehicle miles and compared to the statewide average crash rate for similar segments obtained from Caltrans 2019 Crash Data on California State Highways (road miles, travel, crashes, crash rates). This analysis identifies locations with safety concerns, by concentrating on corridors having a higher crash rate than the state average along corridors with comparable characteristics. The analysis evaluates all collisions along the corridor including those at signalized and unsignalized intersections.

The analysis uses the following formulae.

Number of Years of Collision Data	5
Million Vehicle Miles (MVM)	(AADT*segment length*365*number of years)/1,000,000
Crash Rate	Total Number of Crashes/MVM

Appendix C compares the corridor crash rates with the statewide average for all corridors with collisions within the city.

It should be noted that recent ADT data was not available at several corridors and an estimate determined through other data sources was utilized for the analysis. Corridors where historical data was available did not exceed the statewide average crash rate.

4.3.7 Intersection Crash Rate Analysis

Intersection crash rates were evaluated for all intersections with a history of collisions, similar to the corridor crash rate analysis. Then, possible locations with safety concerns were identified by comparing the collision rates at each intersection to the city average.

The analysis uses the following formula.

Number of Years of Collision Data	5
Crash Rate	(Total Crashes / Number of Years) / (Average Daily Traffic Entering Intersection)*1,000,000

It should be noted that this analysis was only conducted for intersections with available historical intersection turning movement count data. **Appendix C** compares the intersection crash rates with the citywide average for all intersections with a collision history within the city. The analysis evaluates all collisions at or near signalized and unsignalized intersections.

The following intersections have a collision rate higher than the citywide average of 67 crashes per million vehicle entries:

Table 10: Intersections with Crash Rates Higher than Citywide Average

ID	Cross Street A	Cross Street B	Total Collisions
1	Powell St	Christie Av	29
2	Powell St	Rt 80	22
3	San Pablo Av	40th St	19
4	Shellmound St	Christie Av	13
5	Powell St	Doyle St	11
6	Hollis St	67th St	10
7	Frontage Rd	Powell St	10
8	40th St	Emery St	8
9	San Pablo Av	45th St	8
11	40th St	Harlan St	7
14	40th St	Horton St	6
15	Bay St	Ohlone Wy	6
17	Hollis St	59th St	5
18	Hollis St	65th St	5
34	Christie Av	Bay St	3
52	Shellmound St	64th St	2
66	Horton St	53rd St	1
85	Park Av	Halleck St	1

5. ADDITIONAL SAFETY ACTION PLAN TO CONSIDER (SS4A COMPLIANCE)

5.1 Geographic Designations

Effective and equitable solutions for road safety is the priority for the City of Emeryville, considering the higher risk of traffic-related injuries and fatalities that marginalized and underprivileged communities experience. In order to better inform the solutions that will be proposed through the plan, the equity analysis in this chapter provides information on the location and size of marginalized populations. The American Community Survey (ACS) provided the data used in this equity analysis. Data was collected for the topics in **Figure 12** and summarized in this section. In order to establish fair solutions, it is imperative to identify groups of concern and solicit public feedback. For example, due to budgetary constraints, low-income groups could need more transportation accommodation. This is especially crucial if a sizable portion of households in this area don't own any vehicles. Outreach conducted for the 40th Street Multimodal Project has shown that 40% of the population in the project study area lived in Environmentally Burdened Disadvantaged Census Tracts and expressed concerns about barriers to walking and rolling along 40th Street and Bay Trail access points at arterial streets. Communities who walk, ride, or use transit to commute will significantly benefit from filling in the gaps and enhancing the safety of the current cycling and pedestrian infrastructure.

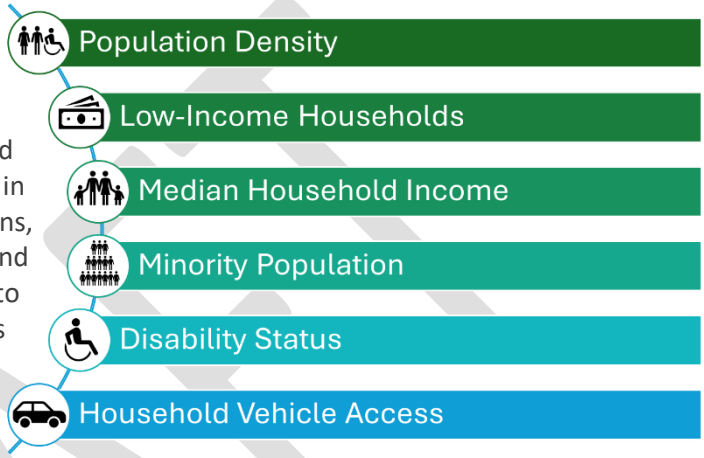


Figure 12: Equity Index Factors

5.1.1 Population Density

The total population of City of Emeryville per the 2020 Decennial Census was 12,905. The median age range in Emeryville is 35 to 36 years of age. 12 percent of the population in Emeryville is older than 65 years of age. The majority of those 65 years of age and over live in the eastern part of the city, east of Frontage Road.

5.1.2 Low-Income Households

12.2% of all households in Emeryville fall under low-income households with the majority being people 65 years and older. Most low-income households are located on the northeast side of the city.

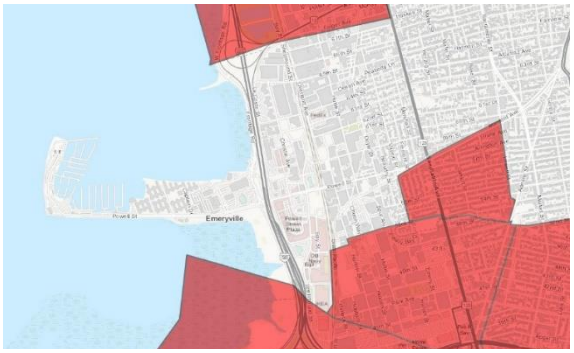


Figure 13: SB 535 Disadvantaged Communities (2022 Update)

5.1.3 Median Household Income

The median household income in Emeryville is $114,345 which is above the California median household income. The federal poverty line for single person household is approximately $15,000 and for a family of three, which is the average family size in Emeryville, it is approximately $26,000. 9.6 percent of the population in the City of Emeryville lives in poverty.

5.1.4 Minority Population

Senate Bill 535 (De León, Statutes of 2012) directed that at least a quarter of the proceeds from the California Climate Investments go to projects that provide a benefit to disadvantaged communities and at least 10 percent of the funds go to projects located within those communities. The minority population in Emeryville is mostly concentrated on the eastern and southern side of the city, based on the SB 535 Disadvantaged Communities (2022 Update), and illustrated in **Figure 13**.

5.1.5 Disability Status

Nearly 8.4 percent of the total population in Emeryville has some form of disability, with the majority having some form of ambulatory difficulty.

5.1.6 Household Vehicle Access

Households that do not have access to a vehicle are located towards the center of the City near Emeryville downtown. Most households on the eastern side of the city have access to at least one vehicle.

5.1.7 Designations

There are Federal, State and regional designations for communities based on US Census Data and other relevant sources. The federal Historically Disadvantaged Communities and Areas of Persistent Poverty defines the majority of Census Tracts in the City as being Areas of Persistent Poverty.

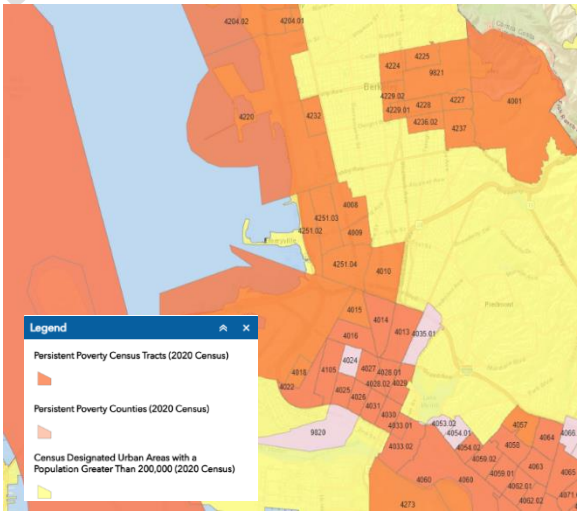


Figure 14: Areas of Persistent Poverty

The State of California Office of Environmental Health and Hazard Assessment developed a Communities Environmental Health Screening Tool: CalEnviroScreen 4.0 was released in October 2021. CalEnviroScreen is a screening methodology that can be used to help identify California communities that are disproportionately burdened by multiple sources of pollution. The tool defines the Census Tracts in the City as in the 56th percentile or lower for pollution burden but does define Census Tract 425104 (3,650 residents immediately north of I-580) as an SB 535 Disadvantaged Community.

The Metropolitan Transportation Commission (MTC) adopted an Equity Platform in January 2023 based on a commitment to meaningfully reverse disparities in access and dismantle systemic exclusion. This platform builds on previously defined Equity Priority Communities based on population and household data. One Census Tract in the City of Emeryville is defined as an Equity Priority Community: 425104 (3,650 residents immediately north of I-580).

6. EMPHASIS AREAS AND COUNTERMEASURES

6.1 Emphasis Area Identification

With the thorough evaluation of available collisions, Iteris has a solid understanding of the most common collision locations, roads, and significant collision trends and issues, along with the hotspots for collisions involving bicycles and pedestrians. Based on the analysis conducted in previous sections review of the City of Emeryville's vision, goals, and policies, the following emphasis areas were selected.

1. Corridor Collision History
2. Intersection Collision History
3. Speeding
4. Pedestrian Safety
5. Bicycle Safety

Additionally, given the size of the city, Iteris followed a citywide reactive approach and evaluated collisions at all corridors and intersections to identify collisions rectifiable by potential countermeasures.

Appendix D summarizes collisions rectifiable by potential countermeasures at all corridors and signalized/unsignalized intersections in the city.

6.1.1 Corridor Collision History

Based on the analysis conducted in previous sections, the following corridors experienced the most crashes in the city, including all collisions at or near intersections, driveways and utilities. **Table 11** summarizes the top ten corridors with the highest collision history in the city.

Table 11: Corridor Collision History (Top 10)

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Collisions at/near Intersection	Collisions not at/near Intersection	Pedestrian Collisions	Bicycle Collisions	F+SI	Total Collisions
1a	Powell St	Vallejo St	Frontage Rd	63	6	4	5	2	69
2	San Pablo Av	53rd St	36th St	31	10	3	4	0	41
5	40th St	East of Adeline St/City Limit	Hubbard St	24	9	1	2	3	33
3b	Hollis St	Powell St	67th St	24	7	1	0	1	31
4a	Shellmound St	67th St	Christie Av	12	9	1	2	0	21
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	14	6	0	3	0	20
6a	Christie Av	65th St	Powell St	14	1	0	0	0	15
1b	Powell St	Frontage Rd	Marina Park/City Limit	10	4	0	0	0	14
6b	Christie Av	Powell St	Bay St Parking Garage	7	7	0	0	0	14
4b	Shellmound St	Christie Av	40th St	8	5	1	1	1	13

6.1.2 Intersection Collision History

Table 12 summarizes the top ten intersections with the highest collision history in the city, including all collisions at or within 200 ft of the intersection.

Table 12: Intersection Collision History (Top 10)

ID	Cross Street A	Cross Street B	Traffic Control	Pedestrian Collisions	Bicycle Collisions	F+SI	Total Collisions
1	Powell St	Christie Av	Signal	1	1	0	25
2	Powell St	Rt 80	Signal	1	2	0	22
3	San Pablo Av	40th St	Signal	2	1	0	17
4	Shellmound St	Christie Av	Signal	1	0	0	10
5	Powell St	Doyle St	Signal	1	1	2	11
6	Hollis St	67th St	Signal	0	1	1	10
7	Frontage Rd	Powell St	Signal	0	1	0	9
13	Powell St	Peladeau St	Two-Way Stop	0	0	0	7
10	Hollis St	66th St	Two-Way Stop	0	0	1	6
12	Frontage Rd	Access Rd/Rt 80	Signal	0	1	0	6

6.1.3 Speeding

The primary factor in the majority of the collisions within the City of Emeryville is unsafe speeds. Unsafe speed was the primary collision factor in 82 collisions out of 385 total collisions over five years or approximately 21%. The City of Emeryville staff, working with the Transportation and Sustainability Committee and Bicycle/Pedestrian Advisory Committee, actively review safe streets opportunities through programs and projects to reduce vehicle speeds to improve safety for all road users. Through the City's speed survey program, the most recently amended by AB 43 guidance for lowering speed limits to accommodate high bicycle/pedestrian concentration and business district activity, is being reviewed and implemented. Emphasis in lowering traffic speeds within the city is a vital part of its goals and vision. **Table 13** summarizes the top ten corridors with the highest number of unsafe speed collisions.

Table 13: Corridors with Speed-Related Collisions

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Speed Related Collisions
5	40th St	East of Adeline St/City Limit	Hubbard St	16
1a	Powell St	Vallejo St	Frontage Rd	10
2	San Pablo Av	53rd St	36th St	10
3b	Hollis St	Powell St	67th St	4
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	4
1b	Powell St	Frontage Rd	Marina Park/City Limit	4
4b	Shellmound St	Christie Av	40th St	4
6b	Christie Av	Powell St	Bay St Parking Garage	3
3a	Hollis St	Yerba Buena Av	Powell St	3
4a	Shellmound St	67th St	Christie Av	2

6.1.4 Pedestrian Safety

There were a total of 20 pedestrian-related collisions within the City between May 2019 and May 2024. Most pedestrian-related collisions occurred when a pedestrian was crossing in a crosswalk, which is approximately 60% of the total pedestrian related collisions. Pedestrian safety is vital to the development of this LRSP in accordance with the City's vision, goals, and policies and Resolution No. 20-10 which prioritizes bicycle and pedestrian safety. **Table 14** summarizes all intersections and mid-block crosswalks within the city with pedestrian collisions. Note each of these locations have signalized or signage control

to stop vehicles.

Table 14: Locations with Pedestrian Collisions

ID	Cross Street A	Cross Street B	Traffic Control	Pedestrian Collisions
3	San Pablo Av	40th St	Signal	2
45	Hollis St	45th St	Signal	2
1	Powell St	Christie Av	Signal	1
2	Powell St	Rt 80	Signal	1
4	Shellmound St	Christie Av	Signal	1
5	Powell St	Doyle St	Signal	1
15*	Bay St	Ohlone Wy	Signal	1
17	Hollis St	59th St	Signal	1
19	San Pablo Av	53rd St	Signal	1
47	Shellmound St	IKEA Exit	Signal	1
50	West Macarthur Bl	Emery St	Signal	1
27	Powell St	Vallejo St	Two-way Stop Control	1
36	Horton St	62nd St	One-Way Stop Control	1
37	61st St	Hollis St	One-Way Stop Control	1
-	Emery St	Nordstorm Rack Dwy Crosswalk	One-Way Stop Control	1

Notes:

- Bay St/Ohlone Wy was recently signalized. Collision occurred prior to signalization.

6.1.5 Bicycle Safety

As discussed in the previous section, improving safety for all modes of travel while prioritizing pedestrian and bicycle safety is integral to the City's vision, goals, and policies and hence for the development of this LRSP. **Table 15** summarizes all corridors within the city with bicycle collisions.

Table 15: Corridors with Bicycle Collisions

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Bicycle Related Collisions
1a	Powell St	Vallejo St	Frontage Rd	5
2	San Pablo Av	53rd St	36th St	4
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	3
3a	Hollis St	Yerba Buena Av	Powell St	3
5	40th St	East of Adeline St/City Limit	Hubbard St	2
4a	Shellmound St	67th St	Christie Av	2
4b	Shellmound St	Christie Av	40th St	1
8	Bay St	Christie Av	Ohlone Wy	1
12	Adeline St	47th St	36th St	1
18b	62nd St	Overland Av	Vallejo St	1
20	61st St	Hollis St	Vallejo St	1
22	43rd St	San Pablo Av	East of Adeline St/City Limit	1
24	Peladeau St	59th St	Stanford Av	1
35	67th St	Shellmound St	East of Emeryville Greenway/City Limits Cir	1

6.2 Countermeasure Identification and Selection

The LRSP is a framework that identifies, analyzes, and prioritizes safety improvements for local roads. Its goal like the U.S. Department of Transportation's mission is to eradicate collisions resulting in fatalities and serious injuries on American roads. The LRSP can contribute to the California Strategic Highway Safety Plan and Safe Streets Action Plan and is supported by grants from the HSIP and SS4A Grant Program. Countermeasures to make roadways safer for all forms of transportation can be put in place to accomplish this goal. Physical changes are frequently undertaken to address hazardous intersections, vehicle speeds, and pedestrian and bicyclist safety. Simple, low-cost adjustments like decreasing speed limit or more involved undertakings like rearranging a route or installing more facilities for bicyclists and pedestrians can be included in the alterations.

Local Highway Safety Improvement Program (HSIP) Analyzer Manual, April 2024[1] and Crash Modification Factors (CMF) Clearinghouse[2] were utilized in the countermeasure identification process. Additionally, the US Department of Transportation, Federal Highway Administration released a list of twenty-eight proven safety countermeasures[3] that support the goal of eliminating fatalities and serious injuries. These countermeasures were also reviewed during the selection process. Countermeasures and spot improvements were developed for the identified emphasis areas and all intersections and corridors with a history of collisions within the city. The countermeasures at each location were further categorized as summarized below.

Table 16: Countermeasure Identification Categories

Identifier	Countermeasure Identification Category	Description
A	Not part of project	These countermeasures were identified as additional treatments that are not a part of any on-going or planned projects.
B	Project concept with no design	These countermeasures are part of a planned project identified through the City's ATP and General Plan.
C	Project design but no funding	These countermeasures are a part of projects that are in the design phase, but no funding sources have been identified.
D	Funded Projects	These countermeasures will be implemented as a part of a funded project.
E	Funded Project – Interim Recommendations	These countermeasures may be implemented to improve safety until the funded countermeasures are implemented.
F	Implemented Countermeasures	These are recently implemented countermeasures that help mitigate the collisions evaluated as a part of the LRSP.

Appendix D summarizes the countermeasures and spot treatments developed as a part of this effort.

6.2.1 Countermeasure Toolkit

There are several on-going projects within the City that address and mitigate the safety issues highlighted in this LRSP. These include both low-cost and high-cost treatments along several of the corridors and intersections included in the identified emphasis areas. These projects were reviewed and included while recommending countermeasures. With the guidance of City staff and review of existing infrastructure treatments recommended through the on-going projects, this LRSP identifies additional low-cost countermeasures and spot treatments that the city can implement as funding is available and can be used

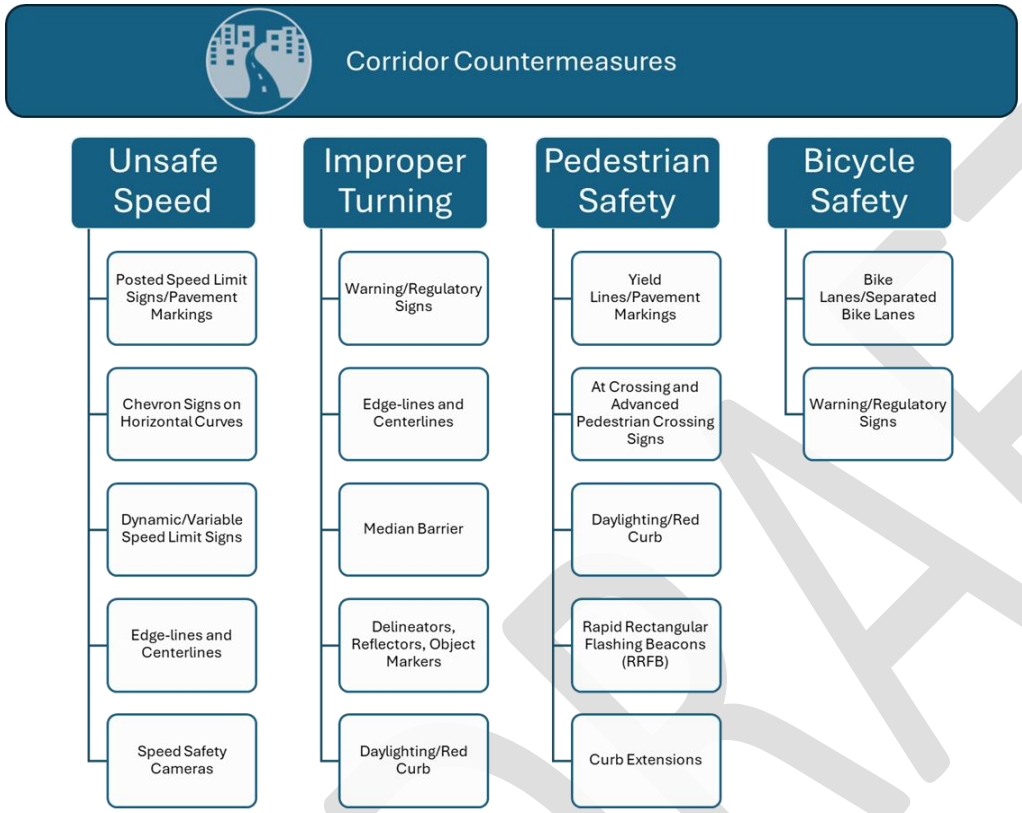
[1] HSIP Analyzer Manual, April 2024: https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2024/hsip-analyzer-manual-bcr2024.pdf
[2] Crash Modification Factors (CMF) Clearinghouse: https://cmfclearinghouse.fhwa.dot.gov
[3] Proven Safety Countermeasures, Federal Highway Administration:https://highways.dot.gov/safety/proven-safety-countermeasures

as a toolkit for future collisions. **Figures 15** through **17** illustrate the countermeasures recommended through this LRSP. Additional countermeasures can be referenced through the links in the footnotes[4] below.

The countermeasures are identified by corridor, signalized and unsignalized intersections. Countermeasures for corridors were identified for collisions occurring at a distance greater than 200 ft from an existing intersection, mid-block crosswalk, driveway, and utility pole. Similarly, countermeasures for signalized and unsignalized intersections were identified for collisions occurring at a distance less than 200 ft from an existing intersection. Based on the safety analysis conducted, unsafe speed, improper turning, automobile right-of-way, and traffic signs and signals were the primary causes of collisions in the city. The toolkit further categorizes the identified countermeasures based on these primary collision factors.

[4] HSIP Analyzer Manual, April 2024: https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2024/hsip-analyzer-manual-bcr2024.pdf
Crash Modification Factors (CMF) Clearinghouse: https://cmfclearinghouse.fhwa.dot.gov
Proven Safety Countermeasures, Federal Highway Administration:https://highways.dot.gov/safety/proven-safety-countermeasures

Figure 15: Corridor Countermeasures Toolkit



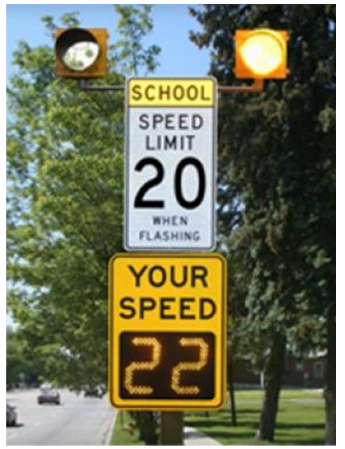


Figure 16: Signalized Intersection Countermeasure Toolkit

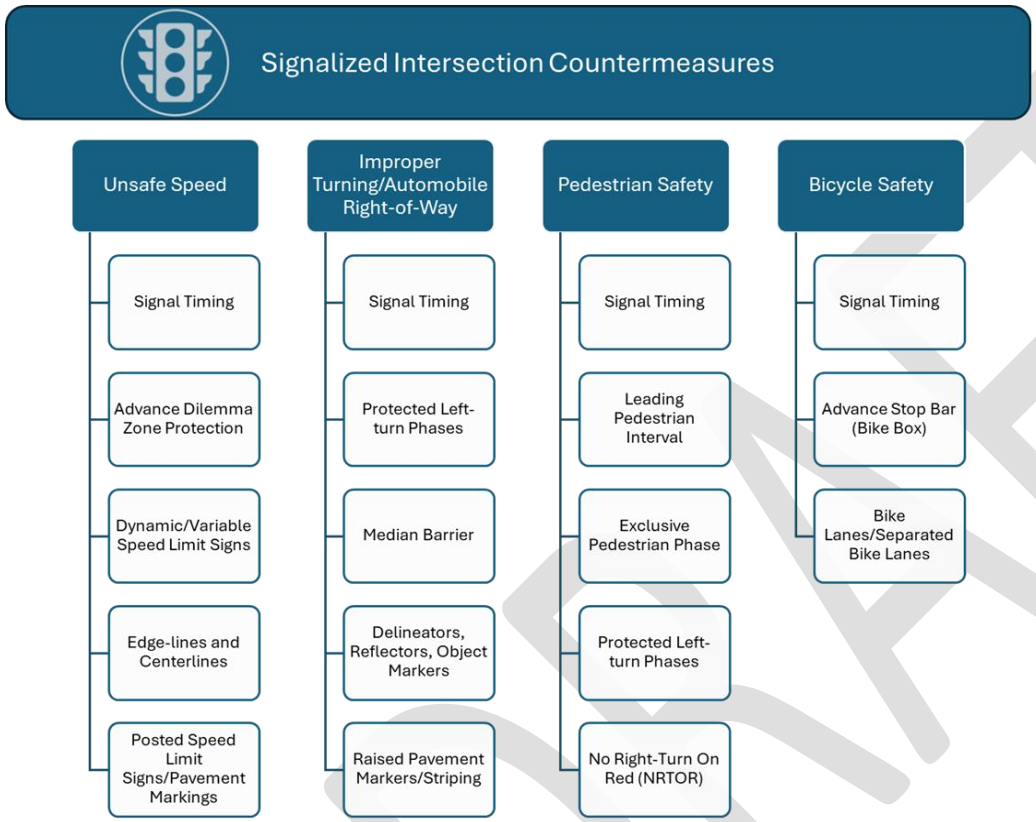
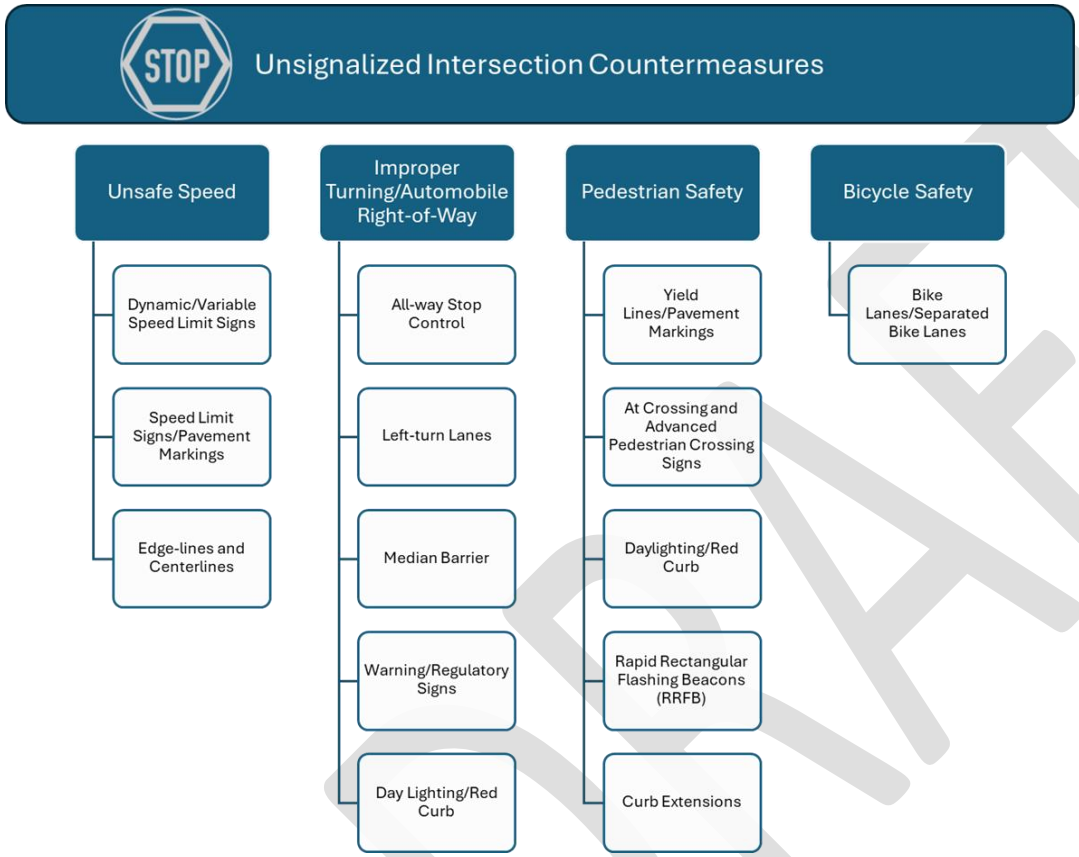


Figure 17: Unsignalized Intersection Countermeasure Toolkit



6.2.2 Evaluation of Programs of Countermeasures

Project countermeasures were grouped as programs by type of countermeasure and locations of implementation. These programs were evaluated using metrics of project readiness, effectiveness and cost-effectiveness. Project readiness was estimated as the following timeframes:

- Near-term (2 – 5 years)
- Mid-Term (5 – 10 years)
- Long-Term (greater than 10 years) – no long-term projects were identified in the LRSP

The effectiveness of countermeasures was evaluated by determining the number of collisions from the locations' collision history that can be addressed by the countermeasures. The percent reduction in collisions from the countermeasures was determined using collision reduction factors.

The monetized benefits of the countermeasure reduction in property damage and injuries was based on the United States Department of Transportation Benefit-Cost Analysis Guidance for Discretionary Grant Programs[5] (November 2024), Table A-1, which shows the monetized value of reduced fatalities, injuries and crashes. Project costs were determined on a location-by-location basis and summed by program. The monetized benefits to safety from the countermeasures was divided by cost to obtain a benefit/cost ratio.

The benefit/cost is calculated by the following formula:

$$\frac{[\textit{Addressed Property Damage Only Historic Collisions} \times \textit{Countermeasure Effectiveness} \times \textit{\$9,500 (USDOT Value)} + \textit{Addressed Injury Collision Reduction} \times \textit{Countermeasure Effectiveness} \times \textit{\$329,000 (USDOT Value)}]}{\textit{Cost of Implementation}}$$

6.2.3 Project Identification, Evaluation, and Prioritization

Upon development of countermeasures for emphasis areas and other locations in the City of Emeryville with a history of collisions, projects and their prioritization for implementation of the recommended countermeasures were developed based on collaborative input by the City Staff. The emphasis was on the implementation of LRSP strategies to address unique roadway safety needs, providing a practical approach to addressing safety needs, and enabling the city to provide streamline responses to safety challenges.

Prioritization was built on safety analysis and City staff engagement to identify high-risk locations as well as those which will be most effectively addressed by safety countermeasures and cost effectiveness. To effectively prioritize and improve safety with limited funds, the countermeasure projects were categorized as short-term (two to five years), interim/mid-term (five to ten years) and long-term (greater than ten years) improvements based on ease of implementation, cost of implementation (in 2025 dollars), timeframe, and funding requirements. Additionally, funding sources were identified for effective countermeasure implementation.

The programs developed for the LRSP are composed of individual locations and actions: some have been recently implemented, are in project development or are new efforts identified through this study. This holistic accounting of safety implementation actions allows the City to better monitor the effectiveness of countermeasure deployment and supports resource allocation prioritization for future implementation.

[5] U.S. Department of Transportation, Benefit Cost Analysis Guidance for Discretionary Grant Programs, November 2024: https://www.transportation.gov/mission/office-secretary/office-policy/transportation-policy/benefit-cost-analysis-guidance

7. PROJECT IDENTIFICATION AND EVALUATION

The following projects were identified based on the recommended countermeasures. The identified projects include a list of locations with applicable countermeasures, any additional treatment details, collisions rectified by the recommended countermeasures, and their total effectiveness.

6.3 Signal Timing Program

Hollis Street from 40th Street to 67th Street was retimed in 2022/2023 to improve pedestrian and bicycle safety, while simultaneously improving vehicle progression while driving at posted speed limit.

The signal timing program project was developed to address countermeasures related to traffic signals where a review and update to existing traffic signal timings will help mitigate collision patterns. The project also includes locations where leading pedestrian intervals (LPI) may be programmed to improve pedestrian safety at the signalized intersections. An LPI gives pedestrians an early walk interval, typically three to seven seconds, to give them a head start into the crosswalk before the vehicles in the parallel direction are given the green indication. LPIs can help reduce conflicts between left and right-turning vehicles and pedestrians by allowing the pedestrians time to physically occupy the crosswalk before vehicles receive a green indication. There are a total of 21 locations identified in this project and five locations where LPI programming is recommended. **Appendix E** summarizes all locations included in the signal timing program.

Several of the locations included in this program are part of implemented or on-going projects due to the City's proactive approach to a safe transportation system. Shellmound Street/Christie Avenue is part of the Signal Timing Program for overall intersection signal timing but had a recent implementation of an exclusive pedestrian phase to improve pedestrian safety.

Additionally, the four locations below that showed a history of collisions were upgraded by other "now completed" projects, and since then, there have been no further collisions at these locations that might be correctible by signal timing improvements.

1. Hollis Street/67th Street
2. Bay Street/Ohlone Way
3. Hollis Street/Stanford Avenue
4. Powell Street/Hollis Street

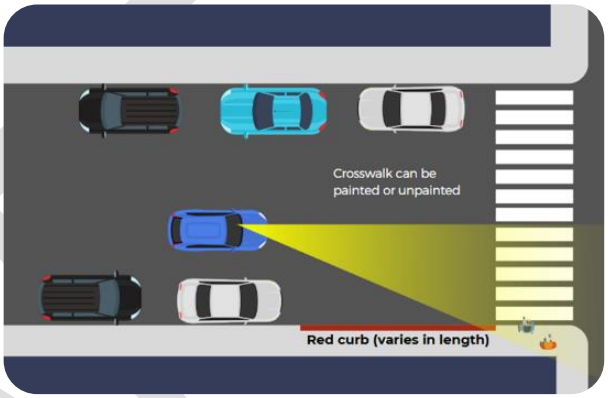
Potential funding sources for this program include:

1. City of Emeryville CIP 2023 – 2028, Traffic Signals and Street Lights
2. Future potential funding sources identified for the Emeryville Loop Project

3. Funding sources identified for the 40th Street Multimodal Project Phase II
4. Funding sources identified for the 40th Street Multimodal Project Phase I

21 Locations with **14.4** Total Collisions Per Year → With a **21%** Collision Reduction Effectiveness → For a Forecasted Reduction of **3.0** Annual Collisions → With a Safety Benefit/Cost Ratio of **6.6**

6.4 Daylighting Program



Daylighting is a safety improvement that restricts parking next to crosswalks and improves the visual field for both pedestrians and drivers. Effective January 1, 2025, California's Daylighting Law, also known as Assembly Bill 413 (AB 413), became a new section of the Vehicle Code (CVC) that prohibits parking near crosswalks. Per CVC 22500, it is illegal in California to park within 20 feet of the approach of any marked or unmarked crosswalk, even if the approach does not have any red curbs painted. The law also restricts parking within 15 feet of any crosswalk with a curb extension. This LRSP program identifies locations where installing a red curb will help mitigate traffic collisions at intersections and crosswalks. There are seven locations where daylighting is recommended with two locations recommended as a preemptive measure in line with CVC 22500. **Appendix E** summarizes all locations included in the daylighting program.

The City of Emeryville has already implemented red curbs identified through the Daylighting Program as part of its Sustainable Streetscapes projects, where project intersections and nearby intersections can be updated to red curbs as needed to meet the state guidelines. Emeryville's Public Works and Police Department are working closely on how best to warn and enforce the requirements in 2025.

Funding sources for this program include the City of Emeryville CIP 2023 – 2028, Sustainable Streetscapes. Implementation of daylighting will be followed by enforcement of parking infractions. A staged enforcement could include a six-month education period with signage, web education, and news flashes. During this period warning citations could be given by traffic enforcement to violating vehicles.

7 Locations with **1.2** Total Collisions Per Year → With a **20%** Collision Reduction Effectiveness → For a Forecasted Reduction of **0.2** Annual Collisions → With a Safety Benefit/Cost Ratio of **9.9**

6.5 Pedestrian Improvements Program

The pedestrian improvements program identifies locations where enhanced pedestrian safety improvements including rapid rectangular flashing beacons (RRFB), signing and striping, no right-turn-on-red (NRTOR) or other additional treatments are recommended. There are six locations where pedestrian improvements are recommended. **Appendix E** summarizes all locations included in the pedestrian improvements program.

The cost of implementation for pedestrian improvements includes the locations within the City of Emeryville's jurisdiction. Two locations where pedestrian safety improvements are recommended are a part of on-going projects led by other public agencies, specifically MTC and ACTC, and one location is a private garage where a recommendation can be made without using City resources.

Potential funding sources for this program include:

1. City of Emeryville CIP 2023 – 2028, Sustainable Streetscapes
2. MTC I-80/Powell Street Interchange Transit Access Improvements Project
3. ACTC San Pablo Avenue Corridor Bus-Bike Lanes Project

6.6 Signal Upgrade Program

This program includes all locations where upgrading existing traffic signal hardware, installing protected left-turn phases, and installing a traffic signal is recommended. This program includes three locations. **Appendix E** summarizes all locations included in the signal upgrade program. The cost of implementation for signal upgrade recommendations includes the locations within the City of Emeryville's jurisdiction. The unsignalized intersection at San Pablo Av/45th St (east leg) is recommended to be signalized as a part of this project. However, this intersection lies within Caltrans' jurisdiction. The City of Emeryville will share with Caltrans recommendations relating to Caltrans locations for further review and rectification.

Potential funding sources for this program include:

1. HSIP Cycle Grant
2. ACTC San Pablo Avenue Corridor Bus-Bike Lanes Project

3 Locations With **2.8** Collisions Total Per Year → With a **51%** Collision Reduction Effectiveness → For a Forecasted Reduction of **1.4** Annual Collisions → With a Safety Benefit/Cost Ratio of **5.8**

6.7 Frontage Road Safety Improvements

This program incorporates all corridor and intersection safety improvements recommended along Frontage Road from Powell Street to north of Point Emery Lane/City Limit. The countermeasures include dynamic speed variable signs, chevron signs, and posted speed limits along the corridor to reduce traffic speeds, warning and regulatory signs for the westbound freeway off-ramp at Frontage Road/Point Emery Lane, pavement markings to designate lane movements, median barrier at Frontage Road/Hilton Driveway, and curb extension at Frontage Rd/Rt 80.

The signalized and unsignalized intersections along Frontage Road are under Caltrans jurisdiction. Similar to the signal upgrade program, the City of Emeryville will share with Caltrans recommendations relating to Caltrans locations for further review and rectification. The cost of implementation of the Frontage Road program recommendations includes only locations within the City of Emeryville's jurisdiction. **Appendix E** summarizes all countermeasures included in the Frontage Road safety improvements program.

Potential funding sources for this program include the City of Emeryville CIP 2023 – 2028, Frontage Road Upgrades.

6 Locations with **1.2** Total Collisions Per Year → With a **33%** Collision Reduction Effectiveness → For a Forecasted Reduction of **0.4** Annual Collisions → With a Safety Benefit/Cost Ratio of **5.7**

6.8 Signing and Striping Program (Unsignalized Intersections)

The signing and striping program is divided into two programs: incorporating all unsignalized intersection locations and all signalized intersection locations with collisions correctible by recommended countermeasures. The signing and striping program for unsignalized intersections includes 25 locations.

The countermeasures within the signing and striping program include but are not limited to dynamic/variable speed signs, pavement markings, warning and regulatory signs, bike lanes, and edge-lines and centerlines.

Appendix E summarizes all locations with recommended countermeasures included in the program for unsignalized intersections.

Potential funding sources for this program include:

1. City of Emeryville CIP 2023 – 2028, Sustainable Streetscapes, Tree Planting
2. Funding sources identified for the 40th Street Multimodal Project Phase II
3. Funding sources identified for the 40th Street Multimodal Project Phase I
4. ACTC San Pablo Avenue Corridor Bus-Bike Lanes Project

6.9 Signing and Striping Program (Signalized Intersections)

The signing and striping program for signalized intersections incorporates signalized intersections with collisions correctible by signing and striping treatments. The countermeasures within the signing and striping program for signalized intersections include but are not limited to pavement markings, installing delineators, reflectors and/or object markers, warning and regulatory signs, and bike lanes.

The program includes five locations, four of which are within Caltrans jurisdiction. All countermeasures recommended in this program will be implemented by on-going projects.

Appendix E summarizes all locations with recommended countermeasures included in the program.

Potential funding sources for this program include:

1. Funding sources identified for the 40th Street Multimodal Project Phase II
2. ACTC San Pablo Avenue Corridor Bus-Bike Lanes Project

4 Locations with **0.8** Collisions Per Year → With a **25%** Collision Reduction Effectiveness → For a Forecasted Reduction of **0.2** Annual Collisions → With a Safety Benefit/Cost Ratio of **0.2**

6.10 Corridor Spot Improvements

Similar to the signing and striping program, the corridor improvements program incorporates all roadway segments with collisions correctible by recommended countermeasures. Corridor countermeasures were evaluated for collisions which were at a distance greater than 200 ft from an intersection, driveways, and utility poles and are similar to the countermeasures recommended for the signing and striping program. The program includes 14 locations. **Appendix E** summarizes all locations with recommended countermeasures included in the program.

Potential funding sources for this program include:

1. City of Emeryville CIP 2023 – 2028, Sustainable Streetscapes, Tree Planting
2. Funding sources identified for the 40th Street Multimodal Project Phase II
3. Funding sources identified for the 40th Street Multimodal Project Phase I
4. ACTC San Pablo Avenue Corridor Bus-Bike Lanes Project
5. MTC I-80/Powell Street Interchange Transit Access Improvements Project
6. Future potential funding sources identified for the Emeryville Loop Project

18 Locations with **3.4** Collisions Per Year → With a **26%** Collision Reduction Effectiveness → For a Forecasted Reduction of **0.9** Annual Collisions → With a Safety Benefit/Cost Ratio of **0.7**

6.11 Project Prioritization

All programs identified in this LSRP are priorities to improve the transportation system safety in the city. To effectively prioritize and improve safety with limited funds, the countermeasure projects were assessed by readiness, cost-effectiveness, collision severity, and the effectiveness of the program/project to reduce collisions.

In collaboration with City staff, Iteris identified readiness for the previously funded and unfunded portions of the projects. The three categories are: short term (two to five years), interim/mid-term (five to ten years), and long term (more than ten years) based on ease of implementation and availability of staff and funds to implement. The locations and countermeasures under each program can were additionally assessed by measures of effectiveness for the recommended countermeasures.

The programs are compiled in **Table 17** along with the metrics to inform implementation prioritization. The colors for the criteria show from yellow to green as lower to higher value for prioritization.

The criteria in **Table 17** are as follows:

Project readiness was estimated as the following timeframes:

- Near-term (2 – 5 years)
- Mid-Term (5 – 10 years)
- Long-Term (greater than 10 years) – no long-term projects were identified in the LRSP

The number of collisions from the locations' collision history that can be addressed by the countermeasures of the programs is shown, followed by the expected percent reduction in collisions from the countermeasures. These values represent the overall scale of effectiveness expected from safety countermeasures.

The monetized benefits of the countermeasure reduction in property damage and injuries is based on the United States Department of Transportation Benefit-Cost Analysis Guidance for Discretionary Grant Programs[6] (November 2024) Table A-1 which shows the monetized value of reduced fatalities, injuries and crashes. Project costs were determined on a location-by-location basis and summed by program. The monetized benefits to safety from the countermeasures was divided by cost to obtain a benefit/cost ratio.

Table 17: Project Prioritization Criteria and Metrics

Project	Readiness	Addressed Collisions per Year	Effectiveness of Counter measures	Monetized Benefits	Cost of Improvements	Safety Benefit/ Cost Ratio
Daylighting Program	Near-Term	1.2	20%	$139,200	$14,000	9.9
Pedestrian Improvements	Near-Term	1.4	29%	$578,125	$205,000	2.8
Signing & Striping Program (Unsignalized Intersections)	Near-Term	8.6	27%	$1,386,300	$528,000	2.6
Signal Timing Program	Medium-Term	15.8	19%	$2,816,557	$430,000	6.6
Signal Upgrade*	Medium-Term	2.8	51%	$1,245,225	$900,000	1.4

[6] U.S. Department of Transportation, Benefit Cost Analysis Guidance for Discretionary Grant Programs, November 2024: https://www.transportation.gov/mission/office-secretary/office-policy/transportation-policy/benefit-cost-analysis-guidance

Project	Readiness	Addressed Collisions per Year	Effectiveness of Counter measures	Monetized Benefits	Cost of Improvements	Safety Benefit/ Cost Ratio
Frontage Rd-Safety Improvements	Medium-Term	1.2	33%	$306,075	$54,000	5.7
Corridor Spot Improvements	Medium-Term	3.4	26%	$1,006,825	$1,346,000	0.7
Signing & Striping Program (Signalized Intersections)	Medium-Term	0.8	25%	$9,500	$50,000	0.2

Notes:
This analysis includes the cost of countermeasures recommended for locations in Caltrans jurisdiction.

Implementation priorities for near-term (2 – 5 years) implementation are relatively lower cost and complexity and are generally more cost-effective in addressing safety issues:

- Daylighting Program
- Pedestrian Improvements
- Signing and Striping Program (Unsignalized Intersections)

Medium-Term improvements (5 – 10 years) are generally higher cost and more complex than near-term programs. While they tend to be less cost-effective as safety improvements, they have additional benefits for mobility and economic vitality which were not assessed in this analysis:

- Signal Timing Program
- Signal Upgrade Program
- Frontage Road Safety Improvements
- Corridor Spot Improvements
- Signing and Striping Program (Unsignalized Intersections)

Long-Term improvements (greater than 10 years) are not identified in this analysis. Within the long-term period, the effectiveness of implemented countermeasures and the City's overall progress towards reducing roadway injuries can be continually assessed to inform future decisions for prioritization of safety countermeasures.

8. NEXT STEPS

For the next five years, the City's needs for road safety will be guided by this living safety plan. The objectives will be tracked and updated as necessary.

While longer-term, more expensive projects will be included in the City of Emeryville's five-year Capital Improvement Program (CIP), low-cost, easily implemented projects will be given priority for implementation within the City. Comprehending the forthcoming funding opportunities is crucial for the effective execution of these safety initiatives. The majority of the suggested countermeasures can be funded by HSIP. Countermeasures, however, can be put into place using other financing sources, such as:

1. The ATP, or Active Transportation Program
2. The program for Congestion Mitigation and Air Quality (CMAQ)
3. Sustainable Communities' Sustainable Transportation Planning Grant
4. Sources of stimulus financing
5. Capital Improvement Program (CIP)

The effectiveness of safety countermeasures can be assessed after implementation to inform future countermeasure selection and development. The City’s commitment to safety will continue to be a priority in the maintenance, operation and investment in the transportation system.

APPENDIX A – RECOMMENDED AND PLANNED PROJECTS

City of Emeryville
Local Roadway Safety Plan (LRSP
Recommended and Planned Projects (Corridors)

Citywide On-going Studies and Planned Improvements (Corridors)

Corridor	Start	End	Side of Street	Issues Observed	Recommendations	Source	Project Status
40th St/Shellmound St	Adeline St	Bay Bridge Trail at IKEA Exit	North	Bicycle safety	Two-way separated bikeway (Class IV)	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	Adeline St	East of Adeline St until City Limit	Both	Bicycle safety	Super Sharrows to accommodate Oakland's Bicycle Plan	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	Both	Transit access, safety, and transit vehicle progression	Transit passenger boarding/alighting areas	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	Both	Transit access, safety, and transit vehicle progression	Bus-only lanes that accommodate right-turning vehicles at their approaches to Adeline Street and San Pablo Avenue respectively	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	North	Pedestrian and Bicycle safety	Reconstructed sidewalk along westbound 40th Street to include a tree-lined and landscaped buffer area between bikeway and sidewalk	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	South	Pedestrian safety	Reconstructed and partially widened sidewalk along eastbound 40th Street to include a new line of street trees located between boarding/alighting areas	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	North	Bicycle safety	Striping of dashed green pavement markings where two-way bikeway crosses driveways	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	Both	Pedestrian safety	Improved pedestrian circulation due to transition of bus stop function to new boarding/alighting areas	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	Both	Pedestrian safety	Metropolitan Transportation Commission transit hub wayfinding signage elements	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	Both	Pedestrian and Bicycle safety	Elimination of existing mid-block transit waiting area (located on private property) with poor visibility along garage frontage on south side of sidewalk 40th Street. Integrate bicycle lockers with appropriate landscape and hardscape treatments that allow for good visibility of the lockers and those using them	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	Adeline St	Both	Pedestrian and Bicycle safety	Potential widening of the southern sidewalk along frontage of the building located at the southwestern corner of the bus hub	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	West of Emery St	North	Pedestrian and Bicycle safety	Realignment of the eastern section of curb along westbound 40th Street to accommodate wider sidewalk and two-way separated bikeway	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	West of Emery St	North	Transit access, safety, and transit vehicle progression	Striped buffer paralleling the westbound bus-only lane near the San Pablo intersection in order to accommodate the turning radius of semi-trucks making left turns onto 40th Street from northbound San Pablo Avenue	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	San Pablo Av	West of Emery St	North	Transit access, safety, and transit vehicle progression	Designation of the westbound curbside lane as bus-only lane	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Emery St	West of Holden St	North	Transit access, safety, and transit vehicle progression	Designation of the westbound curbside lane as bus-only lane	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Emery St	West of Holden St	North	Bicycle safety	Two-way separated bikeway buffered from the adjacent travel lane by a raised side median	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Emery St	West of Holden St	South	Bicycle safety	Reconfiguration of the eastbound roadway between existing curbs to include designation of the curbside lane as bus-only lane	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Emery St	West of Holden St	Both	Pedestrian safety	Replacement of existing sidewalk and street trees with new sidewalk and replacements trees	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Emery St	West of Holden St	Both	Pedestrian safety	Corner bulb-outs at intersections	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Holden St	West of Hubbard St	North	Bicycle safety	Reconfiguration of the westbound roadway between existing curbs to include two-way separated bikeway buffered from the adjacent travel lane by a raised side median	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Holden St	West of Hubbard St	North	Transit access, safety, and transit vehicle progression	Westbound bus-only lane and transition of the westbound transit-only lane to a mixed-flow travel lane west of Hubbard Street	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Holden St	West of Hubbard St	South	Transit access, safety, and transit vehicle progression	Reconfiguration of the eastbound roadway between existing curbs to include designation of the curbside lane as bus-only lane	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Holden St	West of Hubbard St	North	Pedestrian safety	Replacement of existing sidewalk and street trees with wider sidewalk and replacements trees	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Hubbard St	Ikea Entry	North	Bicycle safety	Two-way separated bikeway buffered from the adjacent travel lane by a raised median, removal of existing bike lanes and through lane	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	West of Hubbard St	Ikea Entry	South	Bicycle safety	Designation of the eastbound outside lane as a bus-only lane, beginning at the Shellmound/IKEA Entry intersection	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	East of Harlan St	West of Harlan St	Both	Transit access and transit vehicle progression	Remove existing east- and westbound transit stops for AC Transit buses	40th and San Pablo Bus Hub Project	On-going Study
40th St/Shellmound St	Hubbard St	Halleck St	North	Bicycle safety	Shared-use path (Class I) along westbound 40th St	40th and San Pablo Bus Hub Project	On-going Study
Shellmound St	Shellmound Wy	67th St	Both	Bicycle safety	Upgrade existing bike lanes to Class IV separated bikeway. Emeryville Loop connection.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	Christie Av	Shellmound Wy	West	Bicycle safety	Emeryville Loop. Two-way Separated Bikeway (Class IV)on west side of street	Emeryville Active Transportation Plan	Planned Study
Shellmound St	40th St Bridge	Christie Av	North	Bicycle safety	40th Street Multimodal Phase II: Bay Trail Gap Closure Project. Concept includes removing two on-street bike lanes, realigning the vehicle lanes, and adding a two-way separated bikeway with a raised buffer on the west side of Shellmound Street.	Emeryville Active Transportation Plan	On-going Study/Planned Study
Powell St	Peladeau St	Hollis St	South	Pedestrian safety	Improve existing sidewalk, provide sidewalk or a more direct/accessible pedestrian path	Emeryville Active Transportation Plan	Recommended Study
Powell St	Christie Av	Shellmound St	South	Pedestrian safety	New sidewalk, Emeryville Loop. Pedestrian walkway on south side of Powell St	Emeryville Active Transportation Plan	Recommended Study
Powell St	Frontage Rd	I-80 Eastbound On-Ramp	North	Bicycle safety	Shared-use path (Class I) on north side of Powell St	Emeryville Active Transportation Plan	Recommended Study
Powell St / I-80 Undercrossing Path	Frontage Rd	I-80 Eastbound On-Ramp	North	Bicycle safety	Add Shared-Use Path to north side of Powell Street. Proposed in 2019 BPAC Walking Tour Recommendations	Emeryville Active Transportation Plan	Recommended Study
Shellmound St/Powell St Underpass	Mid-block crossing	Hyatt Parking Lot	East	Pedestrian safety	Improve existing sidewalk, Fill sidewalk gap underneath Powell Street, remove obstructions in walking path including signs and landscaping that makes corners and navigation difficult for wheelchairs	Emeryville Active Transportation Plan	Recommended Study
67th St	Shellmound St	Hollis St	Both	Pedestrian safety	New Sidewalk	Emeryville Active Transportation Plan	Recommended Study
67th St	Shellmound St	Emeryville Greenway	Both	Bicycle safety	Class IIIB Bicycle Boulevard connection to Ashby Crossing	Emeryville Active Transportation Plan	Recommended Study
Peabody Ln	65th St	Vallejo St	Both	Alley difficult for pedestrians	Improve existing sidewalk, add stop sign, red curb, mirror for visibility, and lighting.	Emeryville Active Transportation Plan	Recommended Study
64th St	260ft east of Hollis St	Doyle St	South	Pedestrian safety	Improve existing sidewalk,make walking space wider and smoother	Emeryville Active Transportation Plan	Recommended Study
Overland Av	150ft south of 63rd St	64th St	East	Pedestrian safety	New Sidewalk, extend existing sidewalk on east side of street to reach 64th St	Emeryville Active Transportation Plan	Recommended Study
Overland Av	62nd St	65th St	Both	Bicycle safety	Upgrade existing bike boulevard to Separated Bikeway (Class IIIB)	Emeryville Active Transportation Plan	Recommended Study
61st St	Hollis St	Doyle St	North	Pedestrian safety	Widen existing sidewalk	Emeryville Active Transportation Plan	Recommended Study
Christie Av	59th St	Shellmound Wy	Both	Pedestrian safety	Improve existing sidewalk by widening walking path and/or removing obstructions such as signs and trash cans	Emeryville Active Transportation Plan	Recommended Study
Christie Av	Shellmound Wy	Powell St	East	Bicycle safety	Emeryville Loop. Two-way Separated Bikeway (Class IV) on east side of street	Emeryville Active Transportation Plan	Recommended Study
Chiron Wy	Stanford Av	53rd St	Both	Pedestrian safety	New sidewalk, remove gates and reconstruct with greenery	Emeryville Active Transportation Plan	Recommended Study
Doyle St	47th St	45th St	East	Pedestrian safety	Widen existing sidewalk	Emeryville Active Transportation Plan	Recommended Study
Doyle St	Ocean Av	61st St	-	Bicycle safety	Add raised Separated Bikeway (Class IV) on Doyle Street as part of Emeryville Greenway	Emeryville Active Transportation Plan	Constructed
Doyle St	53rd St	59th St	Both	Bicycle safety	Bike Boulevard proposed in 2012 BPMP, involves private parking lot cut-through	Emeryville Active Transportation Plan	Constructed
Doyle St/59th St	61st St	59th St/Emeryville Greenway	-	Bicycle safety	Upgrade existing bike boulevard to Separated Bikeway (Class IV)	Emeryville Active Transportation Plan	Recommended Study
45th St	Horton St	San Pablo Av	Both	Pedestrian safety	Improve existing sidewalk space by widening or working with existing tree barriers	Emeryville Active Transportation Plan	Recommended Study
Halleck St	Sherwin Av	150ft north of Park Av	West	Pedestrian safety	New sidewalk on west side of Halleck St north of Pelco	Emeryville Active Transportation Plan	Recommended Study
Hubbard St	Sherwin Av	Park Av	East	Pedestrian safety	Add new sidewalk	Emeryville Active Transportation Plan	Recommended Study
Hubbard St	Park Av	40th St	Both	Pedestrian safety	Add new sidewalk	Emeryville Active Transportation Plan	Recommended Study
Bay Trail	Point Emery Ln	Powell St	-	Bicycle safety	Repave existing Bay Trail trail to have smoother pavement	Emeryville Active Transportation Plan	Recommended Study
Bay Trail	Powell St Plaza	South Bayfront Bridge	-	Bicycle safety	Add Shared-Use Path. Proposed in 2012 BPMP. Will require acquisition of Right-of-Way, included in General Plan. Project located on private property	Emeryville Active Transportation Plan	Recommended Study
I-80/Ashby Ave Interchange	Frontage Rd	65th St	-	Bicycle safety	Ashby Overcrossing. Project in progress.	Emeryville Active Transportation Plan	On-going Study
La Coste St	65th St	64th St	Both	Bicycle safety	Class I Shared-Use Path Short Term: Add Bike Boulevard on La Coste Street. Long term: Add Shared-Use Path to connect to Ashby Overcrossing. Project located on private property.	Emeryville Active Transportation Plan	Recommended Study
Parallel to railroad tracks	67th St	65th St	-	Bicycle safety	Add Class I Shared-use path on gravel area east of railroad	Emeryville Active Transportation Plan	Partly Constructed

City of Emeryville
Local Roadway Safety Plan (LRSP
Recommended and Planned Projects (Corridors)

Citywide On-going Studies and Planned Improvements (Corridors)

Corridor	Start	End	Side of Street	Issues Observed	Recommendations	Source	Project Status
65th St	La Coste St	Shellmound St	North	Bicycle safety	Add 2-way Separated Bikeway (Class IV) on north side of 65th Street with one lane of parking removal	Emeryville Active Transportation Plan	Recommended Study
65th St	Shellmound St	Emeryville Greenway	North	Bicycle safety	Add Separated Bikeway (Class IV) with transit islands at Bus Stops. Remove one lane of parking	Emeryville Active Transportation Plan	Recommended Study
65th St	Emeryville Greenway	City Boundary near Vallejo St	Both	Bicycle safety	Bike Boulevard (Class IIIB) connection to existing bikeway in Berkeley. Public identified route as in need of improvement	Emeryville Active Transportation Plan	Recommended Study
63rd St	Doyle St	Vallejo St	Both	Bicycle safety	Bike Boulevard (Class IIIB) connection to planned Oakland Bikeway	Emeryville Active Transportation Plan	Recommended Study
61st St	Doyle St	City Boundary near Vallejo St	Both	Bicycle safety	Bike Boulevard (Class IIIB) connection Doyle Street to planned bikeway in Oakland. Public identified area as a popular destination	Emeryville Active Transportation Plan	Recommended Study
62nd St	Horton St	Hollis St	-	Bicycle safety	Upgrade existing bike boulevard to Separated Bikeway (Class IV)	Emeryville Active Transportation Plan	Recommended Study
Horton St	59th St	62nd St	-	Bicycle safety	Add Separated Bikeway (Class IV). Convert to lanes to one-way northbound on Horton Street from 59th Street to 62nd Street to create dedicated loading/ unloading space	Emeryville Active Transportation Plan	Partly Constructed
Private property (parallel to I-80 east side)	64th St	Powell St	East	Bicycle safety	Add Shared-Use Path (Class I) parallel to I-80 on east side. Bay Trail Connection	Emeryville Active Transportation Plan	Recommended Study
5801 Christie Mixed-Use Project	Private property (parallel to I-80 east side)	Christie Av	-	Bicycle safety	Shared-Use Path (Class I) included in 5801 Christie Mixed-Use Project	Emeryville Active Transportation Plan	Recommended Study
Shellmound Wy(5850 Shellmound Way-New Path & Connection to Bridge)	Christie Av	Existing Bridge to Amtrak Station	Both	Bicycle safety	City Initiated General Plan Amendment to revise the location of Shellmound Way and add east-west Class I shared-use path on the northern side of 5850 Shellmound Way	Emeryville Active Transportation Plan	Recommended Study
Shellmound Wy	Christie Av	Shellmound St	-	Bicycle safety	Emeryville Loop. Two-way Separated Bikeway (Class IV) on south side of street	Emeryville Active Transportation Plan	Recommended Study
55th St	Doyle St	Vallejo St	Both	Bicycle safety	Bike Boulevard connection (Class IIIB) to planned Oakland Bikeway	Emeryville Active Transportation Plan	Recommended Study
Stanford Av	Horton St	Hollis St	Both	Bicycle safety	Widen existing trail and make more comfortable for bikes. Retain trees and landscaping to comply with Prop 84 park grant	Emeryville Active Transportation Plan	Recommended Study
Ohlone Wy	Shellmound St	South Bayfront Bridge	-	Bicycle safety	Shared-Use path connection (Class I) on Ohlone Way from Shellmound Street to South Bayfront Bridge. Approved as part of grocery store project. Project located on private property	Emeryville Active Transportation Plan	Under Construction
53rd St	Horton St	Hollis St	-	Bicycle safety	Upgrade existing Bike Boulevard on 53rd Street to Separated Bikeway (Class IV) as part of the Temescal Greenway	Emeryville Active Transportation Plan	Recommended Study
53rd St	Hollis St	San Pablo Av	South	Bicycle safety	Add Shared-Use Path (Class I) on south side of 53rd Street as part of the Temescal Greenway	Emeryville Active Transportation Plan	Recommended Study
ECCL Path	53rd St	47th St	-	Bicycle safety	Shared-Use Path (Class I) connection is a long term vision and requires redevelopment and easement from private property.	Emeryville Active Transportation Plan	Recommended Study
Connection between Spur Alley and 47th Street	Spur Alley	47th St	-	Bicycle safety	Shared-Use Path (Class I) connection is a long term vision and requires redevelopment and easement from private property.	Emeryville Active Transportation Plan	Recommended Study
47th St	Community Pool	San Pablo Av	-	Bicycle safety	Bike Boulevard connection to Community Pool.	Emeryville Active Transportation Plan	Recommended Study
Doyle St	45th St	47th St	-	Bicycle safety	Two-way Separated Bikeway connection on Doyle St.	Emeryville Active Transportation Plan	Recommended Study
AC Transit Yard Connection	47th St	45th St	-	Bicycle safety	Shared-Use Path (Class I) connection is a long term vision and requires redevelopment and easement from private property.	Emeryville Active Transportation Plan	Recommended Study
New Path	45th St	47th St	-	Bicycle safety	Add Shared-Use Path (Class I). Proposed in 2012 BPMP.	Emeryville Active Transportation Plan	Recommended Study
Adeline St	San Pablo Av	Northern City Boundary	Both	Bicycle safety	Project in progress through public works.	Emeryville Active Transportation Plan	Under Construction
Sherwin Williams Trail	Sherwin Av	Bay St Bridge	East	Bicycle safety	Add Shared-Use Path (Class I) connection on east side of railroad.	Emeryville Active Transportation Plan	Recommended Study
Horton St	40th St	53rd St	Both	Bicycle safety	Upgrade existing bike boulevard (Class IIIB) to Separated Bikeway (Class IV).	Emeryville Active Transportation Plan	Recommended Study
San Pablo Av	36th St	54th St	Both	Bicycle safety	Alameda CTC San Pablo Avenue Corridor Project. One-way cycletracks on both sides of the street. Includes pedestrian safety improvements at all major intersections and safe connections to all intersecting bike routes, including at Adeline, MacArthur, and 40th Street. Treatments include protected intersections, pedestrian and bus bulbs, ADA ramp upgrades, and median refuge islands. This area is under Caltrans jurisdiction. Caltrans may or may not approve proposed projects. Project also included in the Northern Alameda County Core Connection Plan and is identified by the Alameda CTC Countywide Bikeways Network as part of the future regional all ages and abilities network.	Emeryville Active Transportation Plan	On-going Study
Park Av	Halleck St	Hollis St	Both	Bicycle safety	Bike Boulevard (Class IIIB) connection to Park Avenue Multimodal Study. BPAC 2019.	Emeryville Active Transportation Plan	Recommended Study
Emery St	Park Av	40th St	Both	Bicycle safety	Bike Boulevard (Class IIIB) through connection parallel to San Pablo Avenue.	Emeryville Active Transportation Plan	Recommended Study
40th St	Halleck St	Hubbard St	North	Bicycle safety	Add Shared-Use Path (Class 1) on north side of 40th Street.	Emeryville Active Transportation Plan	On-going Study
40th St	Shellmound St	Hubbard St	Both	Bicycle safety	Class IV separated bikeway. Install flexible bollards on 40th Street for protection from moving vehicles.	Emeryville Active Transportation Plan	On-going Study
40th St	Hubbard St	Adeline St	Both	Bicycle safety	Class IV separated bikeway. 40th Street and San Pablo Avenue Bus Hub Project. Add full or partial street closure with pedestrian plazas and emergency vehicle access on 40th Street at the intersections of Watts, Haven, Holden, and Hubbard. Project is included in the Northern Alameda County Core Connection Plan and is identified by the Alameda CTC Countywide Bikeways Network as part of the future regional all ages and abilities network.	Emeryville Active Transportation Plan	On-going Study
Beach St/Halleck St	Sherwin Av	34th St	Both	Bicycle safety	Bike Boulevard connection from Mandela Parkway to 40th Street/Shellmound Street. BPAC 2019.	Emeryville Active Transportation Plan	Recommended Study
Adeline St	36th St	San Pablo Av	Both	Bicycle safety	Class IIB Buffered Bicycle Lane	Emeryville Active Transportation Plan	Recommended Study
Emery St	40th St	Peralta St	-	Bicycle safety	Upgrade existing Bike Lane to Two- Way Separated Bikeway (Class IV).	Emeryville Active Transportation Plan	Recommended Study
45th St	Sherwin Williams Park	Horton St	-	Bicycle safety	Trail connection.	Emeryville Active Transportation Plan	Recommended Study
San Pablo Av	36th St	54th St	Both	Pedestrian and Bicycle safety	One-way cycletracks on both sides of the street. Includes pedestrian safety improvements at all major intersections and safe connections to all intersecting bike routes, including at Adeline, MacArthur, and 40th Street. Treatments include protected intersections, pedestrian and bus bulbs, ADA ramp upgrades, and median refuge islands. This area is under Caltrans jurisdiction. Caltrans may or may not approve proposed projects. Project also included in the Northern Alameda County Core Connection Plan.	Alameda CTC San Pablo Avenue Corridor Project	On-going Study
Shellmound Wy	Christie Av	Shellmound St	South	Bicycle safety	Emeryville Loop. Two-way Separated Bikeway (Class IV) on south side of street.	Emeryville Loop Multimodal Project	Planned Study
Shellmound St	Christie Av	Shellmound Wy	West	Bicycle safety	Emeryville Loop. Two-way Separated Bikeway (Class IV) on west side of street.	Emeryville Loop Multimodal Project	Planned Study
Christie Av	Shellmound Wy	Powell St	East	Bicycle safety	Emeryville Loop. Two-way Separated Bikeway on east side of street.	Emeryville Loop Multimodal Project	Recommended Study
Powell St	Christie Av	Shellmound St	South	Pedestrian Safety	Emeryville Loop. Pedestrian walkway on south side of Powell St.	Emeryville Loop Multimodal Project	Recommended Study
Shellmound St-Powell St Underpass	New Midblock Crossing	Hyatt Hotel Parking Lot Entrance	East	Pedestrian Safety	Fill sidewalk gap underneath Powell Street on east side of roadway, remove obstructions in walking path including signs and landscaping that makes corners and navigation difficult for wheelchairs.	Emeryville Loop Multimodal Project	Recommended Study
Christie Av	Powell St	65th St	-	Bicycle safety	Add Class IV on Christie Avenue, remove one lane of parking towards north.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Hollis St	40th St	67th St	Both	Pedestrian and Bicycle safety	Study potential for installing bike lanes on Hollis St as part of the transit street. Sidewalk and pedestrian improvements included.	Recommended Study - Emeryville Active Transportation Plan	On-going Study
Powell St	Davenport Park	Frontage Rd	South/Both	Bicycle safety	Two-way separated bikeway (Class IV) on the south side of Powell Street or One-way separated bikeway (Class IV) on each side of Powell Street.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Powell St	Frontage Rd	Christie Av	South/Both	Bicycle safety	Two-way separated bikeway (Class IV) on the south side of Powell Street. Alternative 1: One-way separated bikeway (Class IV) on each side of Powell Street. Alternative 2: Consider upgrading existing shared-use path to separate people walking, biking and rolling. This segment is also part of the Bay Trail spine alignment.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Powell St	Christie Av	Hollis St	South/Both	Bicycle safety	Two-way separated bikeway on the south side of Powell Street or One-way separated bikeway on each side of Powell Street.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study

City of Emeryville
Local Roadway Safety Plan (LRSP
Recommended and Planned Projects (Corridors)

Citywide On-going Studies and Planned Improvements (Corridors)

Corridor	Start	End	Side of Street	Issues Observed	Recommendations	Source	Project Status
Powell St	Hollis St	Vallejo St	South/Both	Bicycle safety	Two-way separated bikeway on the south side of Powell Street or One-way separated bikeway on each side of Powell Street. Traffic signal rephasing for bike signal.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Stanford Av	Horton St	San Pablo Av	Both	Bicycle safety	Add contra-flow separated bikeway on Stanford to connect users from planned shared-use path on Stanford Avenue in Oakland to the Doyle Slow Street and Bayfront Bridge. Eliminate onstreet parking. Add a bicycle boulevard to the eastbound travel lane. Consider implementing speed humps.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Beaudry St	Powell St	Stanford Av	Both	Pedestrian and Bicycle safety	Add bicycle boulevard on Beaudry Street. Convert to one-way southbound and extend sidewalk into street. Alternative: Create a car-free space (Village Green) from Stanford to the park limit on the north side.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Doyle St	Powell St	Stanford Av	-	Pedestrian and Bicycle safety	Convert Doyle Street from Powell Street to Stanford Avenue to a oneway street in the northbound direction. Repurpose the removed travel lane to be a widened sidewalk and park extension for people biking, walking, and rolling.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Bay Trail Pedestrian Path	Frontage Rd	Davenport Mini Park	-	Pedestrian and Bicycle safety	Widen and convert existing pedestrian paths on the peninsula to a Shared-Use Path.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Park Av	Hollis St	San Pablo Av	-	Pedestrian and Bicycle safety	Multimodal corridor study. Consider: Add Separated Bikeway, convert angled parking to parallel parking, widen sidewalk.	Recommended Study - Emeryville Active Transportation Plan	Planned Study
Mandela Parkway Extension/East Bay Bridge Shopping Center Parking Lot	Hollis St	San Pablo Av	-	Bicycle safety	General Plan Key Green Street. Study: Two-way Separated Bikeway on road through East Bay Bridge Shopping Center and feasibility of separated bikeway and improved lighting on West MacArthur Blvd between Emery Street and San Pablo Avenue.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Emeryville Crescent Trail	McLaughlin State Park	-	-	Pedestrian and Bicycle safety	Feasibility study to determine if a bicycle and pedestrian path can be developed adjacent to the Emeryville Crescent without negatively impacting sensitive habitat.	Recommended Study - Emeryville Active Transportation Plan	Recommended Study
Ohlone Wy	Shellmound St	Parking Garage		Bicycle safety	Design the protected bikeways as a shared-use path adjacent to the plaza, with signage alerting bicyclists to watch for pedestrians. Provide green coflict striping where the bikeways cross driveways, with signage instructing vehicles to yield to bicycles.	Bay Street Grocery Store EIR	Approved Study/Not Constructed
Sherwin Av	Halleck St	Horton St	-	Bicycle safety	Install Class III Bicycle Route markings on Sherwin Av.	Sherwin Williams Mixed-use Development	Planned Study
Citywide	Citywide	Citywide	-	Traffic and Bicycle Safety	Rehabilitation and preventive maintenance of city streets. This includes transit stop improvements, filling sidewalk gaps, greenway trail routing gaps, re-building curb ramps, installing the latest types of bike facilities, pedestrian crossing improvements, green infrastructure, lighting enhancements, signage and landscaping, base repairs, crack sealing, slurry seals, rubberized chip seals, pavement overlays, complete street reconstruction, and pavement delineation.	Capital Improvements Program 2023-2028	On-going Study
Frontage Rd	Powell St	I-80 Interchange	-	Traffic Safety	Construction of two landscaped median islands.	Capital Improvements Program 2023-2029	Planned Study
San Pablo Av	40th St	53rd St	Both	Bicycle safety	Coordinate with Caltrans to construct new Class IV separated bikeway on San Pablo Avenue, per 2023 City of Emeryville Active Transportation Plan.	School Safety Assessment Technical Memorandum, Alameda CTC, May 2022	On-going Study
53rd St	West of San Pablo	-	Both	Bicycle safety	Coordinate with Caltrans to construct Class I shared-use path.	School Safety Assessment Technical Memorandum, Alameda CTC, May 2023	On-going Study

City of Emeryville
Local Roadway Safety Plan (LRSP)
Recommended and Planned Projects (Intersections)

Citywide On-going Studies and Planned Improvements (Intersections)

Cross Street A	Cross Street B	Issues Observed	Recommendations	Source	Status
40th St	Adeline St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Adeline St	Pedestrian safety	Striping of advance stop bars	40th and San Pablo Bus Hub Project	On-going Study
40th St	Adeline St	Bicycle safety	Protected corner for bicylists to transition from "Super Sharraows on the east side of Adeline St to/from the separated two-way bike lanes on the west side	40th and San Pablo Bus Hub Project	On-going Study
40th St	Adeline St	Traffic and Bicycle safety	Signal phasing, bike signal heads, bike boxes, dashed green pavement markings, green-backed sharrows	40th and San Pablo Bus Hub Project	On-going Study
40th St	Adeline St	Traffic, Pedestrian, and Bicycle safety	Intersection upgrade	Emeryville Active Transportation Plan	On-going Study
40th St	San Pablo Av	Bicycle safety	Configuration of the northeast corner as a "protected corner" for westbound cyclists on the two-way separated bikeway and northbound cyclists on San Pablo Avenue wanting to turn left onto 40th Street	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Bicycle safety	Configuration of the proposed curb extension (bulbout) at the northwest corner to include a section of protected bikeway and a no turnon-red sign to protect cyclists from vehicle traffic in the high volume of vehicles in the southbound curbside lane	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Traffic and Bicycle safety	Application of signal changes such as phasing and bike signal heads/phasing where applicable, bike boxes, dashed green pavement markings, and green-backed sharrows to enhance the navigation of the San Pablo Avenue intersection by cyclists	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Pedestrian safety	Potential installation of an internally lit No-Right Turn on Red sign for westbound vehicles approaching the San Pablo Avenue intersection	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Pedestrian safety	Realignment of the eastern curb on San Pablo Avenue north and south of the intersection in order to create a wider sidewalk and transit passenger area at the bus stop north of the intersection	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Pedestrian safety	Tightening of curb radii (where feasible) to accommodate directional curb ramps at all four street corners and to shorten crossing distances	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Pedestrian safety	Striping of advance stop bars	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Traffic, Pedestrian, and Bicycle safety	Intersection upgrade	Emeryville Active Transportation Plan	On-going Study
40th St	Emery St	Bicycle safety	Configuration of the northwest corner of the Emery Street intersection as a "protected corner" for cyclists traveling on the two-way bikeway and those turning left onto the bike lane on southbound Emery	40th and San Pablo Bus Hub Project	On-going Study
40th St	Emery St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Emery St	Pedestrian safety	Striping of advance stop bars	40th and San Pablo Bus Hub Project	On-going Study
40th St	Emery St	Traffic and Bicycle safety	Application of signal changes such as phasing and bike signal heads/phasing where applicable, bike boxes, dashed green pavement markings, and green-backed sharrows to enhance the navigation of the Emery Street intersection by cyclists	40th and San Pablo Bus Hub Project	On-going Study
40th St	Emery St	Pedestrian safety	Intersection upgrades	Emeryville Active Transportation Plan	On-going Study
40th St	Watts St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Harlan St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Harlan St	Pedestrian safety	Striping of advance stop bars	40th and San Pablo Bus Hub Project	On-going Study
40th St	Haven St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Haven St	Pedestrian safety	Intersection upgrades	Emeryville Active Transportation Plan	On-going Study
40th St	Hollis St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Hollis St	Pedestrian safety	Striping of advance stop bars	40th and San Pablo Bus Hub Project	On-going Study
40th St	Hollis St	Traffic and Bicycle safety	Application of signal changes such as phasing and bike signal heads/phasing where applicable as well as bike boxes, dashed green pavement markings, and green-backed sharrows to enhance navigation of the Hollis Street intersection by cyclists traveling on the two-way bikeway and those arriving on or switching to the bike lanes located on Hollis Street north and south of the intersection	40th and San Pablo Bus Hub Project	On-going Study
40th St	Holden St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Horton St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Horton St	Pedestrian safety	Striping of advance stop bars	40th and San Pablo Bus Hub Project	On-going Study
40th St	Horton St	Bicycle safety	Configuration of the northwestern and northeastern corners of the Horton Street intersection as "protected corners" for cyclists traveling on the two-way bikeway and those arriving on or switching to the bike lanes located on Horton Street south of the intersection	40th and San Pablo Bus Hub Project	On-going Study
40th St	Horton St	Bicycle safety	Introduction of bike boxes on Horton Street that allow cyclists to set up to either transition to the twoway separated bikeway by following the green-backed sharrows or travel straight through the intersection onto the northbound Bicycle Boulevard or existing southbound bike lanes	40th and San Pablo Bus Hub Project	On-going Study
40th St	Horton St	Traffic and Bicycle safety	Application of signal changes such as phasing and bike signal heads/phasing where applicable, bike boxes, dashed green pavement markings, and green-backed sharrows to enhance the navigation of the Horton Street intersection by cyclists	40th and San Pablo Bus Hub Project	On-going Study
40th St	Horton St	Traffic Safety	Lengthening the eastbound left-turn pocket onto Horton Street to 100 feet in order to accommodate turn volumes expected at this intersection	40th and San Pablo Bus Hub Project	On-going Study
40th St	Target Entry/Exit	Frequent illegal left turns from the Target driveway onto the westbound travel lane of 40th Street toward the Shellmound Street bridge, Accidents between vehicles turning into and out of the parking lot and eastbound bicyclists and pedestrians traveling on the southside of 40th Street	Includes a marked "right turn only" lane onto 40th Street	40th and San Pablo Bus Hub Project	On-going Study
40th St	Target Entry/Exit		conversion of the street-like, asphalted entry/exit into a continuous sidewalk with a commercial drivewaytype access point	40th and San Pablo Bus Hub Project	On-going Study
40th St	Target Entry/Exit		Installation of raised curb elements along portions of the northern and southern edges of the leftturn pocket, the curb element should include a "No Left Turn" sign placed to be clearly visible for drivers exiting the Target parking lot	40th and San Pablo Bus Hub Project	On-going Study
40th St	Hubbard St	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
40th St	Hubbard St	Pedestrian safety	Intersection upgrades	Emeryville Active Transportation Plan	On-going Study
Shellmound St	Bay Bridge Bike Trail/IKEA Entry	Pedestrian safety	High-visibility (continental) striping of all crosswalks	40th and San Pablo Bus Hub Project	On-going Study
Shellmound St	Bay Bridge Bike Trail/IKEA Entry	Pedestrian safety	Restriping of the crosswalk across Shellmound Street with separate crossings for pedestrians and bicyclists, in order to safely connect southbound cyclists on Shellmound Street to the new two-way bikeway.	40th and San Pablo Bus Hub Project	On-going Study
Shellmound St	Bay Bridge Bike Trail/IKEA Entry	Pedestrian safety	Widening of the existing sidewalk on the east-side of the street in order to improve pedestrian access to the enhanced crossing from the relocated merge point of the Bay Bridge Trail (East) and proposed new plaza	40th and San Pablo Bus Hub Project	On-going Study
San Pablo Av	53rd St	Pedestrian safety	Intersection upgrades	Emeryville Active Transportation Plan	Planned Study
MacArthur Blvd	Adeline St	Pedestrian safety	Intersection upgrades	Emeryville Active Transportation Plan	Planned Study
Powell St	Christie Av	Pedestrian safety	Intersection upgrades	Emeryville Active Transportation Plan	Planned Study
Powell St	Hollis St	Pedestrian safety	Intersection upgrades	Emeryville Active Transportation Plan	Planned Study
Powell St	Frontage Rd	Intersection Upgrade	Study for the removal of one turn lane in the westbound direction at the intersection of W Frontage Rd and Powell Street. This area is under Caltrans jurisdiction. Caltrans may or may not approve proposed projects.	Recommended Study - Emeryville Active Transportation Plan	Planned Study
Shellmound St	67th St	Intersection Upgrade	Quiet Zone Traffic Signal. Add a crosswalk on southern leg of intersection to connect people walking north on east side to the existing sidewalk (sidewalk ends/is missing north of 67th on east side of street).	Emeryville Active Transportation Plan	Constructed
Hollis St	67th St	Intersection Upgrade	Quiet Zone Traffic Signal.	Emeryville Active Transportation Plan	Constructed
Emeryville Greenway	67th St	Signage	Add street name sign so Greenway users know which street they are crossing.	Emeryville Active Transportation Plan	Constructed

City of Emeryville
Local Roadway Safety Plan (LRSP)
Recommended and Planned Projects (Intersections)

Emeryville Greenway	66th St	Signage	Add street name sign so Greenway users know which street they are crossing.	Emeryville Active Transportation Plan	Constructed
Emeryville Greenway	65th St	Signage	Add street name sign so Greenway users know which street they are crossing.	Emeryville Active Transportation Plan	Constructed
Doyle St	Ocean Av	Intersection Upgrade	Intersection improvement.	Emeryville Active Transportation Plan	Planned Study
Hollis St	64th St	Intersection Upgrade	Consider LPI and two-turn bike boxes at this location.	Emeryville Active Transportation Plan	Planned Study
63rd St	Hollis St	Intersection Upgrade	Install signal, including crosswalks and curb extensions.	Emeryville Active Transportation Plan	Planned Study
Christie Av	59th St	Intersection Upgrade	Add crosswalks on west, north, and east legs of intersection. Consider signal warrant study.	Emeryville Active Transportation Plan	Planned Study
Emeryville Greenway	58th St	New or Upgrade Crossing	Enhanced crossing, mid-block.	Emeryville Active Transportation Plan	Planned Study
Beaudry St	59th St	Intersection Upgrade	Install stop sign at the intersection of 59th and Beaudry St.	Emeryville Active Transportation Plan	Planned Study
Hollis St	Powell St	Intersection Upgrade	Raise crosswalk and eliminate slip lane, public feedback identified this location as a barrier to walking and biking.	Emeryville Active Transportation Plan	On-going Study
Anchor Dr	Powell St	New or Upgrade Crossing	Enhanced crossing RRFB to transition to Shared-Use Path on other side of Powell St.	Emeryville Active Transportation Plan	Planned Study
Powell St	I-80 Interchange	Intersection Upgrade	MTC I-80/Powell Street Interchange Transit Access Improvements. Install curb extensions on west side of Powell St/Frontage Rd, 10 foot sidewalk on north side of Powell St, Realign Bay Trail for Mode Separation, new bus stops. City to study potential removal of one westbound travel lane on Powell Street turning north onto West Frontage Road.	Emeryville Active Transportation Plan	Planned Study
Christie Av	Powell St	Intersection Upgrade	Eliminate one right turn lane/arrow on Christie southbound and Powell eastbound. Northwest corner (southbound Christie onto westbound Powell) turn radius squared. All-ped scramble study.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	F Bus Stop/Four Points Sheraton Hotel	New or Upgrade Crossing	Add midblock crossing across from Four Points Sheraton at F-bus stop.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	Brunswig Ln	Signage	Add a "Cross at Crosswalk" sign, work with property manager to add signage.	Emeryville Active Transportation Plan	Planned Study
Horton St	Stanford Av	Intersection Upgrade	BPAC 2019 intersection improvement, public identified barriers nearby on Horton.	Emeryville Active Transportation Plan	Planned Study
Hollis St	Stanford Av	Intersection Upgrade	Upgrade crosswalks, make protected intersection with curb extensions, bike boxes.	Emeryville Active Transportation Plan	Planned Study
Spur Alley	53rd St	New or Upgrade Crossing	Midblock crossing, RRFB.	Emeryville Active Transportation Plan	Planned Study
53rd St	San Pablo Av	Intersection Upgrade	Add LPI, protected intersection with curb extensions, consider dashed green pavement markings across San Pablo.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	Bay St (F-bus Stop)	New or Upgrade Crossing	RRFB.	Emeryville Active Transportation Plan	Planned Study
Adeline St	47th St	New or Upgrade Crossing	Lit crosswalk, consider high visibility crosswalk.	Emeryville Active Transportation Plan	Planned Study
Hubbard St	40th St	Intersection Upgrade	From 40th and San Pablo Bus Hub Project: Curb extensions on northern leg, dashed green pavement parkings for 40th St Two-Way Separated Bikeway, "Look Right" signs at crosswalk.	Emeryville Active Transportation Plan	On-going Study
Bridgecourt Office	40th St	Intersection Upgrade	Sidewalk ramps on 40th St on both sides of office entrance.	Emeryville Active Transportation Plan	Planned Study
Emery St	40th St	Intersection Upgrade	Northwest protected corner, bike boxes, dashed green pavement markings, green-backed sharrows, consider bike signal head, add LPI.	Emeryville Active Transportation Plan	On-going Study
San Pablo Av	40th St	Intersection Upgrade	This intersection is included in the Alameda CTC San Pablo Avenue Corridor Project, currently in the design process at time of publication. This area is under Caltrans jurisdiction and Caltrans may or may not approve proposed projects.	Emeryville Active Transportation Plan	On-going Study
Adeline St	40th St	Intersection Upgrade	Northwest protected corner, curb extensions, upgrade sidewalk, bike boxes, dashed green pavement markings, green-backed sharrows, consider bike signal head, add LPI.	Emeryville Active Transportation Plan	On-going Study
Emery St	MacArthur Blvd	Intersection Upgrade	Intersection to be studied in alignment with upgrades to the Adeline/San Pablo/MacArthur intersection for improved crossing for bikes.	Emeryville Active Transportation Plan	Planned Study
San Pablo Av/Adeline St	MacArthur Blvd	Intersection Upgrade	Intersection included in the Alameda CTC San Pablo Avenue Corridor Project, currently in the design process at time of publication. This area is under Caltrans jurisdiction and Caltrans may or may not approve proposed projects. In alignment with Alameda CTC Project, study for linear bikeway west on MacArthur Boulevard to connect people biking to the intersection of Emery St and Peralta St.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	Christie Av	Intersection Upgrade	Intersection upgrade as part of the Emeryville Loop Project. Concept includes modifying vehicle signal detection zones, adding bicycle signal and detection equipment at the Christie Avenue crossing, and modifying the signal phasing and timing to add a bicycle crossing phase.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	Ohlone Wy	Intersection Upgrade	Intersection upgrade as part of the 40th Street Multimodal Project Phase II: Shellmound Street Gap Closure Project. Concept includes modifying vehicle signal detection zones, adding bicycle signal and detection equipment at the Sonesta Driveway crossing, and modifying the signal phasing and timing to add a bicycle crossing phase.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	Bay St	Intersection Upgrade	Intersection upgrade as part of the 40th Street Multimodal Phase II: Bay Trail Gap Closure Project. Concept includes modifying vehicle signal detection zones and reconstructing an existing curbside AC Transit bus stop into a bus boarding island.	Emeryville Active Transportation Plan	On-going Construction
Horton St	53rd St	Intersection Upgrade	Install traffic light and traffic diverter to allow vehicle-free crossing of Horton Street as part of BMR improvements.	Emeryville Active Transportation Plan	Planned Study
Horton St	120 ft south of 53rd St	Intersection Upgrade	Install new signalized pedestrian crossing as part of BMR improvements.	Emeryville Active Transportation Plan	Planned Study
Bay St	Ohlone Wy	Intersection Upgrade	Intersection upgrade as part of Bay Street grocery store project to help facilitate bike and pedestrian movements across Shellmound St and Bay Street and connection to the South Bayfront Bridge.	Emeryville Active Transportation Plan	Constructed
Hollis St	66th St	New or Upgrade Crossing	Add RRFB to cross Hollis Street.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	Market Place Garage Exit	Intersection Upgrade	New Traffic Signal.	Emeryville Active Transportation Plan	Planned Study
Shellmound St	IKEA Dwy	Intersection Upgrade	Intersection upgrade as part of the 40th Street Multimodal Phase II: Bay Trail Gap Closure Project. Concept includes removing trees, relocating traffic signal poles, reconstructing two median islands, upgrading the existing crosswalk into a bikeway crossing that may include supplemental bike signal equipment and a widened curb ramp.	Emeryville Active Transportation Plan	On-going Study
Shellmound St	Shellmound Way	Intersection Upgrade	Intersection upgrade as part of the Emeryville Loop Project. Install protected intersection and paint crosswalk across north leg of the intersection.	Emeryville Active Transportation Plan	Planned Study
Christie Av	Shellmound Way	Intersection Upgrade	Intersection upgrade as part of the Emeryville Loop Project. Install protected intersection on southeast corner and paint crosswalk across south leg of the intersection.	Emeryville Active Transportation Plan	Planned Study
San Pablo Av	53rd St	Intersection Upgrade	Intersection included in the Alameda CTC San Pablo Avenue Corridor Project, currently in the design process at time of publication. This area is under Caltrans jurisdiction and Caltrans may or may not approve proposed projects	Alameda CTC San Pablo Avenue Corridor Improvements	On-going Study
San Pablo Av	40th St	Intersection Upgrade	This intersection is included in the Alameda CTC San Pablo Avenue Corridor Project, currently in the design process at time of publication. This area is under Caltrans jurisdiction and Caltrans may or may not approve proposed projects.	Alameda CTC San Pablo Avenue Corridor Improvements	On-going Study
San Pablo Av/Adeline St	MacArthur Blvd	Intersection Upgrade	Intersection included in the Alameda CTC San Pablo Avenue Corridor Project, currently in the design process at time of publication. This area is under Caltrans jurisdiction and Caltrans may or may not approve proposed projects.	Alameda CTC San Pablo Avenue Corridor Improvements	On-going Study

City of Emeryville
Local Roadway Safety Plan (LRSP)
Recommended and Planned Projects (Intersections)

40th St	Hubbard St	Intersection Upgrade	From 40th and San Pablo Bus Hub Project: Curb extensions on northern leg, dashed green pavement parkings for 40th St Two-Way Separated Bikeway, "Look Right" signs at crosswalk.	40th and San Pablo Bus Hub Project	On-going Study
40th St	Bridgecourt Office	Intersection Upgrade	Sidewalk ramps on 40th St on both sides of office entrance	40th and San Pablo Bus Hub Project	On-going Study
40th St	Emery St	Intersection Upgrade	Northwest protected corner, bike boxes, dashed green pavement markings, green-backed sharrows, consider bike signal head, add LPI.	40th and San Pablo Bus Hub Project	On-going Study
40th St	San Pablo Av	Intersection Upgrade	This intersection is included in the Alameda CTC San Pablo Avenue Corridor Project, currently in the design process at time of publication. This area is under Caltrans jurisdiction and Caltrans may or may not approve proposed projects.	40th and San Pablo Bus Hub Project	On-going Study
40th St	Adeline St	Intersection Upgrade	Northwest protected corner, curb extensions, upgrade sidewalk, bike boxes, dashed green pavement markings, green-backed sharrows, consider bike signal head, add LPI.	40th and San Pablo Bus Hub Project	On-going Study
Shellmound St	Christie Av	Intersection Upgrade	Intersection upgrade as part of the Emeryville Loop Project. Concept includes modifying vehicle signal detection zones, adding bicycle signal and detection equipment at the Christie Avenue crossing, and modifying the signal phasing and timing to add a bicycle crossing phase.	40th Street Multimodal Phase II: Bay Trail Gap Closure	On-going Study
Shellmound St	Brunswig Ln	Signage	Add a "Cross at Crosswalk" sign, work with property manager to add signage.	40th Street Multimodal Phase II: Bay Trail Gap Closure	On-going Study
Shellmound St	Ohlone Wy	Intersection Upgrade	Intersection upgrade as part of the 40th Street Multimodal Project Phase II: Shellmound Street Gap Closure Project. Concept includes modifying vehicle signal detection zones, adding bicycle signal and detection equipment at the Sonesta Driveway crossing, and modifying the signal phasing and timing to add a bicycle crossing phase.	40th Street Multimodal Phase II: Bay Trail Gap Closure	On-going Study
Shellmound St	Bay St (F-bus Stop)	New or Upgrade Crossing	RRFB.	40th Street Multimodal Phase II: Bay Trail Gap Closure	On-going Study
Shellmound St	Bay St	Intersection Upgrade	Intersection upgrade as part of the 40th Street Multimodal Phase II: Bay Trail Gap Closure Project. Concept includes modifying vehicle signal detection zones and reconstructing an existing curbside AC Transit bus stop into a bus boarding island.	40th Street Multimodal Phase II: Bay Trail Gap Closure	On-Going Study
Shellmound St	IKEA Dwy	Intersection Upgrade	Intersection upgrade as part of the 40th Street Multimodal Phase II: Bay Trail Gap Closure Project. Concept includes removing trees, relocating traffic signal poles, reconstructing two median islands, upgrading the existing crosswalk into a bikeway crossing that may include supplemental bike signal equipment and a widened curb ramp.	40th Street Multimodal Phase II: Bay Trail Gap Closure	On-going Study
Christie Av	Powell St	Intersection Upgrade	Eliminate one right turn lane/ arrow on Christie southbound and Powell eastbound. Northwest corner (southbound Christie onto westbound Powell) turn radius squared. All-ped scramble study.	Emeryville Loop Multimodal Project	Planned Study
Shellmound St	Four Points Sheraton Hotel (F-bus Stop)	New or Upgrade Crossing	Add midblock crossing across from Four Points Sheraton at F-bus stop.	Emeryville Loop Multimodal Project	Planned Study
Bay St	Ohlone Wy	Intersection Upgrade	Signalize the Bay Street/Ohlone Way intersection, implementing a signal design that reduces queue spillback to Shellmound Street while minimizing pedestrian wait times.	Bay Street Grocery Store EIR	Constructed
Shellmound St	Ohlone Wy	Intersection Upgrade	Provide directional curb ramps with truncated domes.	Bay Street Grocery Store EIR	On-going Construction
Shellmound St	Ohlone Wy	Transit and Pedestrian Safety	Locate the bus stop as close as feasible to Ohlone Way. Use railing to direct pedestrians to the crosswalk. Provide a bus shelter and pedestrian-scale lighting.	Bay Street Grocery Store EIR	On-going Construction
Bay St	Shopping Complex	Intersection Upgrade	Provide stop control for vehicles at the northbound, westbound, and southbound approaches of the Bay Street/South Project Driveway intersection. Provide signage on the northbound and westbound approaches to yield to vehicles entering the parking areas from the eastbound approach. Restrict vehicles exiting the rooftop deck to right-turn only.	Bay Street Grocery Store EIR	On-going Construction
Bay St	Shopping Complex	Intersection Upgrade	Remove or maintain landscaping so that it does not create a sight obstruction. Provide a stop bar for vehicles exiting the south driveway about 5 feet north of the crosswalk.	Bay Street Grocery Store EIR	On-going Construction
Bay St	Shopping Complex	Intersection Upgrade	Expand the curb extension to include the curb ramping crossing Bay Street. Provide directional curb ramps with truncated domes.	Bay Street Grocery Store EIR	On-going Construction
Sherwin Av	Halleck St	Intersection Upgrade	Install Crosswalks	Sherwin Williams Mixed-use Development	On-going Study
Sherwin Av	Hubbard St	Intersection Upgrade	Install Crosswalks	Sherwin Williams Mixed-use Development	Constructed
Horton St	Sherwin Av	Pedestrian safety	Install curb extensions and a high visibility crosswalk on the north leg of Horton Street at Sherwin Avenue such that pedestrians and transit riders accessing the site from 40th Street do not have to cross two streets to access the site.	Sherwin Williams Mixed-use Development	Constructed
Horton St	45th St	Pedestrian safety	Install a high visibility crosswalk and ADA compliant curb ramps on the north leg of Horton Street at 45th Street to improve pedestrian access to transit.	Sherwin Williams Mixed-use Development	Constructed
Hollis St	Powell St	Pedestrian safety	Remove EBR-turn Bay and curb extension. Install exclusive pedestrian phase.	Hollis Street Improvements Project	On-going Study
Citywide	Citywide	Pedestrian safety	Development and implementation of an updated ADA Transition Plan. The Plan will define and address disabled access code compliance deficiencies within City's public right-of-way, parks, and building facilities. This project will provide upgrades in the public right-of-way to sidewalks and curb ramps, and as well as in city facilities to improve signage and access.	Capital Improvements Program 2023-2028	On-going Study
65th St	Railroad Crossing	Pedestrian safety	Installation of new quad gates, sidewalk, median, and pedestrian gates.	Quite Zone at 75th, 66th, and 67th St At-Grade Crossings	Constructed
66th St	Railroad Crossing	Pedestrian safety	Full Closure of the crossing, and construction of a cul-de-sac on east side.	Quite Zone at 75th, 66th, and 67th St At-Grade Crossings	Constructed
67th St	Railroad Crossing	Pedestrian safety	Installation of new traffic signal, quad gates, and pedestrian gates.	Quite Zone at 75th, 66th, and 67th St At-Grade Crossings	Constructed
San Pablo Av	47th St	Pedestrian safety	Coordinate with Caltrans to install school zone pavement markings at approaches to intersection.	School Safety Assessment Technical Memorandum, Alameda CTC, May 2022	On-going Study
San Pablo Av	53rd St	Pedestrian safety	Coordinate with Caltrans to install school zone pavement markings at approaches to intersection.	School Safety Assessment Technical Memorandum, Alameda CTC, May 2023	On-going Study
San Pablo Av	53rd St	Pedestrian safety	Coordinate with Caltrans to add Leading Pedestrian Interval (LPI), protected intersection with curb extensions, and consider dashed green pavement markings across San Pablo, per 2023 City of Emeryville Active Transportation Plan.	School Safety Assessment Technical Memorandum, Alameda CTC, May 2024	On-going Study
San Pablo Av	53rd St	Pedestrian safety	Coordinate with Caltrans to install a hardened center lane with flex posts along 53rd Street at the approach to San Pablo Avenue.	School Safety Assessment Technical Memorandum, Alameda CTC, May 2025	On-going Study
San Pablo Av	53rd St	Pedestrian safety	Coordinate with Caltrans to study this location for left-turn lane removal along each approach of San Pablo Avenue to accommodate pedestrian refuge at the median.	School Safety Assessment Technical Memorandum, Alameda CTC, May 2026	On-going Study

APPENDIX B – COLLISION ANALYSIS BY PRIMARY COLLISION FACTOR

City of Emeryville
Local Roadway Safety Plan (LRSP)
Appendix B - Corridor Collisions by Primary Collision Factor

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	0	1	3	4	5	6	7	8	9	10	11	12	16	17	18	21	22	-	Total
1a	Powell St	Vallejo St	Frontage Rd	3	1	10	1	3	1	5	12	12	3		11		5		2			69
1b	Powell St	Frontage Rd	Marina Park/City Limit	1		4			1	1	3	2						1	1			14
2	San Pablo Av	53rd St	36th St	3		10		2	1	7	4	4	1	1	3		2	1	2			41
3a	Hollis St	Yerba Buena Av	Powell St			3					3	2	1		2							11
3b	Hollis St	Powell St	67th St			4	1				4	16	1		2				2			30
4a	Shellmound St	67th St	Christie Av	1		2		3	1	3	2	6	1		1		1		3	1		25
4b	Shellmound St	Christie Av	40th St		1	4			1		3											9
5	40th St	East of Adeline St/City Limit	Hubbard St	2		16		2		1	3	6	1		1				1			33
6a	Christie Av	65th St	Powell St	1		1		1		1	4	1				1	2		2		1	15
6b	Christie Av	Powell St	Bay St Parking Garage			3		2	1	1	1	1					3		1		1	14
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St			4		3	1	2	4	4			1						1	20
8	Bay St	Christie Av	Ohlone Wy	1		2		1			3						1		2	1		11
9a	64th St	La Coste St	Shellmound St					1			1	1							1			4
9b	64th St	Overland Av	Vallejo St	2							1											3
10	Emery St	Park Av	MacArthur Bl								4		1		1						1	7
11a	45th St	Horton St	San Pablo Av			1		1			1		1		1							5
11b	45th St	San Pablo Av	Adeline St			1					1											2
12	Adeline St	47th St	36th St			2			1		3											6
13	65th St	La Coste St	East of Vallejo St/City Limit			2		1			3											6
14	66th St	Shellmound St	East of Vallejo St/City Limit	1							1	1							2			5
15a	Doyle St	Emeryville Greenway	Powell St			1													2			3
15b	Doyle St	Powell St	55th St			1											1					2
16	Stanford Av	Horton St	Vallejo St								4											4
17	Horton St	62nd St	40th St			1					1		1		1							4
18a	62nd St	Market Dr	Shellmound St																			0
18b	62nd St	Overland Av	Vallejo St			1						1					1		1			4
19	Park Av	Halleck St	San Pablo Av								3											3
20	61st St	Hollis St	Vallejo St	1									1				1					3
21a	59th St	West of Christie Av	Market Dr																			0
21b	59th St	Horton St	Vallejo St								1				1				1			3
22	43rd St	San Pablo Av	East of Adeline St/City Limit					1					1									2
23	Harlan St	Park Av	40th St			1					1											2
24	Peladeau St	59th St	Stanford Av					1							1							2
25	Beaudry St	59th St	55th St			1	1															2
26	53rd St	Horton St	San Pablo Av								1				1							2
27a	63rd St	Christie Av	Shellmound St								1								1			2
27b	63rd St	Overland Av	Vallejo St																			0
28	Shellmound Wy	Christie Av	Shellmound St			2																2
29	Ohlone Wy	Shellmound St	Bayfront Bridge			1					1											2
30a	Vallejo St	66th St	Peabody Ln																			0
30b	Vallejo St	Peabody Ln	55th St			1						1										2
31	41st St	San Pablo Av	Adeline St			2																2
32	West MacArthur Bl	Watts St	East of San Pablo Av/City Limit											1								1
33	Point Emery Ln	Frontage Rd	I-80 Southbound On/Off Ramps						1													1
34	46th St	Adeline St	East of Adeline St/City Limit								1											1
35	67th St	Shellmound St	East of Emeryville Greenway/City Limits Cir												1							1
36	Peralta St	South of MacArthur Bl	San Pablo Av																	1		1
37a	47th St	Doyle St	San Pablo Av																			0
37b	47th St	San Pablo Av	Adeline St					1														1
38	Commodore Dr	Powell St	Watergate Community																	1		1
39	Watts St	Park St	40th St			1																1
40	Overland Av	65th St	62nd St								1											1
Total				**16**	**2**	**82**	**3**	**23**	**9**	**21**	**76**	**58**	**13**	**2**	**28**	**1**	**17**	**2**	**24**	**4**	**4**	**385**

CODE	DESCRIPTION
-	NOT STATED
01	Driving Or Bicycling Under Influence Of Alcohol Or Drug
02	Impeding Traffic
03	Unsafe Speed
04	Following Too Closely
05	Wrong Side Of Road
06	Improper Passing
07	Unsafe Lane Change
08	Improper Turning
09	Automobile Right-Of-Way
10	Pedestrian Right-Of-Way
11	Pedestrian Violation
12	Traffic Signals And Signs
13	Hazardous Parking
14	Lights
15	Brakes
16	Other Equipment
17	Other Hazardous Violation
18	Other Than Driver
21	Unsafe Starting Or Backing
22	Other Improper Driving
23	Pedestrian Or "Other" Under Influence Of Alcohol Or Drug
24	Fell Asleep
00	Unknown

City of Emeryville
Local Roadway Safety Plan (LRSP)
Appendix B - Intersection Collisions by Primary Collision Factor

CROSS STREET A	CROSS STREET B	0	1	3	4	5	6	7	8	9	10	11	12	16	17	18	21	22	-	Total
MID BLOCK/DRIVEWAYS/TRAFFIC & LIGHT POLES		2		11		4		3	19	5	2				3		4	1		54
POWELL ST	CHRISTIE AV	2		4	1	3	1	2	6	3	1		3		3					29
POWELL ST	RT 80	1				1		5	5	1	1		6		2					22
SAN PABLO AV	40TH ST	3		4				4	3	1	1	1	2							19
SHELLMOUND ST	CHRISTIE AV			3		2	1	1	1	1	1				2			1		13
POWELL ST	DOYLE ST			2			1			6			2							11
HOLLIS ST	67TH ST									8			2							10
FRONTAGE RD	POWELL ST			2		1		2	2	2					1					10
SAN PABLO AV	45TH ST	1		2		1			2	1			1							8
HOLLIS ST	66TH ST	1								6							1			8
40TH ST	EMERY ST			4					2				1						1	8
FRONTAGE RD	ACCESS RD/RT 80			2		1	1			1			1						1	7
40TH ST	HARLAN ST			3					1	2							1			7
POWELL ST	PELADEAU ST	1	1	1		1			2	1										7
40TH ST	HORTON ST			2						3			1							6
BAY ST	OHLONE WY	1		2		1			1						1					6
SAN PABLO AV	53RD ST					1		1	1				1				1			5
HOLLIS ST	59TH ST			2					1		1						1			5
HOLLIS ST	65TH ST								2	1			1				1			5
POWELL ST	TOWERS ACCESS RD			1				1	1	1						1				5
SAN PABLO AV	ADELINE ST			2					1				1							4
SAN PABLO AV	PARK AV							1	2						1					4
CHRISTIE AV	59TH ST					1				1							1		1	4
POWELL ST	COMMODORE DR	1							1	1								1		4
CHRISTIE AV	64TH ST					1			2								1			4
SHELLMOUND ST	65TH ST			1		2							1							4
DOYLE ST	STANFORD AV			1					2						1					4
SAN PABLO AV	43RD ST			1							1				1					3
SAN PABLO AV	37TH ST									2							1			3
POWELL ST	HOLLIS ST			1					1	1										3
HOLLIS ST	STANFORD AV			1						1			1							3
BAY ST	CHRISTIE AV			1													2			3
POWELL ST	CAPTAIN DR			1			1										1			3
FRONTAGE RD	POINT EMERY LN			1			1		1											3
SHELLMOUND WY	SHELLMOUND ST			1				1		1										3
POWELL ST	VALLEJO ST									1	1						1			3
SAN PABLO AV	41ST ST			2																2
HOLLIS ST	40TH ST			1					1											2
HOLLIS ST	45TH ST										2									2
HOLLIS ST	63RD ST			1	1															2
HOLLIS ST	OCEAN AV			1					1											2
HOLLIS ST	PARK AV			1									1							2
WEST MACARTHUR BL	EMERY ST											1	1							2
SHELLMOUND ST	64TH ST									1							1			2
62ND ST	HOLLIS ST			1						1										2
SHELLMOUND ST	IKEA EXIT		1	1																2
SHELLMOUND ST	IKEA ENTRANCE			1					1											2
HORTON ST	62ND ST										1				1					2
SHELLMOUND ST	66TH ST									1							1			2
61ST ST	HOLLIS ST	1									1									2
ADELINE ST	40TH ST						1		1											2
40TH ST	HUBBARD ST	1								1										2
ADELINE ST	43RD ST			2																2
BEAUDRY ST	59TH ST			1									1							2
CHRISTIE AV	SHELLMOUND WY													1			1			2
SAN PABLO AV	36TH ST						1													1
SAN PABLO AV	48TH ST															1				1
SAN PABLO AV	FOLGER AV			1																1
SAN PABLO AV	STEVE DAIN DR			1																1
SAN PABLO AV	WEST MACARTHUR BL					1														1
HOLLIS ST	53RD ST									1										1
BAY ST	BRUNSWIG LN								1											1
56TH ST	HOLLIS ST																1			1
CHRISTIE AV	POWELL ST PLAZA ENTRANCE																		1	1
STANFORD AV	BEAUDRY ST								1											1
43RD ST	SALEM ST					1														1
HORTON ST	53RD ST								1											1
40TH ST	HAVEN ST			1																1
BEAUDRY ST	POWELL ST				1															1
ADELINE ST	44TH ST								1											1
PELADEAU ST	HARUFF ST												1							1
CHRISTIE AV	63RD ST			1																1
DOYLE ST	62ND ST																1			1
DOYLE ST	59TH ST																1			1
40TH ST	HOLDEN ST								1											1
ADELINE ST	WEST MACARTHUR BL								1											1
SHELLMOUND ST	62ND ST			1																1
63RD ST	SHELLMOUND ST								1											1
46TH ST	ADELINE ST								1											1
65TH ST	VALLEJO ST			1																1
HORTON ST	PARK AV			1																1
SHELLMOUND ST	OHLONE WY								1											1
PERALTA ST	36TH ST																	1		1
62ND ST	VALLEJO ST																1			1
64TH ST	HOLLIS ST	1																		1
63RD ST	MARKET DR																1			1
61ST ST	DOYLE ST														1					1
47TH ST	ADELINE ST					1														1
PARK AV	HALLECK ST								1											1
45TH ST	ESSEX ST			1																1
POWELL ST	SAN PABLO AV			1																1
POWELL ST	ADMIRAL DR								1											1
64TH ST	VALLEJO ST								1											1
WATTS ST	PARK AV			1																1
VALLEJO ST	59TH ST			1																1
65TH ST	OVERLAND AV			1																1
40TH ST	SHELLMOUND ST			1																1
SHELLMOUND ST	BAY ST						1													1
41ST ST	ADELINE ST			1																1
VALLEJO ST	62ND ST									1										1
SHELLMOUND ST	67TH ST									1										1
OVERLAND AV	62ND ST								1											1
Total		**16**	**2**	**82**	**3**	**23**	**9**	**21**	**76**	**58**	**13**	**2**	**28**	**1**	**17**	**2**	**24**	**4**	**4**	**385**

CODE	DESCRIPTION
-	NOT STATED
01	Driving Or Bicycling Under Influence Of Alcohol Or Drug
02	Impeding Traffic
03	Unsafe Speed
04	Following Too Closely
05	Wrong Side Of Road
06	Improper Passing
07	Unsafe Lane Change
08	Improper Turning
09	Automobile Right-Of-Way
10	Pedestrian Right-Of-Way
11	Pedestrian Violation
12	Traffic Signals And Signs
13	Hazardous Parking
14	Lights
15	Brakes
16	Other Equipment
17	Other Hazardous Violation
18	Other Than Driver
21	Unsafe Starting Or Backing
22	Other Improper Driving
23	Pedestrian Or "Other" Under Influence Of Alcohol Or Drug
24	Fell Asleep
00	Unknown

APPENDIX C – CRASH RATE ANALYSIS

City of Emeryville
Local Roadway Safety Plan (LRSP)
Appendix C - Corridor Crash Rate Analysis

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Total Collisons	Ped Collisions	Bicycle Collisions	Speed Related Collisions	ADT	ADT Data Year	Length of Roadway Segment (mi)	MVM	Crash Rate	Statewide Average Collision Rate (2019)	Crash Rate greater than Statewide Average?
5	40th St	East of Adeline St/City Limit	Hubbard St	33	1	2	16	17288	2017	0.62	195.61	0.17	1.22	No
1a	Powell St	Vallejo St	Frontage Rd	69	4	5	10	39305	2017	0.65	466.12	0.15	1.22	No
2	San Pablo Av	53rd St	36th St	41	3	4	10	23031	2017	0.71	298.42	0.14	1.22	No
3b	Hollis St	Powell St	67th St	31	1	0	4	5915	2022	0.69	74.05	0.42	1.57	No
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	20		3	4	4931	2023	0.71	64.34	0.31	1.57	No
1b	Powell St	Frontage Rd	Marina Park/City Limit	14			4	3639	2023	1.24	82.35	0.17	1.22	No
4b	Shellmound St	Christie Av	40th St	13	1	1	4	17379	2017	0.80	254.51	0.05	1.57	No
6b	Christie Av	Powell St	Bay St Parking Garage	14			3	13694	2017	0.24	59.07	0.24	1.57	No
3a	Hollis St	Yerba Buena Av	Powell St	10	1	3	3	6938	2022	0.79	99.54	0.10	1.57	No
4a	Shellmound St	67th St	Christie Av	21	1	2	2	6222	2017	0.81	91.85	0.23	1.57	No
8	Bay St	Christie Av	Ohlone Wy	11	2	1	2	2425	2017	0.31	13.54	0.81	1.57	No
12	Adeline St	47th St	36th St	6		1	2	5630	2019	0.67	69.22	0.09	1.57	No
13	65th St	La Coste St	East of Vallejo St/City Limit	6			2	3833	2017	0.53	36.96	0.16	1.57	No
28	Shellmound Wy	Christie Av	Shellmound St	2			2	8490	2017	0.08	12.09	0.17	1.57	No
31	41st St*	San Pablo Av	Adeline St	2			2	1500	-	0.17	4.55	0.44	1.57	No
6a	Christie Av	65th St	Powell St	15			1	4988	2017	0.54	49.55	0.30	1.57	No
11a	45th St	Horton St	San Pablo Av	5	1		1	2296	2019	0.44	18.23	0.27	1.57	No
17	Horton St	62nd St	40th St	4	1		1	3303	2019	0.94	56.87	0.07	1.57	No
18b	62nd St	Overland Av	Vallejo St	4		1	1	1075	2022	0.33	6.57	0.61	1.57	No
15a	Doyle St	Emeryville Greenway	Powell St	3			1	1567	2019	0.44	12.55	0.24	1.57	No
23	Harlan St	Park Av	40th St	2			1	1940	2019	0.19	6.78	0.30	1.57	No
25	Beaudry St	59th St	55th St	2			1	500	2017	0.34	3.10	0.65	1.57	No
29	Ohlone Wy	Shellmound St	Bayfront Bridge	2			1	3105	2017	0.08	4.54	0.44	1.57	No
11b	45th St	San Pablo Av	Adeline St	2			1	2129	2019	0.24	9.42	0.21	1.57	No
15b	Doyle St*	Powell St	55th St	2			1	1567	2019	0.15	4.34	0.46	1.57	No
30b	Vallejo St*	Peabody Ln	55th St	2			1	500	-	0.63	5.76	0.35	1.57	No
39	Watts St*	Park St	40th St	1			1	5000	-	0.09	8.43	0.12	1.57	No
10	Emery St	Park Av	MacArthur Bl	7	2			5115	2019	0.26	24.34	0.29	1.57	No
14	66th St	Shellmound St	East of Vallejo St/City Limit	5				1690	2019	0.37	11.33	0.44	1.57	No
16	Stanford Av	Horton St	Vallejo St	4				1645	2017	0.32	9.65	0.41	1.57	No
9a	64th St*	La Coste St	Shellmound St	4				400	-	0.19	1.37	2.91	1.57	Yes
19	Park Av	Halleck St	San Pablo Av	3				3324	2023	0.56	33.96	0.09	1.57	No
20	61st St*	Hollis St	Vallejo St	3	1	1		1075	-	0.20	3.95	0.76	1.57	No
21b	59th St	Horton St	Vallejo St	3				2582	2019	0.30	13.92	0.22	1.57	No
9b	64th St	Overland Av	Vallejo St	3				400	2022	0.34	2.46	1.22	1.57	No
22	43rd St*	San Pablo Av	East of Adeline St/City Limit	2		1		2000	-	0.21	7.83	0.26	1.57	No
24	Peladeau St*	59th St	Stanford Av	2		1		500	-	0.22	1.99	1.00	1.57	No
26	53rd St	Horton St	San Pablo Av	2				1335	2019	0.45	10.91	0.18	1.57	No
27a	63rd St*	Christie Av	Shellmound St	2				425	-	0.11	0.87	2.29	1.57	Yes
32	West MacArthur Bl*	Watts St	East of San Pablo Av/City Limit	1	1			40000	-	0.21	152.36	0.01	1.57	No
33	Point Emery Ln*	Frontage Rd	I-80 Southbound On/Off Ramps	1				400	-	0.06	0.42	2.40	1.57	Yes
34	46th St*	Adeline St	East of Adeline St/City Limit	1				2000	-	0.06	2.21	0.45	1.57	No
35	67th St	Shellmound St	ast of Emeryville Greenway/City Limits C	1		1		1975	2022	0.37	13.21	0.08	1.57	No
36	Peralta St*	South of MacArthur Bl	San Pablo Av	1				5000	-	0.14	12.67	0.08	1.57	No
38	Commodore Dr*	Powell St	Watergate Community	1				400	-	0.16	1.16	0.86	1.57	No
40	Overland Av	65th St	62nd St	1				1500	2019	0.27	7.37	0.14	1.57	No
37b	47th St	San Pablo Av	Adeline St	1				400	2017	0.29	2.11	0.47	1.57	No
18a	62nd St*	Market Dr	Shellmound St	0				400	-	0.05	0.35	0.00	1.57	No
21a	59th St*	West of Christie Av	Market Dr	0				500	-	0.09	0.82	0.00	1.57	No
27b	63rd St*	Overland Av	Vallejo St	0				400	-	0.33	2.44	0.00	1.57	No
30a	Vallejo St*	66th St	Peabody Ln	0				1500	-	0.12	3.18	0.00	1.57	No
37a	47th St	Doyle St	San Pablo Av	0				400	2017	0.19	1.37	0.00	1.57	No
Total				**385**	**20**	**27**	**82**							

Notes:

Number of years of collision data	5
Million Vehicle Miles (MVM)	(AADT*segment length*365*number of years)/1000000
Crash Rate	Total Number of Crashes/MVM
*Assumed ADT based on similar corridors.	

City of Emeryville
Local Roadway Safety Plan (LRSP)
Appendix C - Intersection Crash Rate Analysis

#	Cross Street A	Cross Street B	Total	Ped Collisions	Bicycle Collisions	Speed Related Collisions	AM Peak TMC	PM Peak TMC	Data Year	Crash Rate	Greater than Citywide Crash Rate*?
1	POWELL ST	CHRISTIE AV	29	1	1	4	2825	3000	2017	199.1	Yes
2	POWELL ST	RT 80	22	1	2		3103	4365	2017	117.8	Yes
3	SAN PABLO AV	40TH ST	19	2	1	4	2596	4177	2017	112.2	Yes
4	SHELLMOUND ST	CHRISTIE AV	13	1	1	3	1884	2465	2017	119.6	Yes
5	POWELL ST	DOYLE ST	11	1	1	2	1603	1843	2017	127.7	Yes
6	HOLLIS ST	67TH ST	10		1		851	1137	2022	201.2	Yes
7	FRONTAGE RD	POWELL ST	10		1	2	2246	3565	2017	68.8	Yes
8	40TH ST	EMERY ST	8	1		4	1528	2265	2017	84.4	Yes
9	SAN PABLO AV	45TH ST	8			2	1480	2379	2017	82.9	Yes
10	HOLLIS ST	66TH ST	8								
11	40TH ST	HARLAN ST	7			3	1393	1611	2017	93.2	Yes
12	FRONTAGE RD	ACCESS RD/RT 80	7		1	2	1707	2907	2017	60.7	No
13	POWELL ST	PELADEAU ST	7			1					
14	40TH ST	HORTON ST	6			2	1028	2168	2017	75.1	Yes
15	BAY ST	OHLONE WY	6	1	1	2	578	711	2018	186.2	Yes
16	POWELL ST	TOWERS ACCESS RD	5			1					
17	HOLLIS ST	59TH ST	5	1		2	696	963	2022	120.6	Yes
18	HOLLIS ST	65TH ST	5				784	1132	2022	104.4	Yes
19	SAN PABLO AV	53RD ST	5	1	1		1756	2316	2017	49.1	No
20	DOYLE ST	STANFORD AV	4			1					
21	SAN PABLO AV	PARK AV	4				1805	2504	2017	37.1	No
22	SHELLMOUND ST	65TH ST	4		1	1					
23	POWELL ST	COMMODORE DR	4								
24	CHRISTIE AV	59TH ST	4								
25	SAN PABLO AV	ADELINE ST	4			2	1936	2853	2017	33.4	No
26	CHRISTIE AV	64TH ST	4								
27	POWELL ST	VALLEJO ST	3	1							
28	HOLLIS ST	STANFORD AV	3			1	1116	1463	2022	46.5	No
29	POWELL ST	HOLLIS ST	3			1	1600	2100	2022	32.4	No
30	SAN PABLO AV	37TH ST	3								
31	POWELL ST	CAPTAIN DR	3			1					
32	SAN PABLO AV	43RD ST	3		1	1					
33	FRONTAGE RD	POINT EMERY LN	3			1					
34	CHRISTIE AV	BAY ST	3			1	513	675	2018	101.0	Yes
35	SHELLMOUND ST	SHELLMOUND WY	3			1	1213	1451	2017	45.0	No
36	HORTON ST	62ND ST	2	1	1						
37	61ST ST	HOLLIS ST	2	1	1						
38	HOLLIS ST	63RD ST	2			1					
39	CHRISTIE AV	SHELLMOUND WY	2				1205	1413	2017	30.6	No
40	40TH ST	HUBBARD ST	2		2						
41	ADELINE ST	43RD ST	2			2					
42	HOLLIS ST	PARK AV	2			1	687	1022	2022	46.8	No
43	HOLLIS ST	OCEAN AV	2			1					
44	SHELLMOUND ST	66TH ST	2								
45	HOLLIS ST	45TH ST	2	2			729	1003	2022	46.2	No
46	ADELINE ST	40TH ST	2				1552	2158	2017	21.6	No
47	SHELLMOUND ST	IKEA EXIT	2	1		1	1667	2049	2017	21.5	No
48	SAN PABLO AV	41ST ST	2			2					
49	SHELLMOUND ST	IKEA ENTRANCE	2			1	1698	2163	2017	20.7	No
50	WEST MACARTHUR BL	EMERY ST	2	1							
51	BEAUDRY ST	59TH ST	2			1					
52	SHELLMOUND ST	64TH ST	2				404	596	2024	80.0	Yes
53	62ND ST	HOLLIS ST	2			1	561	894	2022	55.0	No
54	HOLLIS ST	40TH ST	2		1	1	1331	243	2022	50.8	No
55	CHRISTIE AV	POWELL ST PLAZA ENTRANCE	1				877	1457	2017	17.1	No
56	SAN PABLO AV	WEST MACARTHUR BL	1		1						
57	65TH ST	OVERLAND AV	1			1					
58	SHELLMOUND ST	67TH ST	1								
59	61ST ST	DOYLE ST	1								
60	PELADEAU ST	HARUFF ST	1		1						
61	POWELL ST	ADMIRAL DR	1								
62	STANFORD AV	BEAUDRY ST	1								
63	VALLEJO ST	62ND ST	2								
64	43RD ST	SALEM ST	1								
65	HOLLIS ST	53RD ST	1		1		821	1042	2022	21.5	No
66	HORTON ST	53RD ST	1				268	208	2015	84.0	Yes
67	BAY ST	BRUNSWIG LN	1				261	342	2018	66.3	No
68	CHRISTIE AV	63RD ST	1			1					
69	45TH ST	ESSEX ST	1			1					
70	DOYLE ST	62ND ST	1								
71	WATTS ST	PARK AV	1			1					
72	DOYLE ST	59TH ST	1								
73	SHELLMOUND ST	BAY ST	1				1763	2134	2017	10.3	No
74	40TH ST	HOLDEN ST	1								
76	SAN PABLO AV	48TH ST	1								
77	64TH ST	HOLLIS ST	1				578	855	2022	27.9	No
78	ADELINE ST	WEST MACARTHUR BL	1		1						
79	63RD ST	MARKET DR	1								
80	SHELLMOUND ST	62ND ST	1			1					
81	47TH ST	ADELINE ST	1								
82	SAN PABLO AV	FOLGER AV	1			1					
83	SAN PABLO AV	36TH ST	1				1899	2489	2017	9.1	No
84	63RD ST	SHELLMOUND ST	1				373	535	2024	44.1	No
85	PARK AV	HALLECK ST	1				234	234	2015	85.5	Yes
86	46TH ST	ADELINE ST	1								
87	POWELL ST	SAN PABLO AV	1			1					
88	65TH ST	VALLEJO ST	1			1					
89	64TH ST	VALLEJO ST	1								
90	HORTON ST	PARK AV	1			1	433	720	2015	34.7	No
91	VALLEJO ST	59TH ST	1			1					
92	SAN PABLO AV	STEVE DAIN DR	1			1					
93	40TH ST	SHELLMOUND ST	1			1					
94	OVERLAND AV	62ND ST	1								
95	41ST ST	ADELINE ST	1			1					
96	SHELLMOUND ST	OHLONE WY	1				1904	2388	2017	9.3	No
97	BEAUDRY ST	POWELL ST	1				962	1229	2017	18.3	No
98	PERALTA ST	36TH ST	1								
99	ADELINE ST	44TH ST	1								
100	40TH ST	HAVEN ST	1			1					
Total			**330**	**17**	**22**	**71**					

Notes:

Crash Rate (MEV)	(Total Crashes / Number of Years) / (Average Daily Traffic Entering Intersection)*1000000
***Citywide Average Crash Rate**	**67.44**

APPENDIX D – COUNTERMEASURE IDENTIFICATION AND SELECTION

City of Emeryville
Local Roadway Safety Program
Preliminary Countermeasure Analysis
Selected Signalized Intersection Countermeasures

									Countermeasure Selection												Collisions Rectifiable by Countermeasures							Total Effectiveness		Total Effectiveness (%)											
									HSIP Countermeasures	Improve signal hardware	Improve signal timing	Adv. Dilemma Zone Detect. (HSIP Analyzer 2020)	Install left-turn phase	Install raised pavement markers and striping (through intersection)	Adv. stop bar (bike box)	Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	Pavement markings	Install median barrier	Install Upgrade signs with new fluorescent sheeting (regulatory or warning)	Install dynamic/variable speed warning signs	Install delineators, reflectors and/or object markers	HSIP Countermeasures	Improve signal hardware	Improve signal timing	Install left-turn phase	Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	Pavement markings	Install delineators, reflectors and/or object markers											
									Countermeasure ID	SI02	SI03	S04	SI05	SI08	SI21PB	SI22PB	NS09	R03	R22	R26	R27	Countermeasure ID	SI02	SI03	SI05	SI22PB	NS09	R27												
									Crash Type	All	All	All	All	All	P & B	P & B	All	All	All	All	All	Crash Type	All	All	All	P & B	All	All												
									CRF	0.15	0.15	0.4	0.55	0.1	0.15	0.6	0.25	0.25	0.15	0.3	0.15	CRF	0.15	0.15	0.55	0.60	0.25	0.15												
									Expected Life (Years)	10	10	10	20	10	10	10	10	10	10	10	10	Expected Life (Years)	10	10	20	10	10	10												
									HSIP Funding Eligibility	1	0.5	1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	HSIP Funding Eligibility	1	0.5	0.9	0.9	0.9	0.9												
Collisions by Primary Collision Factor (PCF)			Bike	Ped	Night	F-SI	Control Type	Total Collisions	Systemic Approach Opportunity	Very High	Very High	High	Low	Very High	Very High	Very High	Very High	Medium	Very High	High	Very High	Systemic Approach Opportunity	Very High	Very High	Low	Very High	Very High	Very High												
ID	CROSS STREET A	CROSS STREET B																																						
1	POWELL ST	CHRISTIE AV	1	1	0	0	SI	25	2		E					A						13	0	12	0	1	0	0	2.4	10%	0	1.8	0	0.6	0	0		$0	$20,000	$0	$5,000	$0	$0
2	POWELL ST	RT 80	2	1	0	0	SI	22	1		D											12	0	12	0	0	0	0	1.8	8%	0	1.8	0	0	0	0		$0	$20,000	$0	$0	$0	$0
3	SAN PABLO AV	40TH ST	1	2	0	0	SI	17	1		D											6	0	6	0	0	0	0	0.9	5%	0	0.9	0	0	0	0		$0	$20,000	$0	$0	$0	$0
4	SHELLMOUND ST	CHRISTIE AV	0	1	0	0	SI	10	2		E					F						7	0	6	0	1	0	0	1.5	15%	0	0.9	0	0.6	0	0		$0	$20,000	$0	$5,000	$0	$0
5	POWELL ST	DOYLE ST	1	1	0	2	SI	11	1				A									8	0	0	8	0	0	0	4.4	40%	0	0	4.4	0	0	0		$0	$0	$200,000	$0	$0	$0
6	HOLLIS ST	67TH ST	1	0	0	1	SI	10	1		F											10	0	10	0	0	0	0	1.5	15%	0	1.5	0	0	0	0		$0	$20,000	$0	$0	$0	$0
7	FRONTAGE RD	POWELL ST	1	0	0	0	SI	9	1		D											5	0	5	0	0	0	0	0.75	8%	0	0.75	0	0	0	0		$0	$20,000	$0	$0	$0	$0
8	40TH ST	EMERY ST	0	0	0	0	SI	6	1		D											5	0	5	0	0	0	0	0.75	13%	0	0.75	0	0	0	0		$0	$20,000	$0	$0	$0	$0
9	SAN PABLO AV	45TH ST (SIGNALIZED)	0	0	0	0	SI	3	2		D								D			3	0	2	0	0	1	0	0.55	18%	0	0.3	0	0	0.25	0		$0	$20,000	$0	$0	$10,000	$0

ID	CROSS STREET A	CROSS STREET B																																					Cost/ Location	$200,000	$20,000	$200,000	$5,000	$10,000	$10,000
11	40TH ST	HARLAN ST	0	0	0	0	SI	6	1			D											3	0	3	0	0	0	0	0.45	8%	0	0.45	0	0	0	0			$0	$20,000	$0	$0	$0	$0
12	FRONTAGE RD	ACCESS RD/RT 80	1	0	0	0	SI	6	3			A						A				A	5	0	3	0	0	1	1	0.85	14%	0	0.45	0	0	0.25	0.15			$0	$20,000	$0	$0	$10,000	$10,000
14	40TH ST	HORTON ST	0	0	0	0	SI	4	1			D											4	0	4	0	0	0	0	0.6	15%	0	0.6	0	0	0	0			$0	$20,000	$0	$0	$0	$0
15	BAY ST	OHLONE WY	1	1	0	0	SI	6	1			F											2	0	2	0	0	0	0	0.3	5%	0	0.3	0	0	0	0			$0	$20,000	$0	$0	$0	$0
16	POWELL ST	TOWERS ACCESS RD	0	0	1	0	SI	5	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
17	HOLLIS ST	59TH ST	0	1	0	0	SI	3	2			A					A						2	0	1	0	1	0	0	0.75	25%	0	0.15	0	0.6	0	0			$0	$20,000	$0	$5,000	$0	$0
18	HOLLIS ST	65TH ST	0	0	0	0	SI	5	1					A									3	0	0	3	0	0	0	1.65	33%	0	0	1.65	0	0	0			$0	$0	$200,000	$0	$0	$0
19	SAN PABLO AV	53RD ST	1	1	0	0	SI	5	1			A											3	0	3	0	0	0	0	0.45	9%	0	0.45	0	0	0	0			$0	$20,000	$0	$0	$0	$0
21	SAN PABLO AV	PARK AV	0	0	0	0	SI	4	2			D						D					2	0	1	0	0	1	0	0.4	10%	0	0.15	0	0	0.25	0			$0	$20,000	$0	$0	$10,000	$0
22	SHELLMOUND ST	65TH ST	1	0	1	0	SI	4	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
25	SAN PABLO AV	ADELINE ST	0	0	0	0	SI	2	1			A											2	0	2	0	0	0	0	0.3	15%	0	0.3	0	0	0	0			$0	$20,000	$0	$0	$0	$0
28	HOLLIS ST	STANFORD AV	0	0	0	0	SI	3	1			F											2	0	2	0	0	0	0	0.3	10%	0	0.3	0	0	0	0			$0	$20,000	$0	$0	$0	$0
29	POWELL ST	HOLLIS ST	0	0	0	0	SI	2	1			F											2	0	2	0	0	0	0	0.3	15%	0	0.3	0	0	0	0			$0	$20,000	$0	$0	$0	$0
35	SHELLMOUND ST	SHELLMOUND WY	0	0	0	0	SI	3	1			D											1	0	1	0	0	0	0	0.15	5%	0	0.15	0	0	0	0			$0	$20,000	$0	$0	$0	$0
39	CHRISTIE AV	SHELLMOUND WY	0	0	0	0	SI	2	1			D											1	0	1	0	0	0	0	0.15	8%	0	0.15	0	0	0	0			$0	$20,000	$0	$0	$0	$0
41	ADELINE ST	43RD ST	0	0	0	0	SI	2	1			A											2	0	2	0	0	0	0	0.3	15%	0	0.3	0	0	0	0			$0	$20,000	$0	$0	$0	$0
42	HOLLIS ST	PARK AV	0	0	0	0	SI	2	1			A											1	0	1	0	0	0	0	0.15	8%	0	0.15	0	0	0	0			$0	$20,000	$0	$0	$0	$0
45	HOLLIS ST	45TH ST	0	2	0	1	SI	2	1								A						2	0	0	0	2	0	0	1.2	60%	0	0	0	1.2	0	0			$0	$0	$0	$5,000	$0	$0
46	ADELINE ST	40TH ST	0	0	0	0	SI	2	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
47	SHELLMOUND ST	IKEA EXIT	0	1	0	1	SI	2	2			D					A						2	0	1	0	1	0	0	0.75	38%	0	0.15	0	0.6	0	0			$0	$20,000	$0	$5,000	$0	$0
49	SHELLMOUND ST	IKEA ENTRANCE	0	0	0	0	SI	1	1									D					1	0	0	0	0	1	0	0.25	25%	0	0	0	0	0.25	0			$0	$0	$0	$0	$10,000	$0
50	WEST MACARTHUR BL	EMERY ST	0	1	1	1	SI	2	2			A					A						2	0	1	0	1	0	0	0.75	38%	0	0.15	0	0.6	0	0			$0	$20,000	$0	$5,000	$0	$0
53	62ND ST	HOLLIS ST	0	0	0	0	SI	2	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
54	HOLLIS ST	40TH ST	1	0	0	0	SI	2	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
55	CHRISTIE AV	POWELL ST PLAZA ENTRANCE	0	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
56	SAN PABLO AV	WEST MACARTHUR BL	1	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
57	65TH ST	OVERLAND AV	0	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
58	SHELLMOUND ST	67TH ST	0	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
65	HOLLIS ST	53RD ST	1	0	0	0	SI	1	1			F											1	0	1	0	0	0	0	0.15	15%	0	0.15	0	0	0	0			$0	$20,000	$0	$0	$0	$0
77	64TH ST	HOLLIS ST	0	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
78	ADELINE ST	WEST MACARTHUR BL	1	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
83	SAN PABLO AV	36TH ST	0	0	0	0	SI	1	1									D					1	0	0	0	0	1	0	0.25	25%	0	0	0	0	0.25	0			$0	$0	$0	$0	$10,000	$0
87	POWELL ST	SAN PABLO AV	0	0	0	0	SI	0	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
96	SHELLMOUND ST	OHLONE WY	0	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
97	BEAUDRY ST	POWELL ST	0	0	0	0	SI	1	0														0	0	0	0	0	0	0	0	0%	0	0	0	0	0	0			$0	$0	$0	$0	$0	$0
	Total		15	13	3	6		200	39	Total	0	25	0	2	0	0	6	5	0	0	0	1	113	0	89	11	7	5	1	25	13%	0	13.35	6.05	4.2	1.25	0.15	$990,000							

Notes:

Minimum Distance from Intersection 200 ft

Control Type

SI	Signalized Intersection
NS	Non Signalized Intersection
OWSC	One-Way Stop Control
TWSC	Two-Way Stop Control
AWSC	All-Way Stop Control

Countermeasure Identification Legend

A	Not Part of Project
B	Project concept with no design
C	Project design but no funding
D	Funded Project
E	Funded Project - Interim Recommendations
F	Implemented CM

XX Orange font indicates manual adjustments to avoid double counting collisions.

City of Emeryville
Local Roadway Safety Plan (LRSP)
Appendix B - Intersection Collisions by Primary Collision Factor

City of Emeryville
Local Roadway Safety Program
Preliminary Countermeasure Analysis
Selected Unsignalized Intersection Countermeasures

Countermeasure Selection

HSIP Countermeasures	Convert to all-way STOP control (from 2-way or Yield control)	Warning/regulatory signs	Pavement markings	Install left-turn lane (where no left-turn lane exists)	Install/upgrade pedestrian crossing at uncontrolled locations (with enhanced safety features)	Install Rectangular Rapid Flashing Beacon (RRFB)	Install dynamic/variable-speed warning signs	Install edge-lines and centerlines	Install separated bike lanes	Remove On-Street Parking
Countermeasure ID	NS02	NS08	NS09	NS20	NS23PB	NS24PB	R26	R28	R33PB	https://cmfclearinghouse.fhwa.dot.gov/detail.php?facid=153
Crash Type	All	All	All	All	P & B	P & B	All	All	P & B	
CRF	0.5	0.15	0.25	0.35	0.35	0.35	0.3	0.25	0.45	0.2
Expected Life (Years)	10	10	10	20	20	20	10	10	20	
HSIP Funding Eligibility	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Systemic Approach Opportunity	High	Very High	Very High	Low	Medium	Medium	High	Very High	High	

Collisions Rectifiable by Countermeasures

HSIP Countermeasures	Convert to all-way STOP control (from 2-way or Yield control)	Warning/regulatory signs	Pavement markings	Install left-turn lane (where no left-turn lane exists)	Install/upgrade pedestrian crossing at uncontrolled locations (with enhanced safety features)	Install Rectangular Rapid Flashing Beacon (RRFB)	Install dynamic/variable-speed warning signs	Install edge-lines and centerlines	Install separated bike lanes	Remove On-Street Parking
Countermeasure ID	NS02	NS08	NS09	NS20	NS23PB	NS24PB	R26	R28	R33PB	https://cmfclearinghouse.fhwa.dot.gov/detail.php?facid=153
Crash Type	All	All	All	All	P & B	P & B	All	All	P & B	
CRF	0.50	0.15	0.25	0.35	0.35	0.35	0.30	0.25	0.45	0.20
Expected Life (Years)	10	10	10	20	20	20	10	10	20	
HSIP Funding Eligibility	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Systemic Approach Opportunity	High	Very High	Very High	Low	Medium	Medium	High	Very High	High	

Total Effectiveness

Total Effectiveness (%)

HSIP Countermeasures	Convert to all-way STOP control (from 2-way or Yield control)	Warning/regulatory signs	Pavement markings	Install left-turn lane (where no left-turn lane exists)	Install/upgrade pedestrian crossing at uncontrolled locations (with enhanced safety features)	Install Rectangular Rapid Flashing Beacon (RRFB)	Install dynamic/variable-speed warning signs	Install edge-lines and centerlines	Install separated bike lanes	Remove On-Street Parking
Countermeasure ID	NS02	NS08	NS09	NS20	NS23PB	NS24PB	R26	R28	R33PB	https://cmfclearinghouse.fhwa.dot.gov/detail.php?facid=153
Crash Type	All	All	All	All	P & B	P & B	All	All	P & B	
CRF	0.50	0.15	0.25	0.35	0.35	0.35	0.30	0.25	0.45	0.20
Expected Life (Years)	10	10	10	20	20	20	10	10	20	
HSIP Funding Eligibility	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Systemic Approach Opportunity	High	Very High	Very High	Low	Medium	Medium	High	Very High	High	

Countermeasure ID	NS02	NS08	NS09	NS20	NS23PB	NS24PB	R26	R28	R33PB	https://cmfclearinghouse.fhwa.dot.gov/detail.php?facid=153
Countermeasures	Convert to all-way STOP control (from 2-way or Yield control)	Warning/regulatory signs	Pavement markings	Install left-turn lane (where no left-turn lane exists)	Install/upgrade pedestrian crossing at uncontrolled locations (with enhanced safety features)	Install Rectangular Rapid Flashing Beacon (RRFB)	Install dynamic/variable-speed warning signs	Install edge-lines and centerlines	Install separated bike lanes	Remove On-Street Parking
Crash Type	All	All	All	All	P & B	P & B	All	All	P & B	
CRF	0.50	0.15	0.25	0.35	0.35	0.35	0.30	0.25	0.45	0.20
Expected Life (Years)	10	10	10	20	20	20	10	10	20	
HSIP Funding Eligibility	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Systemic Approach Opportunity	High	Very High	Very High	Low	Medium	Medium	High	Very High	High	

Collisions by Primary Collision Factor (PCF)	Unknown	DUI	Unsafe Speed	Following too Closely	Wrong Side Of Road	Improper Passing	Unsafe Lane Change	Improper Turning	Automobile Right-Of-Way	Pedestrian Right-Of-Way	Pedestrian Violation	Traffic Signals And Signs	Other Equipment	Other Hazardous Violation	Other Than Driver	Unsafe Starting Or Backing	Other Improper Driving	Not Stated	Bike	Ped	Night	F+SI	Control Type	Total Collisions
ID CROSS STREET A CROSS STREET B	0	1	3	4	5	6	7	8	9	10	11	12	16	17	18	21	22	-						
10 HOLLIS ST 66TH ST	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	NS-TWSC	6
13 POWELL ST PELADEAU ST	1	1	1	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-TWSC	7
20 DOYLE ST STANFORD AV	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	3
23 POWELL ST COMMODORE DR	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	3
24 CHRISTIE AV 59TH ST	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	NS-TWSC	4
26 CHRISTIE AV 64TH ST	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	3
27 POWELL ST VALLEJO ST	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	NS-TWSC	3
30 SAN PABLO AV 37TH ST	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-OWSC	3
31 POWELL ST CAPTAIN DR	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
32 SAN PABLO AV 43RD ST	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	NS-OWSC	3
33 FRONTAGE RD POINT EMERY LN	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	2
34 CHRISTIE AV BAY ST	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	NS - Multiway Stop Control	3
36 HORTON ST 62ND ST	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	0	NS-OWSC	2
37 61ST ST HOLLIS ST	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	NS-OWSC	2
38 HOLLIS ST 63RD ST	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-TWSC	2
40 40TH ST HUBBARD ST	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	NS-AWSC	2
43 HOLLIS ST OCEAN AV	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	2
44 SHELLMOUND ST 66TH ST	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-Yield Control at Dwy	2
48 SAN PABLO AV 41ST ST	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	2
51 BEAUDRY ST 59TH ST	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	NS-TWSC	1
52 SHELLMOUND ST 64TH ST	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-AWSC	2
59 61ST ST DOYLE ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	NS-AWSC	1
60 PELADEAU ST HARUFF ST	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	NS-OWSC	1
61 POWELL ST ADMIRAL DR	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
62 STANFORD AV BEAUDRY ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
63 VALLEJO ST 62ND ST	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-TWSC	2
64 43RD ST SALEM ST	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
66 HORTON ST 53RD ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
67 BAY ST BRUNSWIG LN	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	1
68 CHRISTIE AV 63RD ST	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
69 45TH ST ESSEX ST	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
70 DOYLE ST 62ND ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-TWSC	1
71 WATTS ST PARK AV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
72 DOYLE ST 59TH ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-AWSC	1
74 40TH ST HOLDEN ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
76 SAN PABLO AV 48TH ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	NS-OWSC	1
79 63RD ST MARKET DR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-OWSC	1
80 SHELLMOUND ST 62ND ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	0
81 47TH ST ADELINE ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	0
82 SAN PABLO AV FOLGER AV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
84 63RD ST SHELLMOUND ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
85 PARK AV HALLECK ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	NS-TWSC	1
86 46TH ST ADELINE ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
88 65TH ST VALLEJO ST	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
89 64TH ST VALLEJO ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	0
90 HORTON ST PARK AV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
91 VALLEJO ST 59TH ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	0
94 OVERLAND AV 62ND ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
95 41ST ST ADELINE ST	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-AWSC	1
98 PERALTA ST 36TH ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	NS-TWSC	1
99 ADELINE ST 44TH ST	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
100 40TH ST HAVEN ST	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NS-OWSC	1
Total	**4**	**1**	**17**	**1**	**4**	**1**	**0**	**19**	**16**	**4**	**0**	**2**	**0**	**1**	**1**	**11**	**1**	**1**	**0**	**3**	**0**	**1**		**86**

	Cost/ Location	$20,000	$2,000	$10,000	$20,000	$20,000	$25,000	$10,000	$10,000	$100,000	$2,000
10 HOLLIS ST 66TH ST	40	$0	$2,000	$0	$0	$0	$0	$0	$10,000	$0	$0
13 POWELL ST PELADEAU ST	2	$0	$2,000	$0	$0	$0	$0	$10,000	$0	$0	$0
20 DOYLE ST STANFORD AV	1	$0	$2,000	$0	$0	$0	$0	$0	$0	$0	$0
23 POWELL ST COMMODORE DR	3	$20,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
24 CHRISTIE AV 59TH ST	4	$0	$0	$0	$20,000	$0	$0	$0	$0	$0	$0
26 CHRISTIE AV 64TH ST	3	$0	$0	$0	$0	$0	$0	$10,000	$0	$0	$0
27 POWELL ST VALLEJO ST	3	$0	$0	$0	$0	$0	$25,000	$10,000	$0	$0	$2,000
30 SAN PABLO AV 37TH ST	3	$0	$0	$10,000	$0	$0	$0	$0	$0	$0	$0
31 POWELL ST CAPTAIN DR	1	$0	$0	$0	$0	$0	$0	$10,000	$0	$0	$0
32 SAN PABLO AV 43RD ST	3	$0	$0	$10,000	$0	$0	$0	$0	$0	$100,000	$0
33 FRONTAGE RD POINT EMERY LN	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
34 CHRISTIE AV BAY ST	3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
36 HORTON ST 62ND ST	2	$0	$0	$0	$0	$20,000	$0	$0	$0	$100,000	$0
37 61ST ST HOLLIS ST	2	$0	$0	$0	$0	$20,000	$0	$0	$0	$0	$0
38 HOLLIS ST 63RD ST	2	$0	$0	$0	$0	$0	$0	$10,000	$0	$0	$0
40 40TH ST HUBBARD ST	2	$0	$0	$0	$0	$0	$0	$0	$0	$100,000	$0
43 HOLLIS ST OCEAN AV	2	$0	$0	$10,000	$0	$0	$0	$0	$0	$0	$0
44 SHELLMOUND ST 66TH ST	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
48 SAN PABLO AV 41ST ST	2	$0	$0	$10,000	$0	$0	$0	$0	$0	$0	$0
51 BEAUDRY ST 59TH ST	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000
52 SHELLMOUND ST 64TH ST	1	$20,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
59 61ST ST DOYLE ST	1	$0	$0	$0	$0	$0	$0	$0	$10,000	$0	$0
60 PELADEAU ST HARUFF ST	1	$0	$0	$10,000	$0	$0	$0	$0	$0	$0	$0
61 POWELL ST ADMIRAL DR	1	$0	$2,000	$0	$0	$0	$0	$0	$0	$0	$0
62 STANFORD AV BEAUDRY ST	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000
63 VALLEJO ST 62ND ST	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000
64 43RD ST SALEM ST	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
66 HORTON ST 53RD ST	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
67 BAY ST BRUNSWIG LN	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
68 CHRISTIE AV 63RD ST	1	$0	$2,000	$0	$0	$0	$0	$0	$0	$0	$0
69 45TH ST ESSEX ST	1	$0	$2,000	$0	$0	$0	$0	$0	$0	$0	$0
70 DOYLE ST 62ND ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
71 WATTS ST PARK AV	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
72 DOYLE ST 59TH ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
74 40TH ST HOLDEN ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
76 SAN PABLO AV 48TH ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
79 63RD ST MARKET DR	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
80 SHELLMOUND ST 62ND ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
81 47TH ST ADELINE ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
82 SAN PABLO AV FOLGER AV	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
84 63RD ST SHELLMOUND ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
85 PARK AV HALLECK ST	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000
86 46TH ST ADELINE ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
88 65TH ST VALLEJO ST	2	$0	$2,000	$0	$0	$0	$0	$0	$0	$0	$0
89 64TH ST VALLEJO ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
90 HORTON ST PARK AV	1	$0	$2,000	$0	$0	$0	$0	$0	$0	$0	$0
91 VALLEJO ST 59TH ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
94 OVERLAND AV 62ND ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
95 41ST ST ADELINE ST	1	$0	$2,000	$0	$0	$0	$0	$0	$0	$0	$0
98 PERALTA ST 36TH ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
99 ADELINE ST 44TH ST	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
100 40TH ST HAVEN ST	0	$0	$0	$10,000	$0	$0	$0	$0	$0	$0	$0
Total	**2**	**$583,000**									

Notes:

Minimum Distance from Intersection 200 ft

Control Type

SI	Signalized Intersection
NS	Non Signalized Intersection
OWSC	One-Way Stop Control
TWSC	Two-Way Stop Control
AWSC	All-Way Stop Control

Countermeasure Identification Legend

A	Not Part of Project
B	Project concept with no design
C	Project design but no funding
D	Funded Project
E	Funded Project - Interim Recommendations
F	Implemented CM

XX Orange font indicates manual adjustments to avoid double counting collisions.

City of Emeryville
Local Roadway Safety Plan (LRSP)
Appendix B - Intersection Collisions by Primary Collision Factor

iteris

City of Emeryville
Local Roadway Safety Program
Preliminary Countermeasure Analysis
Selected Corridor Countermeasures

Collisions by Primary Collision Factor (PCF)

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Unknown (0)	DUI (1)	Unsafe Speed (3)	Following too Closely (4)	Wrong Side Of Road (5)	Improper Passing (6)	Unsafe Lane Change (7)	Improper Turning (8)	Automobile Right-Of-Way (9)	Pedestrian Right-Of-Way (10)	Pedestrian Violation (11)	Traffic Signals And Signs (12)	Other Equipment (16)	Other Hazardous Violation (17)	Other Than Driver (18)	Unsafe Starting Or Backing (21)	Other Improper Driving (22)	Not Stated (-)	Bike	Ped	Night	F+SI	Total Collisions	Countermeasure Selection
1a	Powell St	Vallejo St	Frontage Rd	0	0	1	0	1	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	2	6	1
1b	Powell St	Frontage Rd	Marina Park/City Limit	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	1
2	San Pablo Av	53rd St	36th St	0	0	4	0	0	0	3	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	10	2
3a	Hollis St	Yerba Buena Av	Powell St	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
3b	Hollis St	Powell St	67th St	0	0	1	0	0	0	0	4	1	0	0	0	0	0	0	1	0	0	0	0	0	1	7	1
4a	Shellmound St	67th St	Christie Av	1	0	1	0	1	0	1	1	2	0	0	0	0	0	0	2	0	0	2	0	0	0	9	3
4b	Shellmound St	Christie Av	40th St	0	0	2	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1
5	40th St	East of Adeline St/City Limit	Hubbard St	0	0	6	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	9	2
6a	Christie Av	65th St	Powell St	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
6b	Christie Av	Powell St	Bay St Parking Garage	0	0	1	0	2	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	7	2
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	0	0	3	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	6	4
8	Bay St	Christie Av	Ohlone Wy	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	1	0	0	1	0	0	4	0
9a	64th St	La Coste St	Shellmound St	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	1
9b	64th St	Overland Av	Vallejo St	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
10	Emery St	Park Av	MacArthur Bl	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	1	0	0	4	1
11a	45th St	Horton St	San Pablo Av	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
13	65th St	La Coste St	East of Vallejo St/City Limit	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
14	66th St	Shellmound St	East of Vallejo St/City Limit	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	4	0
15b	Doyle St	Powell St	55th St	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1
16	Stanford Av	Horton St	Vallejo St	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
21b	59th St	Horton St	Vallejo St	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
23	Harlan St	Park Av	40th St	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
25	Beaudry St	59th St	55th St	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
28	Shellmound Wy	Christie Av	Shellmound St	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
30b	Vallejo St	Peabody Ln	55th St	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
37b	47th St	San Pablo Av	Adeline St	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
38	Commodore Dr	Powell St	Watergate Community	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Total				3	0	24	0	8	3	4	26	8	2	0	0	0	4	0	8	2	0	6	3	0	7	92	25

Countermeasure Selection

HSIP Countermeasures	Pavement markings	Install raised median	Install/Upgrade signs with new fluorescent sheeting (regulatory or warning)	Install chevron signs on horizontal curves	Install dynamic/variable speed warning signs	Install delineators, reflectors and/or object markers	Install edge-lines and centerlines	Install bike lanes	Install/upgrade pedestrian crossing (with enhanced safety features)	On-going Projects	Iteris Comments
Countermeasure ID	NS09	R08	R22	R23	R26	R27	R28	R33PB	R36PB		
Crash Type	All	All	All	All	All	All	All	P & B	P & B		
CRF	0.25	0.25	0.15	0.4	0.3	0.15	0.25	0.35	0.35		
Expected Life (Years)	10	20	10	10	10	10	10	20	20		
HSIP Funding Eligibility	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9		
Systemic Approach Opportunity	Very High	Median	Very High	Very High	High	Very High	Very High	High	Medium		
1a					A						Dynamic speed signat WB approach at gateway entrance.
1b					A						Install Dynamic Speed Variable Signs west of Frontage Road in WB direction and at Captain Dr, EB approach.
2	D	D								San Pablo Bus-Bike Project	Lane reduction through San Pablo Bus-Bike Project and raised median north of Adeline St.
3a	D									Sustainable Streetscapes - Hollis St Rehabilitation	Install edgelines/parking lanes at NB Approach between 53rd St and Stanford Av. On-going project has several curb extension, signing and striping improvements.
3b							A				Install edgelines/parking lanes between Powell St and 61st in both directions.
4a	A				A			F		Emeryville Loop Project	Interim Recommendation - Add lane movement signing/striping in advance of Shellmound St/Shellmound Wy intersection to allow early lane changes to Shellmound Wy. On-going project improves pedestrian, bicycle and transit facilities and providing traffic calming measures. Dynamic speed feedback sign at SB receiving lane at Shellmound St/62nd St.
4b					A					40th St-Shellmound St Multimodal Improvements - Phase II Emeryville Loop Project	On-going project improves pedestrian, bicycle and transit facilities and providing traffic calming measures. Install speed safety cameras/dynamic speed signs between Christie Av and IKEA Entrance.
5	D				D					40th St Multimodal Project - Phase I	On-going project improves pedestrian, bicycle and transit facilities and providing traffic calming measures. Install dynamic speed signs between Horton St and Halleck St and at Emeryville gateway entrance/city limit between San Pablo Av and Adeline St.
6a											No intersection collisions correctible by CM.
6b			D			D					Install posted speed sign between Shellmound St and Bay St Garage in WB direction.The on-going project will convert Christie Av from Powell to Shellmound to a one-way street in the SB direction.
7		A	A	A	A						Advance warning signs ahead of Point Emery Ln intersection, delineators along centerline with speed signs at gateway entrance, stop ahead sign for people coming off-freeway at Frontage and Point Emery Ln, chevron signs north of Point Emery Ln.
8											No intersection collisions correctible by CM.
9a							A				Edgelines and centerlines on 64th St between La Coste St and Market Dr.
9b							A				Edgelines and centerlinesbetween Hollis St and Vallejo St.
10									A		Install yield lines at Nordstorm Rack Dwy for the NB and SB direction and in pavement State Law Yield to Pedestrians sign.
11a											No recommendations. Hit object collision.
13											No intersection collisions correctible by CM.
14											No intersection collisions correctible by CM.
15b							A				Consider removing parking in one direction or turning Doyle St between Stanford Av and 55th St a one-way street. Street width is less than 30 ft to allow for parking on both sides and two-way street. Two collisions within this segment, one rear end and one sideswipe with parked cars. Install centerline.
16											No recommendations. Hit object collision.
21b											No recommendations. Hit object collision.
23							A				Install edgelines and centerlines along Harlan St between Park St and 40th St.
25											No recommendations. Parking maneuver with a parked car.
28											No recommendations. Hit object collision.
30b			A				A				Edgelines and centerlines between 59th St and Powell St and posted speed signs at SB receiving lane at 59th St.
37b											No recommendations. Hit object collision.
38											No recommendations. Unsafe starting and backing because of existing perpendicular parking.
Total	4	2	3	1	6	1	6	1	1		

Collisions Rectifiable by Countermeasures

ID	Collisions Rectifiable by Countermeasures	HSIP Countermeasures	Pavement markings	Install raised median	Install/Upgrade signs with new fluorescent sheeting (regulatory or warning)	Install chevron signs on horizontal curves	Install dynamic/variable speed warning signs	Install delineators, reflectors and/or object markers	Install edge-lines and centerlines	Install bike lanes	Install/upgrade pedestrian crossing (with enhanced safety features)	
		Countermeasure ID	NS09	R08	R22	R23	R26	R27	R28	R33PB	R36PB	
		Crash Type	All	All	All	All	All	All	All	P & B	P & B	
		CRF	0.25	0.25	0.15	0.4	0.3	0.15	0.25	0.35	0.35	
		Expected Life (Years)	10	20	10	10	10	10	10	20	20	
		HSIP Funding Eligibility	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
		Systemic Approach Opportunity	Very High	Median	Very High	Very High	High	Very High	Very High	High	Medium	
1a	1		0	0	0	0	1	0	0	0	0	
1b	2		0	0	0	0	2	0	0	0	0	
2	8		7	1	0	0	0	0	0	0	0	
3a	1		1	0	0	0	0	0	0	0	0	
3b	4		0	0	0	0	0	0	4	0	0	
4a	3		0	0	0	0	1	0	0	2	0	
4b	2		0	0	0	0	2	0	0	0	0	
5	6		6	0	0	0	6	0	0	0	0	
6a	0		0	0	0	0	0	0	0	0	0	
6b	4		0	0	1	0	0	3	0	0	0	
7	4		0	1	2	1	1	0	0	0	0	
8	0		0	0	0	0	0	0	0	0	0	
9a	2		0	0	0	0	0	0	2	0	0	
9b	2		0	0	0	0	0	0	2	0	0	
10	1		0	0	0	0	0	0	0	0	1	
11a	0		0	0	0	0	0	0	0	0	0	
13	0		0	0	0	0	0	0	0	0	0	
14	0		0	0	0	0	0	0	0	0	0	
15b	1		0	0	0	0	0	0	1	0	0	
16	0		0	0	0	0	0	0	0	0	0	
21b	0		0	0	0	0	0	0	0	0	0	
23	0		0	0	0	0	0	0	0	0	0	
25	0		0	0	0	0	0	0	0	0	0	
28	0		0	0	0	0	0	0	0	0	0	
30b	2		0	0	1	0	0	0	1	0	0	
37b	0		0	0	0	0	0	0	0	0	0	
38	0		0	0	0	0	0	0	0	0	0	
Total	43	0	14	2	4	1	13	3	10	2	1	$458,000

ID	HSIP Countermeasures	Pavement markings	Install raised median	Install/Upgrade signs with new fluorescent sheeting (regulatory or warning)	Install chevron signs on horizontal curves	Install dynamic/variable speed warning signs	Install delineators, reflectors and/or object markers	Install edge-lines and centerlines	Install bike lanes	Install/upgrade pedestrian crossing (with enhanced safety features)
	Countermeasure ID	NS09	R08	R22	R23	R26	R27	R28	R33PB	R36PB
	Crash Type	All	All	All	All	All	All	All	P & B	P & B
	CRF	0.25	0.25	0.15	0.4	0.3	0.15	0.25	0.35	0.35
	Expected Life (Years)	10	20	10	10	10	10	10	20	20
	HSIP Funding Eligibility	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	Systemic Approach Opportunity	Very High	Median	Very High	Very High	High	Very High	Very High	High	Medium
		$10,000	$100,000	$2,000	$2,000	$10,000	$10,000	$10,000	$100,000	$20,000
1a		$0	$0	$0	$0	$10,000	$0	$0	$0	$0
1b		$0	$0	$0	$0	$10,000	$0	$0	$0	$0
2		$10,000	$100,000	$0	$0	$0	$0	$0	$0	$0
3a		$10,000	$0	$0	$0	$0	$0	$0	$0	$0
3b		$0	$0	$0	$0	$0	$0	$10,000	$0	$0
4a		$0	$0	$0	$0	$10,000	$0	$0	$100,000	$0
4b		$0	$0	$0	$0	$10,000	$0	$0	$0	$0
5		$10,000	$0	$0	$0	$10,000	$0	$0	$0	$0
6a		$0	$0	$0	$0	$0	$0	$0	$0	$0
6b		$0	$0	$2,000	$0	$0	$10,000	$0	$0	$0
7		$0	$100,000	$2,000	$2,000	$10,000	$0	$0	$0	$0
8		$0	$0	$0	$0	$0	$0	$0	$0	$0
9a		$0	$0	$0	$0	$0	$0	$10,000	$0	$0
9b		$0	$0	$0	$0	$0	$0	$10,000	$0	$0
10		$0	$0	$0	$0	$0	$0	$0	$0	$20,000
11a		$0	$0	$0	$0	$0	$0	$0	$0	$0
13		$0	$0	$0	$0	$0	$0	$0	$0	$0
14		$0	$0	$0	$0	$0	$0	$0	$0	$0
15b		$0	$0	$0	$0	$0	$0	$10,000	$0	$0
16		$0	$0	$0	$0	$0	$0	$0	$0	$0
21b		$0	$0	$0	$0	$0	$0	$0	$0	$0
23		$0	$0	$0	$0	$0	$0	$0	$0	$0
25		$0	$0	$0	$0	$0	$0	$0	$0	$0
28		$0	$0	$0	$0	$0	$0	$0	$0	$0
30b		$0	$0	$2,000	$0	$0	$0	$10,000	$0	$0
37b		$0	$0	$0	$0	$0	$0	$0	$0	$0
38		$0	$0	$0	$0	$0	$0	$0	$0	$0
Total		$30,000	$200,000	$6,000	$2,000	$60,000	$10,000	$50,000	$100,000	$20,000

Notes:

Minimum Distance from Intersection 200 ft

Countermeasure Identification Legend

A Not Part of Project
B Project concept with no design
C Project design but no funding
D Funded Project
E Funded Project - Interim Recommendations
F Implemented CM

XX Orange font indicates manual adjustments to avoid double counting collisions.

APPENDIX E – COUNTERMEASURE PROJECTS

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Signal Timing Program

ID	CROSS STREET A	CROSS STREET B	Funded Project	Improve Signal Timing	LPI	LPI CW Location	Collisions Correctible by CM (Auto/Bike)	Collisions Correctible by CM (Ped)	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio
1	POWELL ST	CHRISTIE AV	E: Funded Project - Interim Recommendations	E: Funded Project - Interim Recommendations	A: Not Part of Project	SB	12	1	5	8	2.40	$ 25,000.00	$ 317,723.08	12.71
2*	POWELL ST	RT 80	*D: Funded Project*	*D: Funded Project*	-	-	12		6	6	1.80	$ 20,000.00	$ 304,650.00	15.23
45	HOLLIS ST	45TH ST	A: Not Part of Project	-	A: Not Part of Project	EB, WB		2	2	0	1.20	$ 5,000.00	$ 394,800.00	78.96
3*	SAN PABLO AV	40TH ST	*D: Funded Project*	*D: Funded Project*	-	-	6		3	3	0.90	$ 20,000.00	$ 152,325.00	7.62
4	SHELLMOUND ST	CHRISTIE AV	E: Funded Project - Interim Recommendations	E: Funded Project - Interim Recommendations	F: Implemented CM	Exclusive Ped Phase Installed	6	1	5	2	1.50	$ 25,000.00	$ 356,571.43	14.26
7*	FRONTAGE RD	POWELL ST	*D: Funded Project*	*D: Funded Project*	-	-	5		3	2	0.75	$ 20,000.00	$ 150,900.00	7.55
8	40TH ST	EMERY ST	*D: Funded Project*	*D: Funded Project*	-	-	5		2	3	0.75	$ 20,000.00	$ 102,975.00	5.15
9*	SAN PABLO AV	45TH ST	*D: Funded Project*	*D: Funded Project*	-	-	2		2	0	0.30	$ 20,000.00	$ 98,700.00	4.94
47	SHELLMOUND ST	IKEA EXIT	*D: Funded Project*	*D: Funded Project*	A: Not Part of Project	NB	1	1	1	1	0.75	$ 25,000.00	$ 126,937.50	5.08
50	WEST MACARTHUR BL	EMERY ST	A: Not Part of Project	A: Not Part of Project	A: Not Part of Project	WB	1	1	1	1	0.75	$ 25,000.00	$ 126,937.50	5.08
14	40TH ST	HORTON ST	*D: Funded Project*	*D: Funded Project*	-	-	4		1	3	0.60	$ 20,000.00	$ 53,625.00	2.68
11	40TH ST	HARLAN ST	*D: Funded Project*	A: Not Part of Project	-	-	3		1	2	0.45	$ 20,000.00	$ 52,200.00	2.61
12*	FRONTAGE RD	ACCESS RD/RT 80	A: Not Part of Project	A: Not Part of Project	-	-	3		3	0	0.45	$ 20,000.00	$ 148,050.00	7.40
19*	SAN PABLO AV	53RD ST	A: Not Part of Project	A: Not Part of Project	-	-	3		3	0	0.45	$ 20,000.00	$ 148,050.00	7.40
25*	SAN PABLO AV	ADELINE ST	A: Not Part of Project	A: Not Part of Project	-	-	2		0	2	0.30	$ 20,000.00	$ 2,850.00	0.14
41	ADELINE ST	43RD ST	A: Not Part of Project	A: Not Part of Project	-	-	2		2	0	0.30	$ 20,000.00	$ 98,700.00	4.94
39	CHRISTIE AV	SHELLMOUND WY	*D: Funded Project*	*D: Funded Project*	-	-	1		0	1	0.15	$ 20,000.00	$ 1,425.00	0.07
17	HOLLIS ST	59TH ST	A: Not Part of Project	A: Not Part of Project	A: Not Part of Project	NB	1	1	1	1	0.75	$ 25,000.00	$ 126,937.50	5.08
21	SAN PABLO AV	PARK AV	*D: Funded Project*	*D: Funded Project*			1		0	1	0.15	$ 20,000.00	$ 1,425.00	0.07
35	SHELLMOUND ST	SHELLMOUND WY	*B: Project concept with no design*	*B: Project concept with no design*			1		1	0	0.15	$ 20,000.00	$ 49,350.00	2.47
42	HOLLIS ST	PARK AV	A: Not Part of Project	A: Not Part of Project	-	-	1		0	1	0.15	$ 20,000.00	$ 1,425.00	0.07
							72	**7**	**42**	**37**	**15.00**	**$ 430,000.00**	**$ 2,816,557.01**	**6.55**

Countermeasure Identification Legend

A Not Part of Project
B Project concept with no design
C Project design but no funding
D Funded Project
E Funded Project - Interim Recommendations
F Implemented CM
* Caltrans

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Daylighting Program - Remove On-Street Parking/Install Red Curb

ID	CROSS STREET A	CROSS STREET B	Remove Parking	Red Curb Location	Length[1,2]	Collisions Correctible by CM	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio	Comments
27	POWELL ST	VALLEJO ST	~1 Space	NE Corner on North Leg	15 ft, existing red curb is ~5 ft	1	1	0	0.20	$ 2,000.00	$ 65,800.00	32.9	
51	BEAUDRY ST	59TH ST	~2 Spaces	SW Corner on West Leg	50 ft	1	1	0	0.20	$ 2,000.00	$ 65,800.00	32.9	
62	STANFORD AV	BEAUDRY ST	~1 Space	SW Corner on West Leg	20 ft	1	0	1	0.20	$ 2,000.00	$ 1,900.00	0.95	
63	VALLEJO ST	62ND ST	~1 Space	SW Corner on West Leg	50 ft	2	0	2	0.40	$ 2,000.00	$ 3,800.00	1.9	
			~2 Spaces	SW Corner on South Leg	50 ft								
85	PARK AV	HALLECK ST	~1 Space	SW Corner on South Leg	20 ft	1	0	1	0.20	$ 2,000.00	$ 1,900.00	0.95	
37	61ST ST	HOLLIS ST	~2 Spaces	Green curb in SB direction, on both sides of the crosswalk	15 ft, existing red curb is ~5 ft	0	0	0	0.00	$ 2,000.00	-	-	This location is recommended in this program as a preemptive CM/recommendation in line with CVC 22500.
52	SHELLMOUND ST	64TH ST	~4 Spaces	NW Corner on South Leg	75 ft	0	0	0	0.00	$ 2,000.00	-	-	This location is recommended in this program as a preemptive CM/recommendation in line with CVC 22500.
						6	**2**	**4**	**1.20**	**$ 14,000.00**	**$ 139,200.00**	**9.94**	

[1]Per CVC 22500 - Starting on January 1, 2024, it will be illegal in California to park within 20 feet of the approach of any marked or unmarked crosswalk, even if the approach does not have any red curbs painted.

[2]Red curb recommended to improve sight visibility is approximate. Coduct sight visibility analysis for length.

Countermeasure Identification

A Not Part of Project
B Project concept with no design
C Project design but no funding
D Funded Project
E Funded Project - Interim Recommendations
F Implemented CM
* Caltrans

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Pedestrian Improvements Program

ID	CROSS STREET A	CROSS STREET B	RRFB	Enhanced Safety Features	NRTOR	Location	Additional Treatment Details	Collisions Correctible by CM	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio
27	POWELL ST	VALLEJO ST	A: Not Part of Project	-	-	SB CW	-	1	1	0	0.35	$ 25,000.00	$ 115,150.00	4.61
36	HORTON ST	62ND ST		A: Not Part of Project		Sidewalk at WB approach	Private garage - Recommend audible alarms for garage if not already present	1	1	0	0.35	$ 20,000.00	$ 115,150.00	5.76
37	61ST ST	HOLLIS ST	-	A: Not Part of Project	-	EB CW	Yield lines, ped xing pavement markings, and advance pedestrian crossing signs.	1	1	0	0.35	$ 20,000.00	$ 115,150.00	5.76
3*	SAN PABLO AV	40TH ST	-	*D: Funded Project*	*D: Funded Project*	All CW	High visibility crosswalks, tightened curb radii and shorten crossing distances, NRTOR for WB RT.	2	1	1	0.50	$ 100,000.00	$ 84,625.00	0.85
2*	POWELL ST	RT 80	-	-	*D: Funded Project*	WB CW	NRTOR Blank-out sign when CW active	1	1	0	0.10	$ 20,000.00	$ 32,900.00	1.65
Corridor 10	Emery St	Nordstorm Rack Dwy	-	A: Not Part of Project		Midblock CW	Yield lines and in-pavement State Law Yield to Pedestrian Sign.	1	1	0	0.35	$ 20,000.00	$ 115,150.00	5.76
								7	**6**	**1**	**2.00**	**$ 205,000.00**	**$ 578,125.00**	**2.82**

Countermeasure Identification

- A Not Part of Project
- B Project concept with no design
- C Project design but no funding
- D Funded Project
- E Funded Project - Interim Recommendations
- F Implemented CM
- * Caltrans

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Frontage Road Corridor - Safety Improvements

ID	Corridor	Corridor Limit 1	Corridor Limit 2	Dynamic Speed Variable Signs	Delineators, reflectors and/or object markers	Pavement Marking	Warning/regulatory signs	Location	Additional Treatment Details	Collisions Correctible by CM	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio	Comments
7a	Frontage Rd	North of Point Emery Ln/City Limit	I-80 Interchange	A: Not Part of Project	A: Not Part of Project	-	A: Not Part of Project	Frontage Rd - SB direction at city limit	Dynamic speed variable sign at gateway entrance	1	1	0	0.10	$ 10,000.00	$ 32,900.00	2.74	-
								Frontage Rd - North and south of Point Emery Ln	Install Chevron signs in the NB and SB directions					$ 2,000.00			
								Frontage Rd/Point Emery Ln - WB approach*	Stop ahead sign for people coming off-freeway	0	0	0	0.00	$ -			
7b	Frontage Rd	I-80 Interchange	Powell St	-	A: Not Part of Project	A: Not Part of Project	A: Not Part of Project	Frontage Rd/Hilton Dwy	Restrict left-turns/install median barrier on Frontage Rd	1	0	1	1.05	$ 10,000.00	$ 9,975.00	1.00	A raised median could be considered based on funding availability as another option.
								Frontage Rd/I-80 Interchange/Access Rd - SB receiving lane*	Install left and right-turn lane pavement legends	1	1	0	0.25	$ 10,000.00	$ 82,250.00	8.23	-
								Frontage Rd/Powell St - NE Corner/NB receiving lane	Install posted speed limit sign at the NE corner of Powell/Frontage intersection or posted speed limit pavement markings at the NB receiving lane.	2	2	0	0.30	$ 2,000.00	$ 98,700.00	49.35	-
								Frontage Rd/I-80 Interchange/Access Rd - SW corner*	Install curb extension on the southwest side	1	1	0	0.25	$ 20,000.00	$ 82,250.00	4.11	-
										6	**5**	**1**	**1.95**	**$ 54,000.00**	**$ 306,075.00**	**5.67**	

Countermeasure Identification

A Not Part of Project
B Project concept with no design
C Project design but no funding
D Funded Project
E Funded Project - Interim Recommendations
F Implemented CM
* Caltrans

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Signal Upgrade/HSIP Eligible Program

ID	CROSS STREET A	CROSS STREET B	Install left-turn phase	Install Signal	Location	Collisions Correctible by CM	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio
5	POWELL ST	DOYLE ST	A: Not Part of Project	-	EB and WB LT on Powell St	8	4	4	4.40	$ 200,000.00	$ 744,700.00	3.72
9*	SAN PABLO AV	45TH ST	A: Not Part of Project	A: Not Part of Project	Clustered intersection: Protected NBL at east leg of intersection (signalized), signalize west leg.	3	1	2	1.15	$ 500,000.00	$ 133,400.00	0.27
18	HOLLIS ST	65TH ST	A: Not Part of Project		EB and WB LT on 65th St	3	2	1	1.65	$ 200,000.00	$ 367,125.00	1.84
						14	**7**	**7**	**7.20**	**$ 900,000.00**	**$ 1,245,225.00**	**5.83**

Countermeasure Identification

- A Not Part of Project
- B Project concept with no design
- C Project design but no funding
- D Funded Project
- E Funded Project - Interim Recommendations
- F Implemented CM
- * Caltrans

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Signing & Striping Program - Unsignalized Intersections

ID	CROSS STREET A	CROSS STREET B	Dynamic Speed Variable Signs	All-way Stop Control	Install left-turn lane	Pavement Marking/Install Edgelines & Centerlines	Warning/regulatory signs	Install Separated Bike Lanes/Bike Lanes	Location	Additional Treatment Details	Collisions Correctible by CM	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio	Comments
27	POWELL ST	VALLEJO ST	A: Not Part of Project				-		Powell St, east of Vallejo St near city limit.	Install dynamic speed variable sign	1	0	1	0.30	$ 10,000.00	$ 2,850.00	0.29	
10	HOLLIS ST	66TH ST				A: Not Part of Project	A: Not Part of Project		NB/SB Approaches	Install edge lines and advance warning signs - Cross Traffic Ahead (W2-1)	6	3	3	0.60	$ 10,000.00	$ 101,550.00	8.46	There were no pedestrian collisions at this location. Recommendation is a preemptive CM to improve pedestrian safety at the uncontrolled CWs.
									EB/WB Approaches	Install Cross Traffic does not stop (W4-4P)					$ 2,000.00			
									NB/SB Approaches	Install yield lines and advance pedestrian warning signs, and in-pavement state law yield to peds for WB CW	0	0	0	-	$ 20,000.00	-	-	
13	POWELL ST	PELADEAU ST	A: Not Part of Project				A: Not Part of Project		Median facing WB approach	Install No U-turn Sign	1	0	1	0.15	$ 2,000.00	$ 1,425.00	0.71	
									EB Approach	Install Dynamic Speed Variable Sign	1	0	1	0.30	$ 10,000.00	$ 2,850.00	0.29	
20	DOYLE ST	STANFORD AV					A: Not Part of Project		SB Approach	Install Posted speed limit sign	1	0	1	0.15	$ 2,000.00	$ 1,425.00	0.71	With cars parked on both sides, the NB approach it too tight too allow both directions of travel. Consider removing one lane of parking
23	POWELL ST	COMMODORE DR		A: Not Part of Project					Intersection	Install All-way stop control	3	0	3	1.50	$ 20,000.00	$ 14,250.00	0.71	
24	CHRISTIE AV	59TH ST			A: Not Part of Project				NB Approach	Convert from shared left, thru, right lane to NBL and shared thru and right-turn lane.	3	0	3	1.05	$ 20,000.00	$ 9,975.00	0.50	
26	CHRISTIE AV	64TH ST				A: Not Part of Project			EB Approach	Install edge lines and solid centerlines from intersection to La Coste St	2	1	1	0.50	$ 10,000.00	$ 84,625.00	8.46	
30*	SAN PABLO AV	37TH ST				D: Funded Project			NB/SB Approaches	Lane reduction and bus-only lanes	2	1	1	0.50	$ 10,000.00	$ 84,625.00	8.46	
31	POWELL ST	CAPTAIN DR	A: Not Part of Project						EB/WB approaches	Install Dynamic Speed Variable Signs in place of Existing Posted Speed signs	1	0	1	0.30	$ 10,000.00	$ 2,850.00	0.29	
32*	SAN PABLO AV	43RD ST				D: Funded Project		D: Funded Project	NB Approach	Reduced number of through lanes by adding bus only lane and separated bike lanes - on-going project	2	0	2	0.50	$ 10,000.00	$ 4,750.00	0.48	
									NB Approach	Install separated bike lanes	1	1	0	0.45	$ 100,000.00	$ 148,050.00	1.48	
36	HORTON ST	62ND ST						B: Project concept with no design	EB Approach	Install separated bike lanes	1	1	0	0.45	$ 100,000.00	$ 148,050.00	1.48	
38	HOLLIS ST	63RD ST	A: Not Part of Project						NB/SB Approaches	Install Dynamic Speed Variable Sign	2	2	0	0.60	$ 10,000.00	$ 197,400.00	19.74	
40	40TH ST	HUBBARD ST						D: Funded Project	WB Approach	Install two-way separated bike lanes	2	2	0	0.90	$ 100,000.00	$ 296,100.00	2.96	
43	HOLLIS ST	OCEAN AV				A: Not Part of Project			NB/SB Approaches	Install edgelines/parking lanes	2	0	2	0.50	$ 10,000.00	$ 4,750.00	0.48	
48*	SAN PABLO AV	41ST ST				D: Funded Project			NB/SB Approaches	Reduced number of through lanes by adding bus only lane and separated bike lanes - on-going project	2	0	2	0.50	$ 10,000.00	$ 4,750.00	0.48	
52	SHELLMOUND ST	64TH ST		D: Funded Project					NB/SB Approaches	Install All-way stop control	1	0	1	0.50	$ 20,000.00	$ 4,750.00	0.24	
59	61ST ST	DOYLE ST				A: Not Part of Project			EB Approach	Install edge lines and solid centerlines between Hollis St and Doyle St	1	0	1	0.25	$ 10,000.00	$ 2,375.00	0.24	
60	PELADEAU ST	HARUFF ST				A: Not Part of Project			South Leg between Haruff St and Stanford Av	Install Class III bike lane markings and signage	1	1	0	0.25	$ 10,000.00	$ 82,250.00	8.23	
61	POWELL ST	ADMIRAL DR				A: Not Part of Project			EB Approach	Install No U-turn Sign for EB approach	1	0	1	0.15	$ 2,000.00	$ 1,425.00	0.71	
68	CHRISTIE AV	63RD ST					A: Not Part of Project		NB Approach	Install Posted speed limit sign	1	1	0	0.15	$ 2,000.00	$ 49,350.00	24.68	
69	45TH ST	ESSEX ST					A: Not Part of Project		EB Approach	Install Posted speed limit sign	1	0	1	0.15	$ 2,000.00	$ 1,425.00	0.71	
88	65TH ST	VALLEJO ST					A: Not Part of Project		EB Approach	Install Posted speed limit sign	1	0	1	0.15	$ 2,000.00	$ 1,425.00	0.71	
90	HORTON ST	PARK AV					A: Not Part of Project		NB Approach	Install Posted speed limit sign	1	1	0	0.15	$ 2,000.00	$ 49,350.00	24.68	
95	41ST ST	ADELINE ST					A: Not Part of Project		SB Approach	Install Posted speed limit sign	1	0	1	0.15	$ 2,000.00	$ 1,425.00	0.71	
100	40TH ST	HAVEN ST				D: Funded Project			WB Approach	Lane reduction and bus-only lanes	1	1	0	0.25	$ 10,000.00	$ 82,250.00	8.23	
											43	**15**	**28**	**11.40**	**$ 528,000.00**	**$ 1,386,300.00**	**2.63**	

Countermeasure Identification

- A Not Part of Project
- B Project concept with no design
- C Project design but no funding
- D Funded Project
- E Funded Project - Interim Recommendations
- F Implemented CM
- * Caltrans

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Signing & Striping Program - Signalized Intersections

ID	CROSS STREET A	CROSS STREET B	Pavement Marking/Install Edgelines & Centerlines	Install delineators, reflectors and/or object markers	Location	Additional Treatment Details	Collisions Correctible by CM	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio
9*	SAN PABLO AV	45TH ST (SIGNALIZED)	D: Funded Project	-	NB/SB Approaches	On-going project reduces one through lane and adds bus-only lane	1	0	1	0.25	$ 10,000.00	$ 2,375.00	0.24
12*	FRONTAGE RD	ACCESS RD/RT 80	Included in Frontage Rd Safety Improvements Project										
21*	SAN PABLO AV	PARK AV	D: Funded Project	-	NB/SB Approaches	On-going project reduces one through lane and adds bus-only lane	1	0	1	0.25	$ 10,000.00	$ 2,375.00	0.24
49	SHELLMOUND ST	IKEA ENTRANCE	D: Funded Project		SB Approach	On-going project will install multimodal treatments and bike lanes which will help in traffic calming.	1	0	1	0.25	$ 10,000.00	$ 2,375.00	0.24
83*	SAN PABLO AV	36TH ST	D: Funded Project	-	NB/SB Approaches	On-going project reduces one through lane and adds bus-only lane	1	0	1	0.25	$ 20,000.00	$ 2,375.00	0.12
							4	**0**	**4**	**1.00**	**$ 50,000.00**	**$ 9,500.00**	**0.19**

Countermeasure Identification

A Not Part of Project
B Project concept with no design
C Project design but no funding
D Funded Project
E Funded Project - Interim Recommendations
F Implemented CM
* Caltrans

City of Emeryville
Local Roadway Safety Plan (LRSP)
Countermeasure Projects

Signing & Striping Program - Corridor Spot Improvements

ID	Corridor	Corridor Limit (Start)	Corridor Limit (End)	Dynamic Speed Variable Signs	Pavement Marking/Install Edgelines & Centerlines	Warning/regulatory signs	Install delineators, reflectors and/or object markers	Location	Additional Treatment Details	Collisions Correctible by CM	Injury Collisions Correctable	PDO Collision Correctable	Total Effectiveness	Total Cost of Countermeasure Treatments	Monetized Benefit of Correctible Collisions	Safety B/C Ratio	
1a	Powell St	Vallejo St	Frontage Rd	A: Not Part of Project				WB Approach, east of Vallejo St near city limit.	Install Dynamic Speed Variable Sign at gateway entrance to City	1	0	1	0.30	$ 10,000.00	$ 2,850.00	0.29	
1b	Powell St	Frontage Rd	Marina Park/City Limit	A: Not Part of Project				EB/WB approaches	Install Dynamic Speed Variable Signs west of Frontage Road in WB direction and at Captain Dr, EB approach	2	0	2	0.60	$ 10,000.00	$ 5,700.00	0.57	
2*	San Pablo Av	53rd St	36th St		D: Funded Project			NB/SB Approaches	Lane reduction through San Pablo Bus-Bike Project	7	4	3	1.75	$ 300,000.00	$ 336,125.00	1.12	
								NB/SB Approaches	Raised median north of Adeline St	1	0	1	0.25	$ 100,000.00	$ 2,375.00	0.02	
3a	Hollis St	Yerba Buena Av	Powell St		D: Funded Project			NB Approach between 53rd St and Stanford Av	Install edgelines/parking lanes - Hollis St Sustainable Streetscape Project.	1	1	0	0.25	$ 10,000.00	$ 82,250.00	8.23	
3b	Hollis St	Powell St	67th St		A: Not Part of Project			NB and SB Approaches between 59th and Powell St	Install edgelines/parking lanes	4	1	3	1.00	$ 10,000.00	$ 89,375.00	8.94	
4a	Shellmound St	67th St	Christie Av	A: Not Part of Project	E: Funded Project - Interim Recommendations			Shellmound St/62nd St - SB Receiving Ln	Install Dynamic Speed Variable Sign	1	1	0	0.30	$ 10,000.00	$ 98,700.00	9.87	
								Shellmound St/Shellmound Wy	Add lane movement signing/striping in advance of Shellmound St/Shellmound Wy intersection to allow early lane changes to Shellmound Wy.	0	0	0		$ 2,000.00	-	-	
4b	Shellmound St	Christie Av	40th St	A: Not Part of Project				NB Approach at the bridge	Install Dynamic Speed Variable Signs	1	0	1	0.30	$ 10,000.00	$ 2,850.00	0.29	
								SB receiving lane at Shellmound St/Christie Av		1	0	1	0.30	$ 10,000.00	$ 2,850.00	0.29	
5	40th St	East of Adeline St/City Limit	Hubbard St	A: Not Part of Project	D: Funded Project			From East of Adeline St to Hubbard St	On-going project improves pedestrian, bicycle and transit facilities and providing traffic calming measures.	6	5	1	0.30	$ 500,000.00	$ 82,725.00	0.17	
								Between Horton St and Halleck St and at Emeryville gateway entrance/city limit between San Pablo Av and Adeline St.	Install Dynamic Speed Variable Signs					$ 20,000.00	$ 82,725.00	4.14	
6b	Christie Av	Powell St	Bay St Parking Garage			D: Funded Project	D: Funded Project	WB Approach, between Shellmound St and Bay St Garage	Install posted speed sign between Shellmound St and Bay St Garage in WB direction.	1	0	1	0.15	$ 2,000.00	$ 1,425.00	0.71	
								Christie Av between Powell St and Shellmound St	On-going project will convert Christie Av from Powell to Shellmound to a one-way street in the SB direction.	3	1	2	1.05	$ 300,000.00	$ 121,800.00	0.41	
7	Frontage Rd	North of Point Emery Ln/City Limit	Powell St	Included in Frontage Rd Safety Improvements Project													
9a	64th St	La Coste St	Shellmound St		A: Not Part of Project			EB and WB directions between La Coste St and Market Dr	Install edgelines and centerlines along 64th St in both directions	2	0	2	0.5	$ 10,000.00	$ 4,750.00	0.48	
9b	64th St	Overland Av	Vallejo St		A: Not Part of Project			EB and WB directions between Hollis St and Vallejo St	Install edgelines and centerlines along 64th St in both directions	2	1	1	0.5	$ 10,000.00	$ 84,625.00	8.46	
15b	Doyle St	Powell St	55th St		A: Not Part of Project			NB and SB direction on Doyle St between Stanford Av and 55th St	Install centerline along Doyle St	1	0	1	0.25	$ 10,000.00	$ 2,375.00	0.24	Consider removing parking in one direction or turning Doyle St between Stanford Av and 55th St a one-way street. Street width is less than 30 ft to allow for parking on both sides and two-way street. Two collisions within this segment, one rear end and one sideswipe with parked cars.
23	Harlan St	Park Av	40th St		A: Not Part of Project			NB and SB directions along Harlan St between 40th St and Park Av	Install edgelines and centerlines along Harlan St in both directions	1	0	1	0.25	$ 10,000.00	$ 2,375.00	0.24	
30b	Vallejo St	Peabody Ln	55th St		A: Not Part of Project	A: Not Part of Project		NB and SB directions between 59th St and Powell St	Install edgelines and centerlines along Vallejo St in both directions	1	0	1	0.1	$ 12,000.00	$ 950.00	0.08	
								SB Receiving lane at 59th St	Install Posted Speed Limit Signs								
										17			**4.45**	**$ 1,346,000.00**	**$ 1,006,825.00**	**0.75**	

Countermeasure Identification

A	Not Part of Project
B	Project concept with no design
C	Project design but no funding
D	Funded Project
E	Funded Project - Interim Recommendations
F	Implemented CM
*	Caltrans