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Alameda County Safe Routes to School Report for Unincorporated Areas

Prepared for:
Alameda County
Public Works Agency

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Introduction

The *Alameda County Safe Routes to School Plan for Unincorporated Areas* (Plan) presents a path forward in the ongoing effort of the Alameda County Safe Routes to School Project for Unincorporated Areas (Project). The Plan outlines recommendations, funding sources, and phasing for implementation to meet the Project goal of ensuring school communities are provided with transportation options that promote the health and well-being of students.

This Plan is the culmination of a collaborative planning process to determine appropriate transportation improvements that meet the needs of the 35 schools in unincorporated Alameda County. This Plan summarizes the outreach and planning process and provides recommendations for each of the schools. While the focus of the Project is to assist children walking and biking to school, to truly create safe routes to school all travel modes must be considered. For this reason, this Plan includes infrastructural, educational, and operational recommendations that address safety and circulation for all modes, including vehicles.

Project recommendations are presented in a fact sheet for each of the schools; each fact sheet provides a list of infrastructure improvements that address observed on- and off-site issues and concerns voiced by the community. The School Fact Sheets are presented in **Appendix A.** A consolidated list of all recommendations and their associated school, recommended phasing, prioritization, and rough cost estimate is presented in **Appendix B.** Countywide bicycle facility recommendations are also offered for the County's consideration.

The Project is led by the Alameda County Public Works Agency (ACPWA) in collaboration with school communities at 35 schools across five school districts. A list of the participating schools and their respective school districts is presented in **Table 1.**

Table 1: Participating Schools

Name	School District	Level	Students
Arroyo High School	San Lorenzo Unified School District	HS	1,780
Bay Elementary School	San Lorenzo Unified School District	ES	508
Bohannon Middle School	San Lorenzo Unified School District	MS	854
Del Rey Elementary School	San Lorenzo Unified School District	ES	527
East Bay Arts High School	San Lorenzo Unified School District	HS	226
Grant Elementary School	San Lorenzo Unified School District	ES	405
Lorenzo Manor Elementary School	San Lorenzo Unified School District	ES	596
Royal Sunset High School	San Lorenzo Unified School District	HS	135
Chabot Elementary School	Castro Valley Unified School District	ES	469
Stanton Elementary School	Castro Valley Unified School District	ES	457
Hillside Elementary School	San Lorenzo Unified School District	ES	479
Edendale Middle School	San Lorenzo Unified School District	MS	706
Hesperian Elementary School	San Lorenzo Unified School District	ES	628
San Lorenzo High School	San Lorenzo Unified School District	HS	1,394
Colonial Acres Elementary School	San Lorenzo Unified School District	ES	621
Cherryland Elementary School	Hayward Unified School District	ES	788
Jensen Ranch Elementary School	Castro Valley Unified School District	ES	425
Palomares Elementary School	Castro Valley Unified School District	ES	143
East Avenue Elementary School	Hayward Unified School District	ES	611
Fairview Elementary School	Hayward Unified School District	ES	579
Hayward High School	Hayward Unified School District	HS	1,576
Strobridge Elementary School	Hayward Unified School District	ES	550
Mountain House Elementary School	Mountain House Elementary School District	ES	16
Sunol Glen Elementary School	Sunol Glen Unified School District	ES	278
Canyon Middle School	Castro Valley Unified School District	MS	1,436
Castro Valley Elementary School	Castro Valley Unified School District	ES	478
Castro Valley High School	Castro Valley Unified School District	HS	2,920
Creekside Middle School	Castro Valley Unified School District	MS	764
Independent Elementary School	Castro Valley Unified School District	ES	656
Marshall Elementary School	Castro Valley Unified School District	ES	475
Proctor Elementary School	Castro Valley Unified School District	ES	490
Vannoy Elementary School	Castro Valley Unified School District	ES	464
Redwood Alternative High School	Castro Valley Unified School District	HS	117
Golden Oak Montessori School	Public Charter School	CS	239
KIPP King Collegiate High School	Public Charter School	HS	591

Plan Purpose and Process

The *Alameda County Safe Routes to School Project for Unincorporated Areas* aims to increase children's mobility and accessibility regardless of travel mode, while encouraging children to walk and bike to school by reducing safety and infrastructural barriers. A localized approach to planning was taken because these barriers and safety concerns are not the same for each child and school. An existing conditions assessment was completed for each school not only to understand current infrastructure conditions, but also to allow an opportunity for school staff and families to provide insight to their needs and experiences. The existing conditions assessment included data collection, site visits, scheduled walk audits with stakeholders, and crowdsourced online mapping of issues and opportunities for each school. Additional analysis was performed at specific issue areas to determine the extent of the issue or the feasibility of a requested improvement. Following the existing conditions assessment and analysis, a set list of goals and objectives were defined to help guide recommendation development and prioritization. Recommendations for each school were developed through an iterative process involving ACPWA, school district representatives, and other relevant stakeholders. The recommendations are intended to provide the foundations for:

- Safer environments for students and their families to walk or bike to school;
- Encouraging children to lead more physically active lifestyles;
- Helping students who may have previously relied on driving to school to develop the confidence to use active modes of transportation to get themselves to school;
- Enhancing vehicular circulation to reduce conflicts between vehicles entering/exiting a school site and those walking/biking to/from the school site
- Making school accessible to students from all backgrounds, ages, and abilities by providing viable active transportation options and increasing vehicular circulation; and
- Improving air quality around schools by reducing the vehicular traffic on roads adjacent to schools during morning commute periods.

National Safe Routes to School Movement

The *Alameda County Safe Routes to School Project for Unincorporated Areas* is part of a national movement of transportation, public health, and planning officials, along with law enforcement officers, school communities, community groups, and families, dedicated to providing safe routes to school for their children. This movement recognizes the impact safe bicycle and pedestrian facilities can have on the safety and health of children, especially on route to school.

The Safe Routes to School National Partnership developed the *Six E's of Safe Routes to School* to provide a framework for Safe Routes to School projects. The Six E's are used as a guiding principal for all Safe Routes to School programs and initiatives including the *Alameda County Safe Routes to School Project for Unincorporated Areas*:

Education programs ensure students and community members have the skills and know-how to be safe from traffic and crime while walking, bicycling, and using public transportation.

Encouragement programs provide incentives and support to help students and families to try active modes of transportation through community events and partnerships.

Engineering, in the form of walk audits, bring engineering experts to assist the community in evaluating streets and identifying improvements for walking and biking to school.

Enforcement programs reinforce legal and respectful walking, bicycling, and driving behaviors. Partnerships with law enforcement officials improve traffic safety around schools.

Evaluation programs help schools measure walking and bicycling. Regular parent/guardian surveys and student hand-raising tallies indicate how students get to school and what barriers parents feel should be addressed.

Equity initiatives ensure recommendations benefit all demographic groups.

Existing Conditions

This Project began with a data collection and infrastructure inventory effort to understand existing transportation infrastructure and operations in the surrounding areas of each of the 35 schools in unincorporated Alameda County. This included identification of roadway features, bicycle facilities, pedestrian facilities, school signing, multimodal circulation patterns, and other relevant infrastructure. Following this effort, extensive community engagement was performed through walk audits at each school and online mapping tools to understand key issues, opportunity areas, and day-to-day operations, including on-site transportation policies and circulation.

Data Collection and Infrastructure Inventory

Prior to meeting with school communities, data collection and an inventory of existing infrastructure was completed to have a better understanding of existing conditions. In addition, a review of existing plans and policies was completed to ensure planned projects and policies were considered in the development of this Plan.

Data Collection

Data collection included:

- ***Traffic Counts:*** Morning (7:00-9:00 AM) and Evening (3:00-6:00 PM) vehicle, bicycle, and pedestrian turning movement counts were collected at key intersections for each school, typically primary access points and major intersections. This information provided a general understanding of vehicle flows and volumes during the times kids are typically on their way to or leaving from school.

- ***Vehicle Speed Data:*** Vehicle speed data was collected over 24 hours during a typical school day at key roadway segments using pneumatic tubes to understand the speed of traffic immediately adjacent to the school sites.

- ***Average Daily Traffic (ADT):*** ADT was collected over 24 hours during a typical school day at key roadway segments to understand the overall volume and distribution of traffic immediately adjacent to the school sites.

- ***Location of Crossing Guards:*** Crossing guard locations were provided by ACPWA. ACPWA also provided vehicle and pedestrian counts at these locations.

Traffic counts, vehicle speed data, and average daily traffic counts are important for understanding existing conditions and helpful in determining appropriate recommendations once key issues and opportunities had been identified. Two rounds of data collection were performed, one prior to community engagement and one after, based on stakeholder feedback. **Appendix C** summarizes the vehicle, pedestrian, and bicycle turning movement counts, and average daily traffic at the locations where data was collected. **Appendix D** provides the raw speed data collected.

Infrastructure Inventory

The infrastructure inventory was completed primarily through an initial assessment using aerial imagery and supplemented/confirmed during site visits of each school. The inventory focused on:

- ***Basic School Site Layout*:** Each school site was visited to confirm the locations of primary and secondary entrances (for pedestrians, bicyclists, and vehicles), primary pick-up/drop-off areas, on-site circulation, and nearby destinations students may walk or bike to before or after school. Nearby destinations included places such as bus stops, libraries, community centers, and after-school care centers.

- ***Roadway Characteristics*** such as traffic controls, traffic calming devices, number of lanes, posted speed limits, slip lanes, and raised medians were inventoried within a ¼-mile radius of each school.

- ***Pedestrian Infrastructure*** such as marked crosswalks and type, curb ramps, sidewalks gaps, and informal and formal paths or trails were inventoried within a ¼-mile radius of each school.

- ***Bicycle Infrastructure*** within a two-mile radius of each school was inventoried using planning documents and aerial imagery and site visits to confirm.

- ***Transit/School Bus Facilities*** within a ¼-mile radius of each school were inventoried, looking at AC Transit and school bus facilities, including bus stop locations, bus stop infrastructure at each location, and pedestrian facilities near the bus stop.

An online web map was used for the infrastructure inventory, providing an easily accessible platform for school communities and stakeholders to review.

Community Engagement

Following the initial data collection and infrastructure inventory effort, communities were invited to participate in on-site walk audits to understand their perspective on transportation safety and key issues and opportunities around their schools. The walk audits were facilitated by members of the Project Team and County staff and were open to school staff, teachers, students, and families, and were scheduled through each school's administration. They were held during either the morning drop-off or afternoon pick-up period, based on the availability of school staff, to observe the peak periods of activity.

The primary purpose of the walk audits was to identify site-specific issues that create safety, comfort, accessibility, and connectivity issues for students walking and biking to school through the perspective of those that experience it daily. In many cases, this was also inclusive of children going between a private vehicle and the school entrance in a safe and comfortable manner. The walk audit was structured to include:

- An introduction to the Project and an overview of the data collection and infrastructure inventory completed for the school;
- A walk audit focused on the primary areas of concern for school communities, typically the primary pick-up/drop-off locations; and
- A walk audit debrief where the issues, opportunities, and potential solutions discussed during the walk audit were documented and further refined.

Appendix E provides walk audit debrief summaries for each on-site visit. After the walk audit, school staff were provided with a Project information sheet to distribute to the school community. The information sheet included a link to an online web map where school community members could offer insight on key issue or opportunity areas. Over 240 responses were received; **Appendix F** highlights the major takeaways from the online web map.

Primary safety concerns and infrastructure needs voiced during the walk audit and on the online web map served as the basis of the engineering studies and recommendations.

Typical Issues and Opportunity Areas

While each school had a unique set of transportation characteristics, issues, and opportunities, similar themes consistently arose during site visits and conversations with school communities, including:

- ***Sidewalk gaps***: Several schools have incomplete sidewalk networks within their immediate vicinity. Pedestrians walk in the roadway or in some cases, informal walkways, either dirt or paved paths where space is available of street. However, these walkways are typically not accessible for pedestrians with disabilities and can become unusable during wet or rainy weather. ACPWA is actively working on addressing sidewalk gaps throughout unincorporated Alameda County. Many sidewalk projects within the vicinity of participating schools are in-progress or have recently been completed.

  In settings where there is no sidewalk, edge line markings (see California Manual on Uniform Traffic Control Devices (CA MUTCD) Section 3B.07) are typically used to delineate the edge of the travel lane.

  Additional sidewalk gaps have been noted on the school fact sheets in Appendix A.

- ***Pedestrian visibility at crosswalks:*** Limited pedestrian visibility at crosswalks was observed due to a variety of field conditions, but primarily due to:

  - On-street parking immediately adjacent to the crosswalk, blocking the sight line between a pedestrian waiting to cross and oncoming traffic

  - Multiple threat conditions created when there is more than one lane of traffic in each direction and traffic in one lane blocks the visibility of a pedestrian for the motorist in the adjacent lane

- ***Conflicts at school driveways:*** Due to the layout of school sites, pedestrians must often cross school driveways to access the entrance to school. During the peak pick-up and drop-off periods, congestion on the adjacent roadway can make it difficult for motorists to find a gap in traffic and exit the driveway, resulting in vehicles blocking the sidewalk as they pull forward to enter the street across the pedestrian path of travel.

- ***Curb management:*** Most schools rely on their curb space as a primary or secondary location for pick-up/drop-off activity for private vehicles, as well as school buses. Schools often have difficulty managing their curb space for a variety of reasons, including:

  - Curb space is often not appropriately signed or delineated, resulting in confusion for drivers; for example, a curb may have loading signage but is not painted white.

- Loading curbs are often operated below their capacity due to motorists not pulling all the way forward or taking too long to unload or load passengers.
- There is a lack of regard for the intended uses of the curb. Many motorists were observed parking in loading or no parking zones to walk students into school or watch their child walk into school, blocking its intended uses.

- ***Vehicle circulation:*** Poor vehicle circulation due to poorly utilized or non-existing designated on-site loading areas during the peak pick-up and drop-off periods was observed at many school sites. The most severe congestion and queueing occurs during pick-up and drop-off periods and tends to be limited to 15 to 20 minutes; however, it can still be problematic for neighboring residents and can result in distracted or frustrated drivers.
- ***High vehicle speeds:*** Many schools are located adjacent to or provide access to major multi-lane arterials. These street types tend to have higher prevailing vehicle speeds, especially midday when there is little to no congestion. Many schools mentioned vehicle speeds as a safety concern and a priority for transportation improvements.

Analysis

A series of analyses were performed at specific locations to ensure appropriate recommendations were made in response to the key issue and opportunity areas highlighted during the initial data collection and community outreach efforts. Analyses performed included:

- ***XWalk+***, an in-house tool developed by Fehr & Peers, was used to determine appropriate crosswalk treatments at complex crossing locations highlighted as key issue areas during the walk audits. XWalk+ provided a streamlined and systematic approach to determining appropriate recommendations.

- ***Prevailing Vehicle Speed:*** At locations identified during the community outreach process as having high vehicle speeds, vehicle speed data was analyzed to determine the 85th percentile speed. Results from the speed analyses and guidance provided in the Alameda County Neighborhood Traffic Calming Program were used to determine appropriate recommendations.

- ***Signal Warrants:*** At select locations where changes to intersection stop controls were requested by school communities, an all-way stop and/or signal warrant was performed to determine if the recommendation was appropriate given existing conditions.

- ***Intersection Operations:*** Some school communities requested extensive intersection redesign to address infrastructural safety concerns. If field observations deemed these redesigns appropriate, an intersection operations analysis was performed to ensure the intersection would continue to function effectively with the proposed redesign.

- ***Sight Distance:*** At intersection locations highlighted for poor visibility, a sight distance analysis for each approach of the intersection was performed to determine the appropriate level of treatment.

- ***Crossing Guard Analysis:*** At locations where there are crossing guards today, or a crossing guard was requested by the school community, an analysis was performed to determine if the need for a guard was warranted. Existing vehicle volumes and collision data was used in tandem with a scoring system based on the CA MUTCD.

-) guidance to determine if a guard is warranted at a specific location. County General Funds are assigned to crossing guards for elementary schools. Middle/Junior High schools are responsible for securing their own funding if they wish to have a crossing guard assigned to their specific school. **Appendix G** includes a memorandum provided to ACPWA staff on CA MUTCD guidance, as well as a table summarizing the results of the Crossing Guard Analysis. Although Castro Valley High School meets the Crossing Guard warrant, funding for Crossing Guard at High Schools are not eligible for County General Funds and the High Schools must secure their own funding source.

- ***Collision Analysis:*** A collision analysis was performed for areas adjacent to the schools in unincorporated areas of Alameda County to identify engineering countermeasures appropriate to address the collision. The methodology and results of the analysis are summarized in more detail below.

Collision Analysis

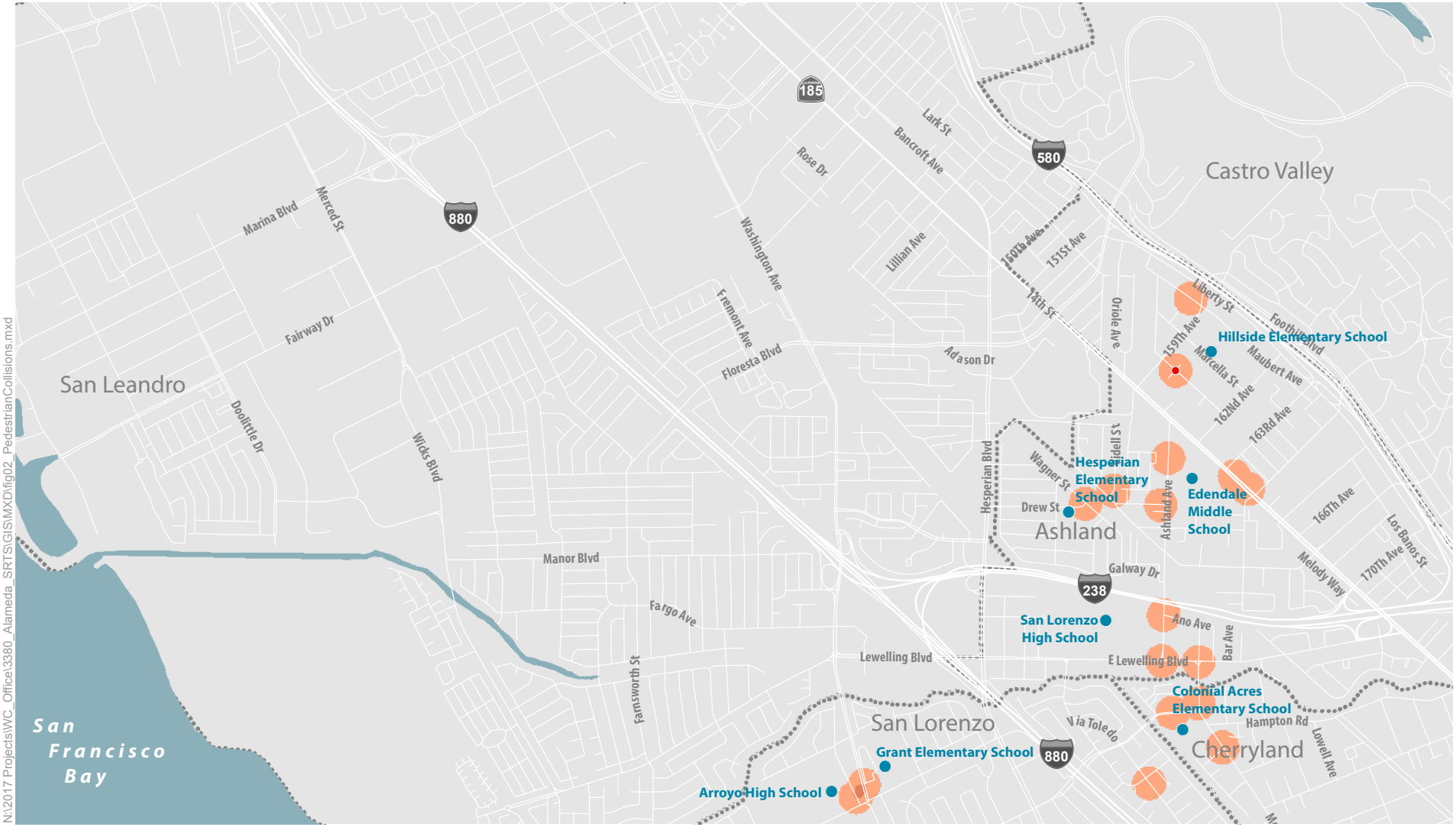
A collisions analysis was performed for pedestrian- and bicycle-related collisions within the vicinity of each school using SWITRS/TIMS data between the years 2009 and 2013. The location of each pedestrian- and bicycle-related collision was analyzed to determine if:

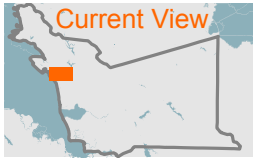
- The collision locations overlapped with any of the issue areas identified by school communities during the walk audits; or

- If there were areas that saw two or more collisions, identifying higher-risk locations.

A more detailed analysis for the identified collisions was done to determine commonalities between collisions that could pinpoint broader, systemic issues. **Figure 1** and **Figure 2** show the collisions within the vicinity of each school by school district.

Between 2009 and 2013, there were 362 pedestrian- and bicycle-related collisions that resulted in injury or fatality within a ¼-mile of each school. The location and details of these collisions were an important factor when determining appropriate recommendations for each school. The School Fact Sheets presented in Appendix A highlight the recommendations made as a direct response to the pedestrian- and bicycle-related collisions within the vicinity of each school. A more detailed summary of the collisions analysis is presented in **Appendix H.**





Collision Density
High
Low

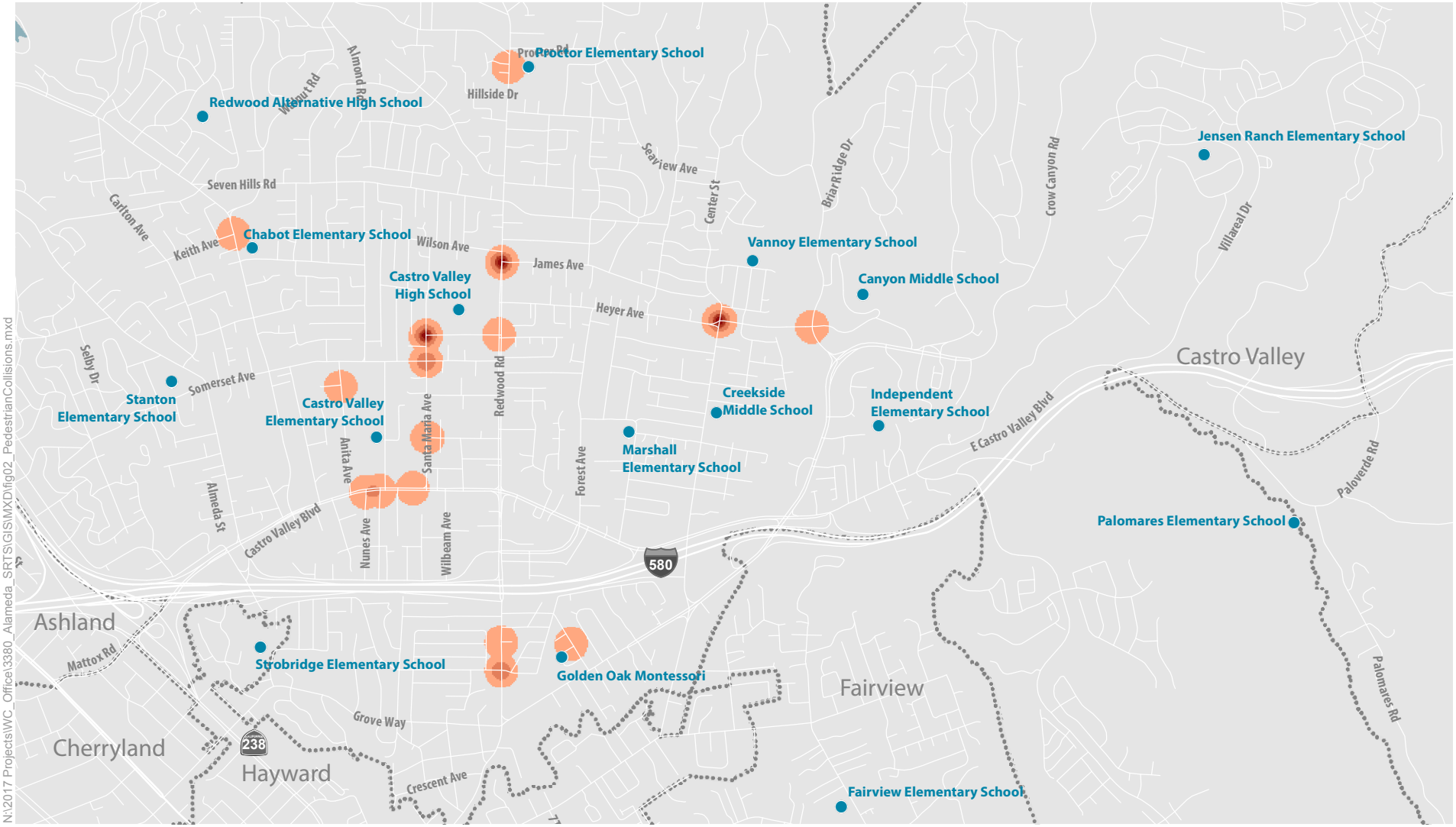
Pedestrian Fatalities
School Location

Water
City Boundary

Note:
Map insets are only provided for the areas with reported collisions.

Figure 1A

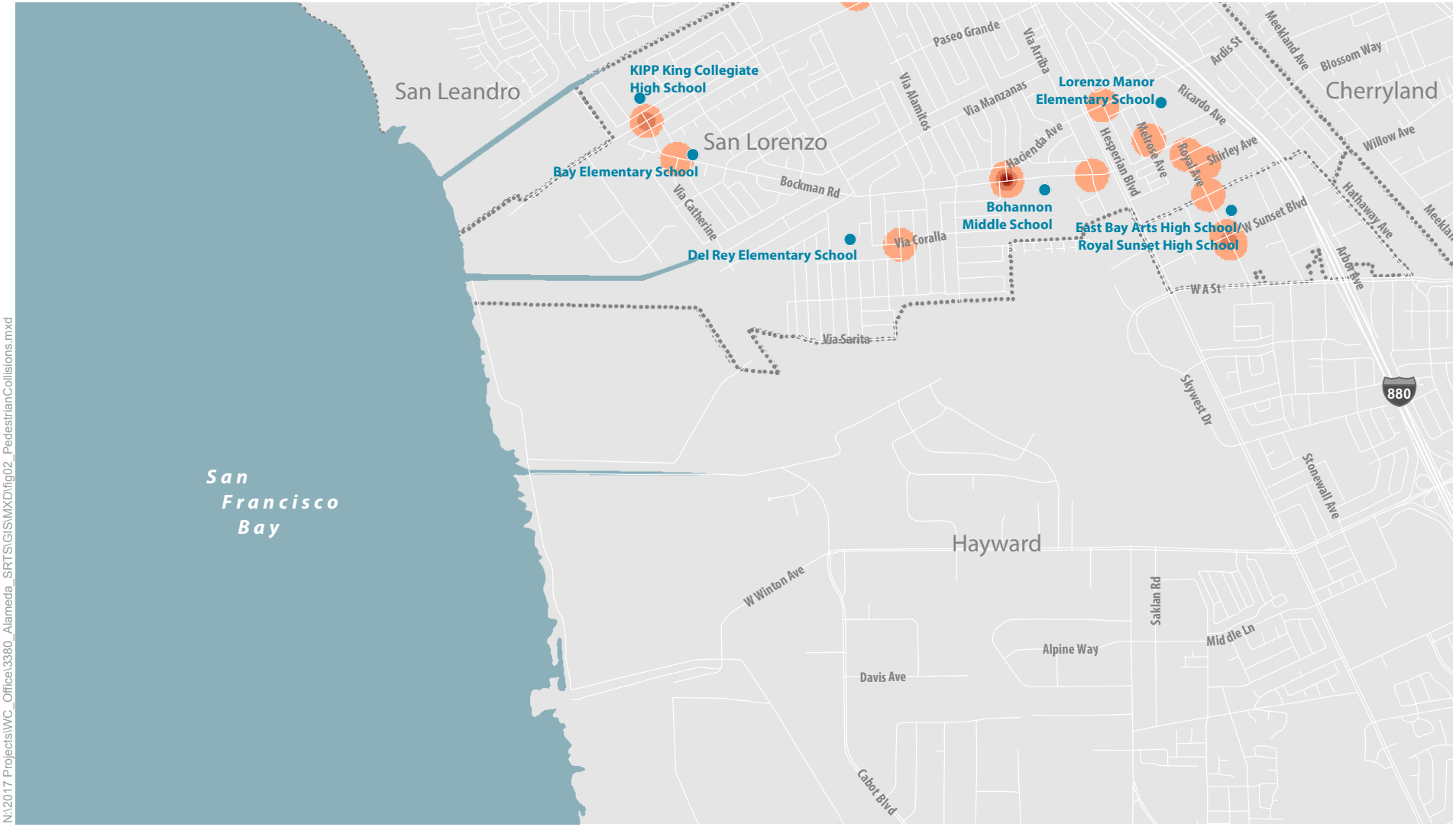
Pedestrian Collisions
Inset A



Note:
Map insets are only provided for the areas with reported collisions.

Figure 1B

Pedestrian Collisions
Inset B



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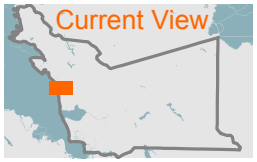


Collision Density
High
Low

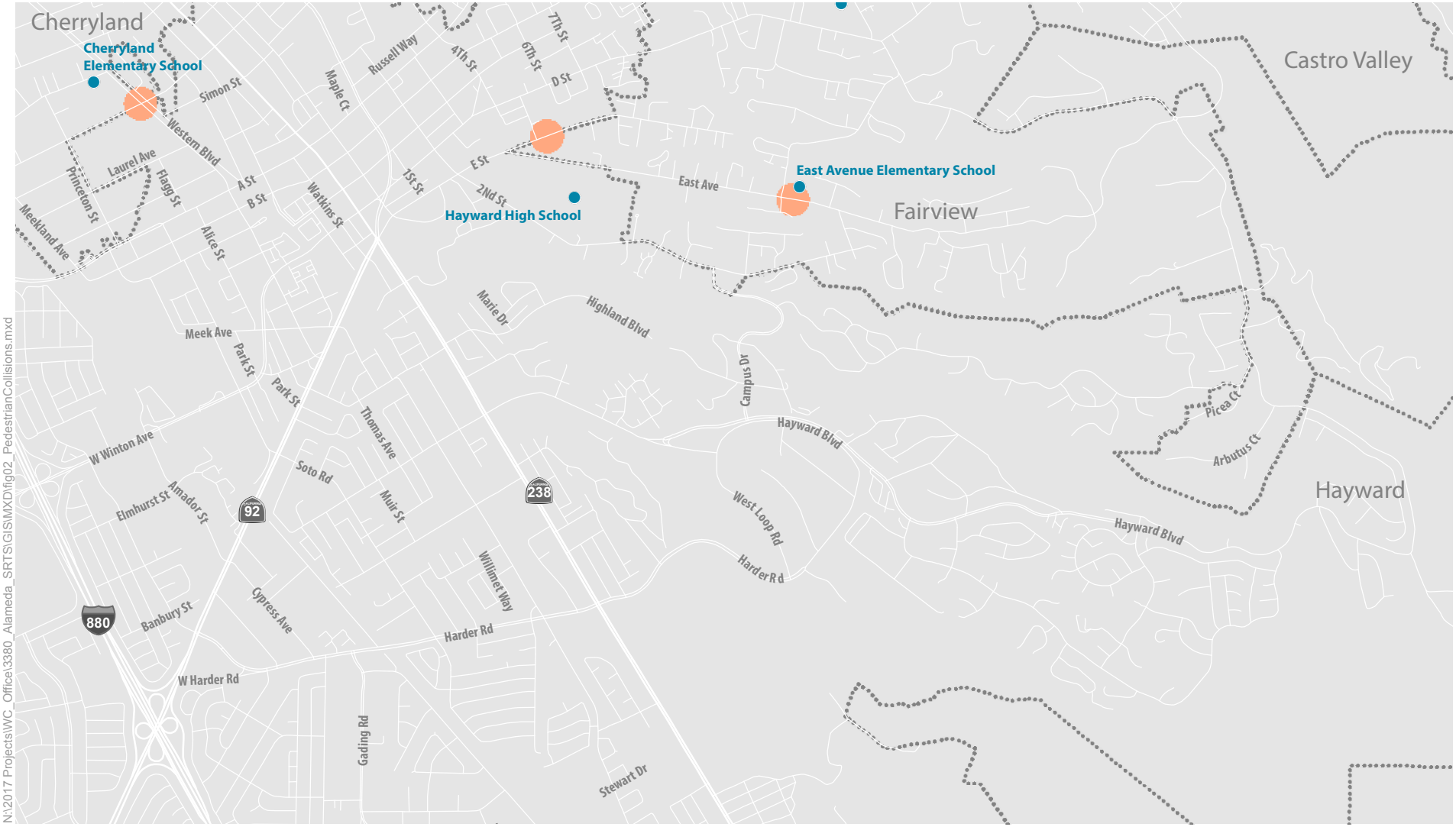
Pedestrian Fatalities
School Location

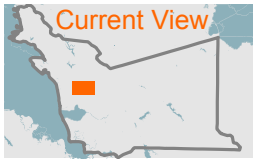
Water
City Boundary

Note:
Map insets are only provided for the areas with reported collisions.

Figure 1C

Pedestrian Collisions
Inset C





Collision Density
High
Low

Pedestrian Fatalities

School Location

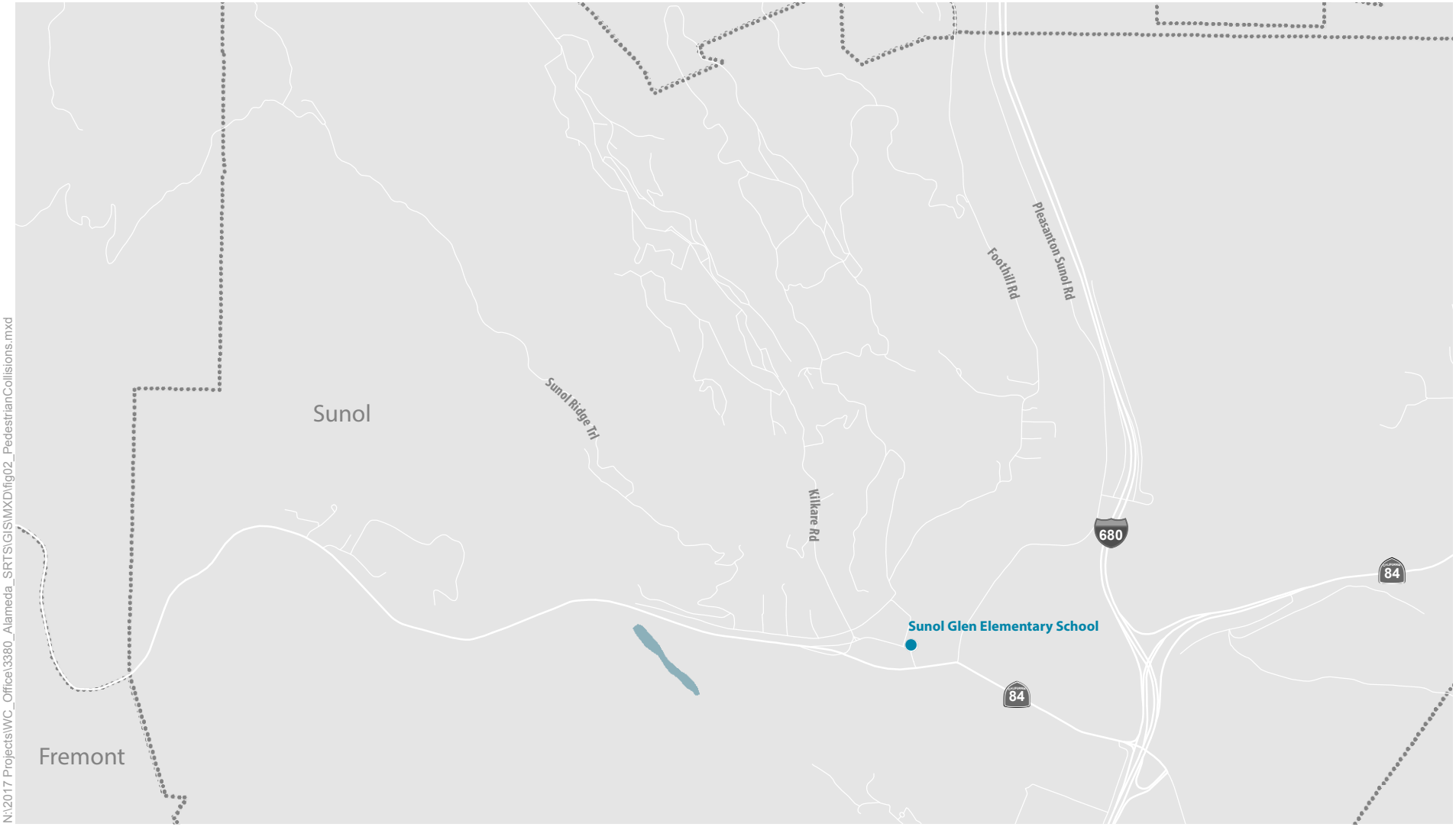
Water

City Boundary

Note:
Map insets are only provided for the areas with reported collisions.

Figure 1D

Pedestrian Collisions
Inset D



Collision Density
High
Low

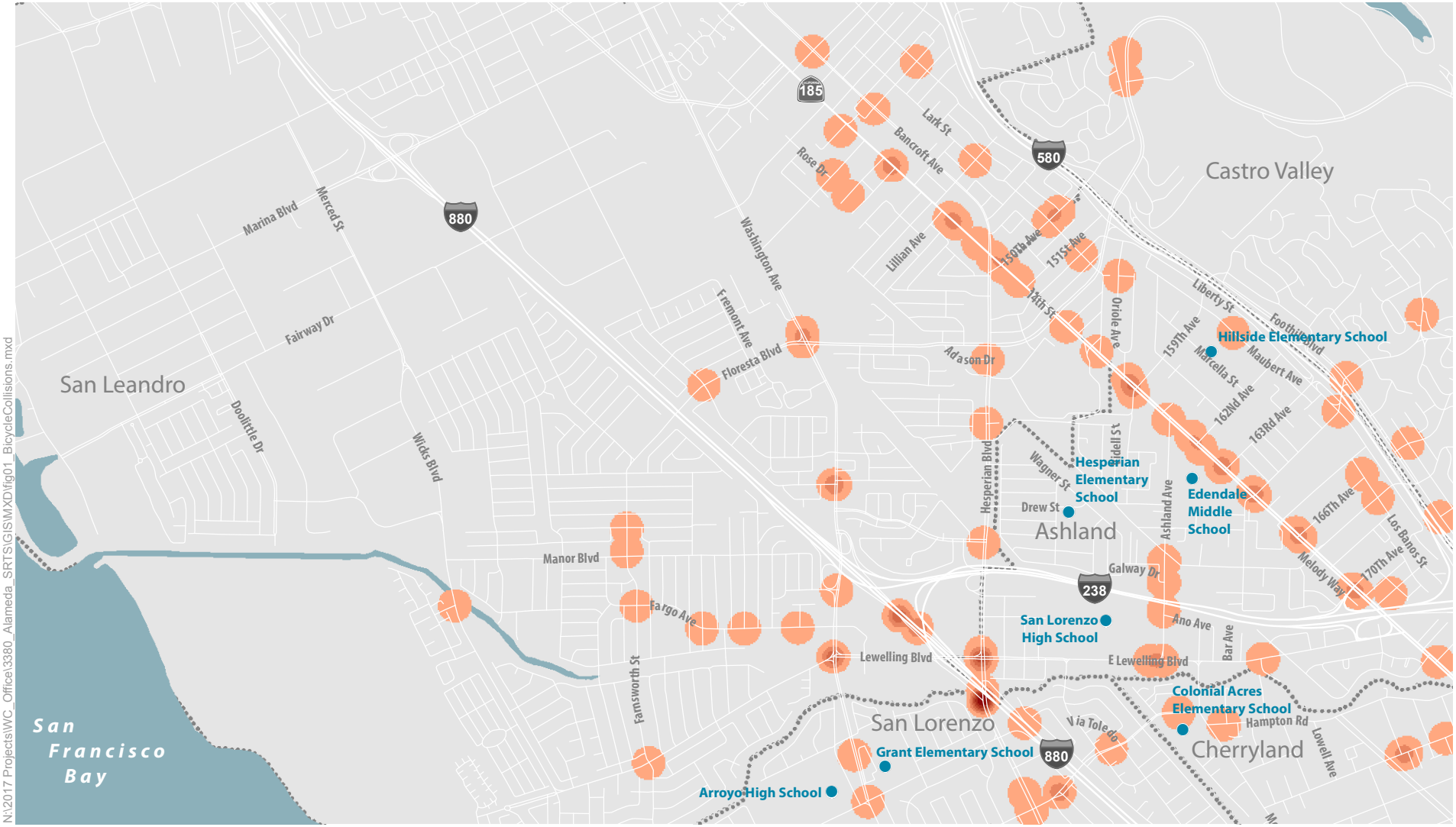
Pedestrian Fatalities
School Location

Water
City Boundary

Note:
Map insets are only provided for the areas with reported collisions.

Figure 1E

Pedestrian Collisions
Inset E



Note:
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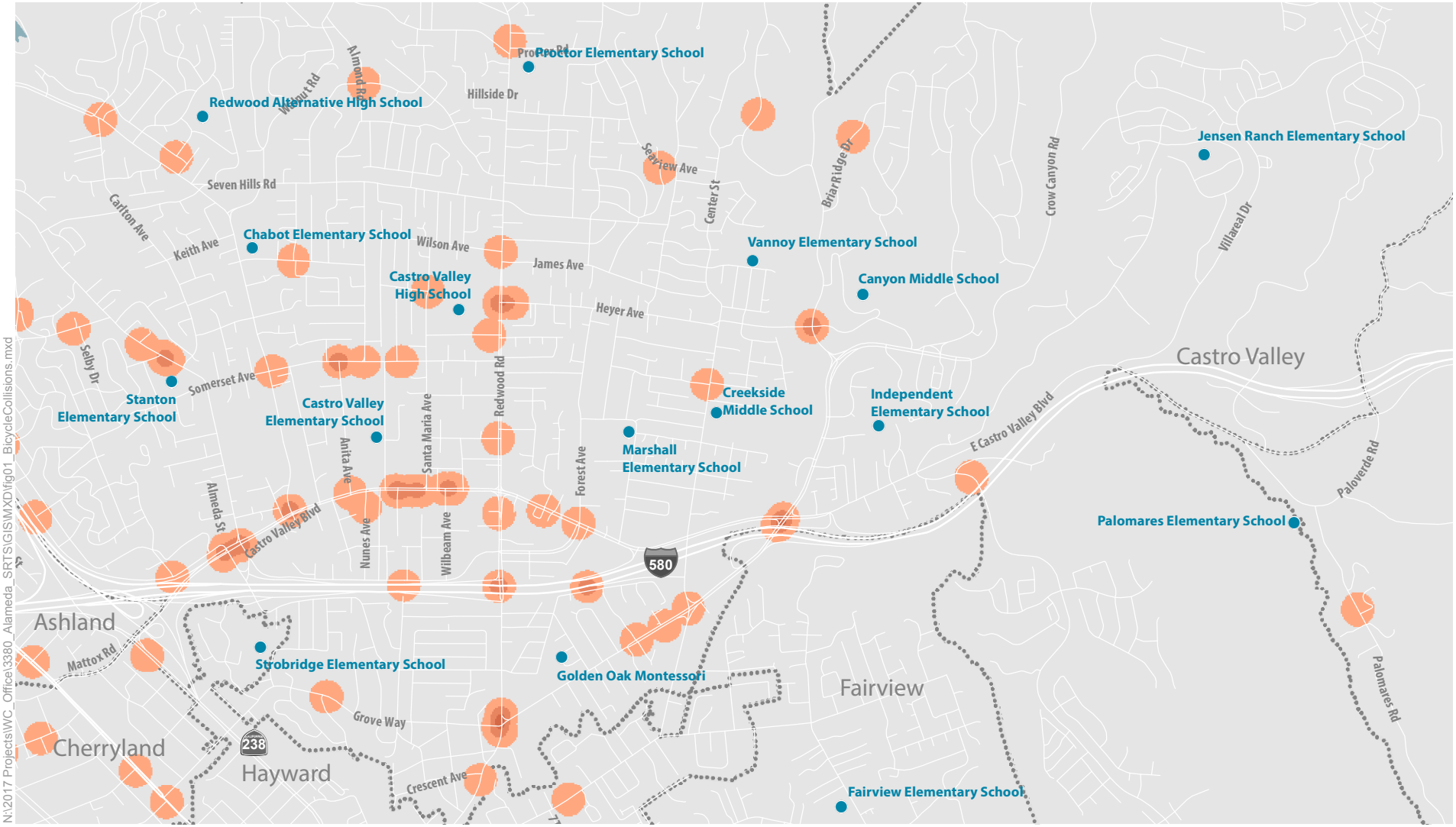
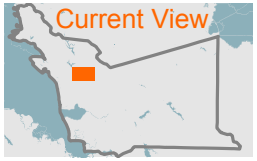
Figure 2A

Bicycle Collisions
Inset A





Collision Density
High
Low

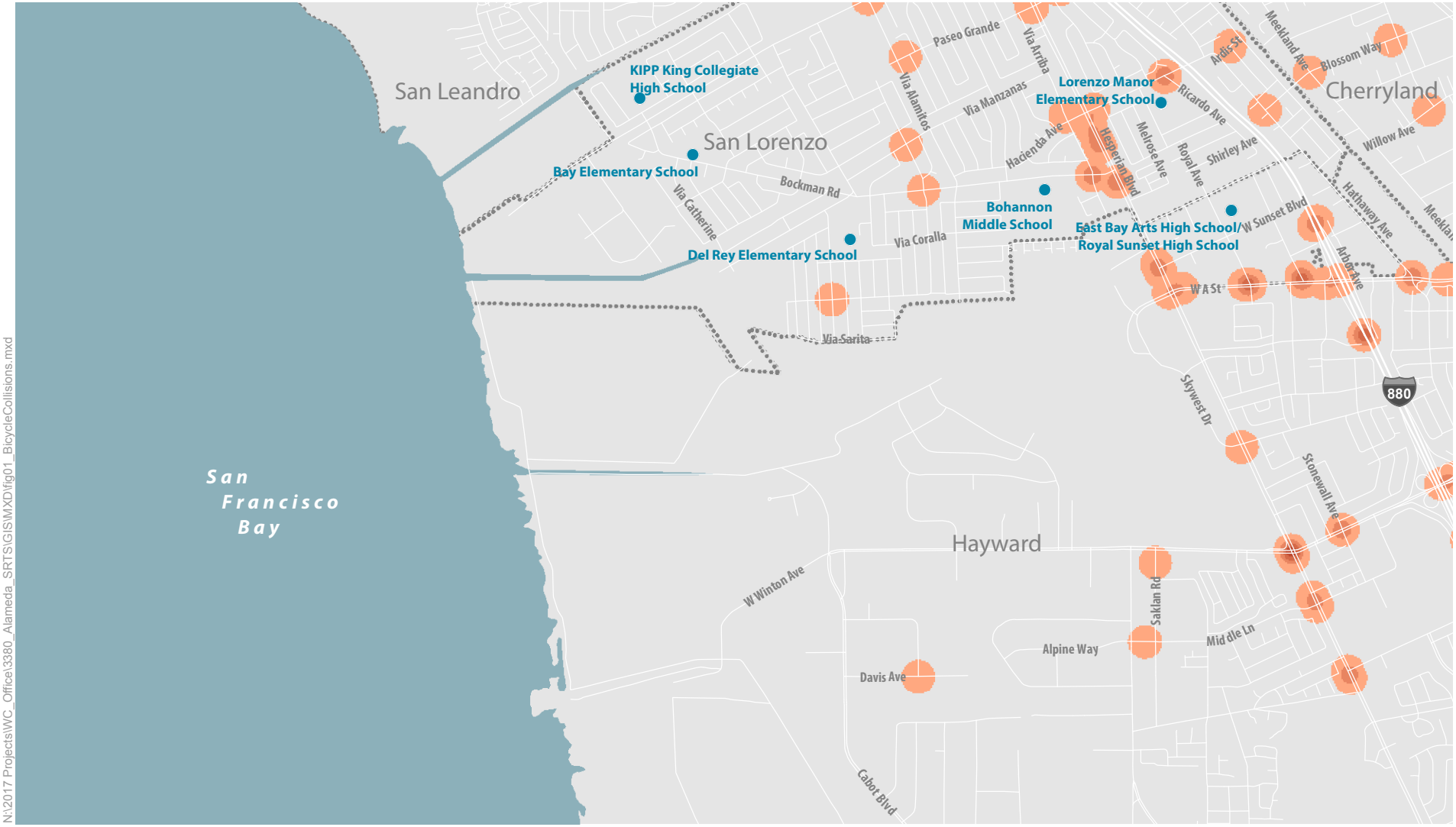
Bicycle Fatalities
School Location

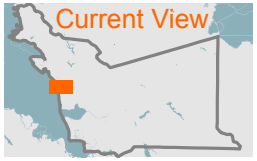
Water
City Boundary

Note:
Map insets are only provided for the areas with reported collisions.

Figure 2B

Bicycle Collisions Inset B





Collision Density
High
Low

Bicycle Fatalities

School Location

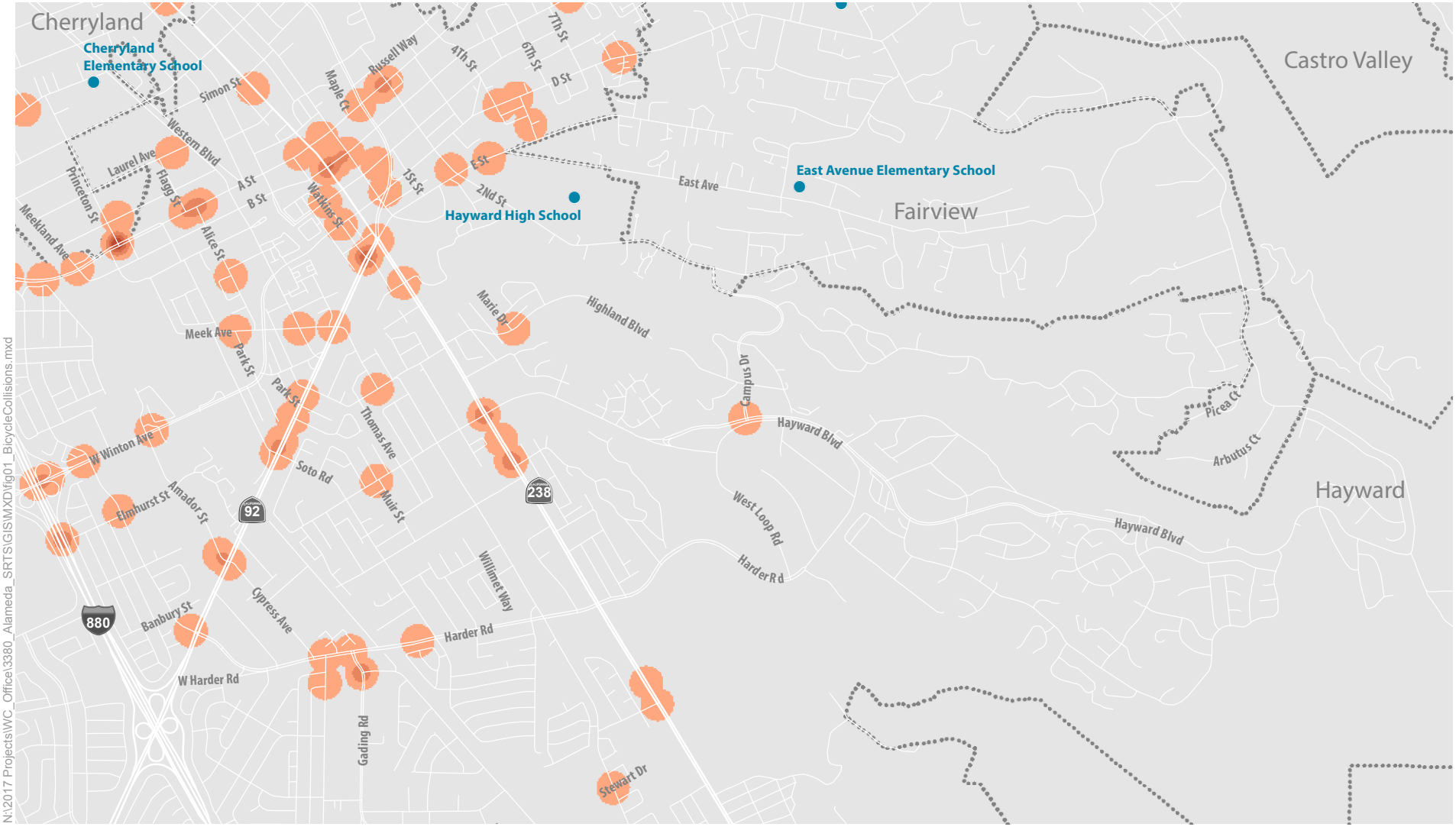
Water

City Boundary

Note:
Map insets are only provided for the areas with reported collisions.

Figure 2C

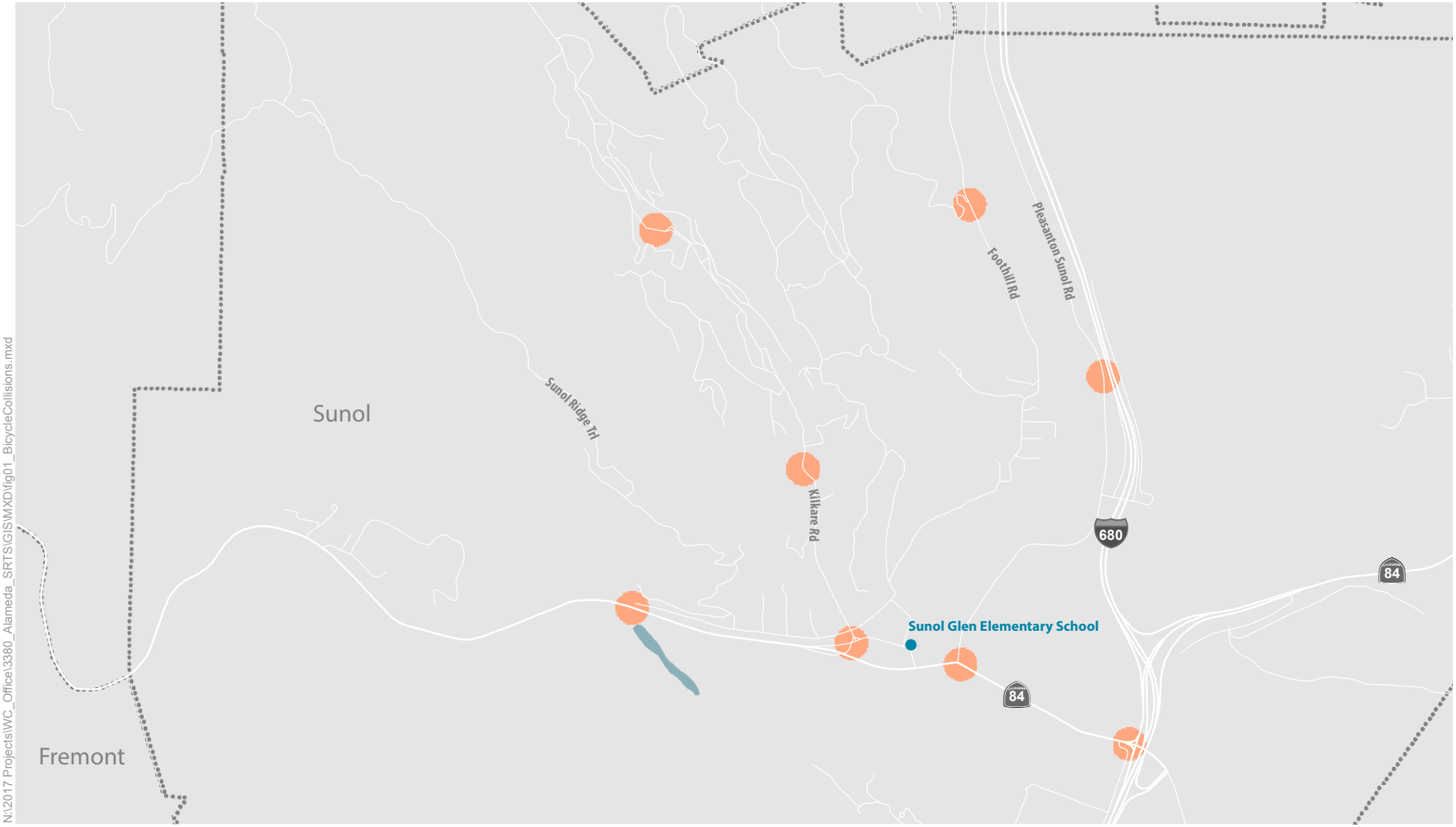
Bicycle Collisions
Inset C



Note:
Map insets are only provided for the areas with reported collisions.

Figure 2D

Bicycle Collisions
Inset D



Collision Density
High
Low

Bicycle Fatalities

School Location

Water

City Boundary

Note:
Map insets are only provided for the areas with reported collisions.

Figure 2E

Bicycle Collisions
Inset E

Goal & Objectives

The existing conditions assessment provided the framework necessary to begin defining discrete goals for the Project to help meet the Project's purpose of providing safe routes to school, especially for students who walk or bike. The goals are presented in no particular order; they are all of equal importance to the success of the Project.

Goal 1: Increase the number of students who walk and bike to school.

This goal recognizes the benefits to students' health and well-being when they are able to walk or bike to school. Improvements must be made to reduce impediments to walking and biking that exist today, such as incomplete bicycle and pedestrian networks and safety concerns. For this reason, the Project meeting this goal is closely tied to the success of the following two goals of providing continuous facilities and enhancing the safety of students on their way to school.

Specific objectives for this goal include:

- Increase the access to school mode splits for walking and biking.
- Strategically implement improvements in locations that would benefit the most students.

Goal 2: Provide continuous bicycle and pedestrian facilities

This goal is focused on improving facilities to ensure students have a continuous and connected bicycle and pedestrian network on their way to school. Sidewalk gaps and poor bicycle facility connectivity were issues for several schools. The intent is that once continuous facilities are provided, walking and biking will become viable options for students and families.

Specific objectives for this goal include:

- Provide a continuous and accessible pedestrian network within a ¼-mile radius of each school.
- Provide a continuous bicycle network within a two-mile radius of each school.
- Provide infrastructure that reinforces the safety of pedestrians and bicyclists.

Goal 3: Enhance the safety of students on their way to school.

This goal is focused on implementing improvements in support of a safe and balanced transportation network, inclusive of all travel modes. Over 300 pedestrian- and bicycle-related collisions that resulted in injury or fatality occurred within the vicinity of the 35 schools between 2009 and 2013. Implementation of improvements, especially at locations where pedestrian- or bicycle-related collisions have occurred, is necessary to ensure the safety and well-being of children and families on their way to school.

Specific objectives for this goal include:

- Strategically implement improvements to target areas that have demonstrated unsafe conditions, especially those where pedestrian- and bicycle-related collisions have occurred.

Goal 4: Strategically invest in improvements

The purpose of this goal is to recognize the large extents of the Project and to ensure improvements consider the number of potential students who would benefit compared to the level of investment. Strategic investment is imperative to the success of the Project.

Specific objectives for this goal include:

- Strategically locate improvements in areas with the potential to impact the most students.
- Implement improvements that are within close proximity to land uses that attract students, such as libraries, community centers, and parks.

Goal 5: Promote equitable transportation solutions

Unincorporated areas of Alameda County include a diverse range of communities, including disadvantaged or vulnerable communities. Disadvantaged and vulnerable communities have historically been left out or neglected in the planning process, leaving many with lower-quality transportation facilities and limited mobility. This goal is intended to recognize this pattern of negligence and ensure improvements that are part of the Project are equally distributed among all communities.

Specific objectives for this goal include:

- Prioritize improvements within Communities of Concern, MTC's terminology for either disadvantaged or vulnerable communities.

Goal 6: Educate school communities on safe walking and bicycling practices.

This goal is different from the remainder of the Project goals in that it is not focused on infrastructural improvements, and instead focuses on educational tools to promote walking and biking as viable and healthy options for access to school. The intent of this goal is to recognize that infrastructural improvements are not enough to ensure the safety and well-being of children, and that safe practices and behaviors should be taught to school communities, including those who drive.

Specific objectives for this goal include:

- Increase the number of schools and communities adopting and implementing policies and practices that support this Project.
- Incorporate educational programs related to traffic safety and safe routes to school that match the education level of the participating students.
- Increase awareness of the health benefits of walking and biking to school through educational programs.

Recommendations

The final recommendations were developed through an iterative process that included input from County and School District staff. The final recommendations take into account findings from the existing conditions assessment, analysis performed at specific issue areas, and the Project goals. Each recommendation addresses a documented issue or opportunity voiced by school communities or observed during site visits.

A customized toolkit of countermeasures crafted with County staff was developed and used to take a systematic approach to recommendations across all 35 schools. The Countermeasure Toolkit is provided in **Appendix I**. Recommendations for each participating school are shown on the School Fact Sheets, along with the issue or opportunity they directly address. The School Fact Sheets are presented in Appendix A**.**

Implementation

Given that the Project spans the entirety of unincorporated areas within Alameda County, strategic funding, phasing, and prioritization of recommendations will define the success of implementation. A high-level overview of potential funding sources and phasing, as well as a prioritization system are presented below.

Project and Program Funding

Implementing the entirety of the recommendations for the Project will require securing many different funding sources. The following funding sources are anticipated to be the best fit for the Project:

- ***Caltrans Active Transportation Program (ATP)***: While ATP is one of the most competitive statewide and regional grant funding sources, there are funds set aside specifically for Safe Routes to School Programs, making the Alameda County Safe Routes to School Project for Unincorporated Areas a potentially strong contender for grant funding. One of the primary scoring criteria is benefit to disadvantaged communities, which is applicable to many portions of unincorporated areas of Alameda County. With the safety benefits for active modes and the significant walking and biking comfort improvements, the project would likely rank high. This grant would be applicable to both the infrastructural and educational programs. ATP Cycle 4 occurs in 2019 with a call for projects beginning May 2018.

- *Caltrans Highway Safety Improve Program (HSIP):* HSIP intends to address areas with serious documented safety records. The primary metric for this is a benefit/cost ratio that heavily weighs fatal and severe injuries. This Project aims to address the four fatal pedestrian- and bicycle-related collisions and the 358 pedestrian- and bicycle-related collisions that resulted in injury, which is likely to make this Project competitive for the funding source. This grant is primarily used to fund specific safety countermeasures, so project definition requires documented safety

benefits for collision type. The Countermeasures Toolkit included in Appendix I includes the crash reduction factors for the recommended improvements. Another round of HSIP grants is likely to come in mid-2018.

- ***One Bay Area Grants (OBAG):*** Priority is given to projects either fully or partially within a Metropolitan Transportation Commission (MTC)-designated Priority Development Area (PDA) or providing access to/from within 0.5 mile of a PDA. PDAs are designated locations where the region strategically wants to grow. Funding can be used for Safe Routes to School programs, making this Project a contender for funding. ACPWA would need to coordinate with the Alameda County Transportation Commission, as they are the local congestion management agency for the region. Alameda County Transportation Commission has a call for OBAG grant applications every two years. The last OBAG grant cycle was in 2016.

- ***Measure BB Sales Tax****:* Measure BB provides $8 billion in funding over 30 years to support the 2014 Transportation Expenditure Plan of the Alameda County Transportation commission. Among other goals, the 2014 plan aims to provide clean transportation by expanding bicycle and pedestrian paths. Given the focus on pedestrian facilities with this Project, it may be a competitive project for this funding source.

- ***Affordable Housing and Sustainable Communities (AHSC) program:*** Funded through statewide Cap and Trade funds, the AHSC grants help fund affordable housing but can include substantial transportation improvements within one mile of the affordable housing site. Recent cycles have placed greater emphasis on transportation improvements. Given the need for affordable housing in the area, this could be an important grant funding source. However, it is reliant upon opportunities to coordinate with housing developers. ACPWA should flag and pursue the grant as interest in affordable housing development arises on parcels along or near school sites.

- ***SB1****:* With the passage of the statewide transportation bill in 2017, additional funding sources are likely to become available for active transportation projects and similar strategies to reduce vehicle miles traveled (VMT).

- ***Roadway Repaving****:* Many of the improvements can be made through the roadway repaving contracts ACPWA already has in place. This is particularly true for near-term implementation of the projects. While painted bulbs may be accommodated through standard repaving budgets, additional materials — such as landscape planters to define bulb outs — may need additional funding sources to adequately implement the recommendations.

Infrastructure Implementation

Phasing of recommendations will be important to ensure the goals outlined in this Plan are realized. This Project includes near-, mid-, and long-term infrastructural recommendations for school sites:

- ***Near-Term:*** Likely to be completed within two years
- ***Medium-Term:*** Likely to be completed within two to five years
- ***Long-Term:*** To be completed beyond five years

Educational and programmatic recommendations are all assumed to be implemented within the 2019-20 school year. The consolidated recommendation list presented in Appendix B includes the phasing for each recommendation.

Considering the safety and well-being of students for the entirety of their journey to or from school, both on-site and off-site recommendations are included as part of this Plan. ACPWA will address recommendations within their jurisdiction, which includes the majority of off-site improvements. ACPWA will utilize existing capital improvement budgets available through the County to implement near-term recommendations and continue its current efforts to address sidewalk gaps, especially within the vicinity of schools. The mid- to long-term recommendations will be prioritized for funding and implementation based on the prioritization system discussed in more detail below.

On-site recommendations are included in this Plan to assist the school districts in understanding key areas for improvement. The implementation of on-site recommendations is the responsibility of the respective school district. The consolidated recommendation list in Appendix B includes the responsible party for each recommendation.

To assist ACPWA in prioritizing the medium- and long-term recommendations, a prioritization system was developed. The prioritization system is directly tied to the Project Goals to ensure the Project is actively working to meet the goals outlined in this Plan. The Project goal on education is not included in the prioritization system as this system is primarily for the prioritization of infrastructural recommendations. Error! Reference source not found. below presents the prioritization system. The Project List in Appendix B provides each recommendation's results after the prioritization system was applied.

Table 2: Project Goals, Prioritization and Requirements

Goal	Points	Requirement
Goal 1: Increase the number of students who walk and bike to school.	20	Recommendations at school sites where over 25 percent of students currently walk or bike to school.
	15	Recommendations at school sites where between 15 and 25 percent of students currently walk or bike to school.
	10	Recommendations at school sites where between 5 and 15 percent of students currently walk or bike to school.
	5	Recommendations at school sites where under 5 percent of students currently walk or bike to school.
Goal 2: Provide continuous bicycle and pedestrian facilities	20	Recommendations with the potential to provide a dedicated and direct connection between two or more existing facilities at a location where no existing facilities are provided. For example, addressing a sidewalk gap.
	15	Recommendations that provide a new dedicated and direct connection to any existing facility.
	10	Recommendations that provide additional paths of travel in locations where network connectivity is already sufficient.
	5	Recommendations that provide enhancements to existing paths of travel.
Goal 3: Enhance the safety of students on their way to school.	20	Recommendations at a school site that has experienced over five reported pedestrian- or bicycle-related collisions.
	15	Recommendations at a school site that has experienced three to five reported pedestrian- or bicycle-related collisions.
	10	Recommendations at a school site that has experienced one to two reported pedestrian- or bicycle-related collisions.
	5	Recommendations at a school site that has not experienced a pedestrian- or bicycle-related collision.
Goal 4: Strategically invest in improvements	20	Recommendations in the vicinity of two or more schools and other land uses that may attract students. Examples of other land uses include libraries, community centers, and parks.
	15	Recommendations in the vicinity of two or more schools.
	10	Recommendations in the vicinity of other land uses that may attract students.
	5	Recommendations not within the vicinity of two or more schools or other land uses that may attract students.
Goal 5: Promote equitable transportation solutions	20	Recommendations at a school that serves a census tract identified as a Community of Concern.

Educational Implementation

Educational programs, policies, and incentives to promote walking and biking to school and best traffic safety practices are also a part of this Project. The educational component of this Project was being implemented in the 2017-18 and 2018-19 school years by Safe Moves. Safe Moves worked directly with schools and conducted educational programs in both English and Spanish. Safe Moves made arrangements with school staff if any other languages were required to accommodate the needs of the students and parents. All the literature and visual aids were in English, Spanish and other languages if applicable.

- **Student Bicycle & Pedestrian Safety Workshops -** Safe Moves conducted workshops that taught bicycling and walking as a safe, healthy and effective method of transportation based on experiential educational principles that incorporated "learn by doing activities". Safe Moves believes students learn best and develop key problem solving and critical thinking skills by actively experiencing learning. Unlike rote memorization of traffic laws and rules or use of videos; our hands-on approach taught children and teens to identify problems (or questions), determine the correct behavior (or answers), and, ultimately, to arrive at important conclusions about the safe choices to make as pedestrians and bicyclists.

  Safe Moves applied grade-level appropriate methodologies in order to achieve maximum effectiveness at every learning and behavioral level. We were also mindful of the increasing diversity within school communities and developed approaches that were culturally competent and relevant to the lives of the parents and students, as well as the neighborhoods surrounding the schools.

  - Students in grades K-2 participated in a workshop program called "Play2BSafe, Healthy and Wise" These workshops involved students participating in a play about the adventures of walking to school. Elements of traffic safety, improving air quality and getting exercise were all part of the workshops. This program component combined creativity, improvisation, student participation and humor to help students learn about 'their primary mode of transportation" – walking as a fun, safe and effective way to get to and from school.

  - Students in grades 3-5 participated in a workshop program conducted in a game show format called "Traffic Jam" with the instructor as the game show host. This program component engaged the students in active learning by challenging their critical thinking skills. "Traffic Jam" covered safety, health, environment and consequences of traffic congestion and air pollution.

  To sustain student lesson plans conducted in the workshop, Safe Moves developed the "Teacher's Safety Minute Lesson Plan" for elementary schools. This program asked teachers to commit to one (1) minute per day to active transportation, bike and pedestrian safety, environment, health

and fitness. We provided lessons plans and ways the discussions could be incorporated into the school day.

  - Students in grades 6 – 12 participated in a workshop program that promoted school and personal action to engage the students in active learning by challenging their critical thinking skills as it related to their safe and effective commute choices. In addition to bicycle and pedestrian safety, workshops included:
    - Practical application of science-based solutions for significant and immediate greenhouse gas reductions in student commutes. Through this exercise, students also learn the health and safety benefits of reducing driving to school.
    - Focuses on the variety of transportation methods available and the costs and consequences associated with each mode of travel.
    - Discussion about student beliefs, values, and their willingness to act in response to environmental problems, including exploring their travel modes to discover how many trips they can reduce by choosing alternatives.

- **Pedestrian & Bicycle Rodeos** - Safe Moves scheduled, promoted and conducted interactive hands-on pedestrian and bicycle safety rodeos allowing children and teens to experience traffic situations as pedestrians and bicyclists in a traffic simulation course called "Safe Moves City."

  Lesson Plans were age-appropriate and administered by trained safety instructors. Lesson plans and traffic situations became more challenging for the upper grades so as to accommodate their "real life traffic challenges."

  Students in grades Kindergarten-2 participated as pedestrians in a developmentally appropriate method. The main educational focus for this age group was walking near traffic, crossing streets, crossing intersections and parking lot safety. The goal of the program was to not only make children aware of ways to stay safe but to help them develop the knowledge into an automatic behavioral response. Bicycle safety and helmet use were discussed, but the focus remained on their primary mode of transportation, which is walking.

  Students in grades 3-12 participated as pedestrians and bicyclists. Although students were strongly encouraged to bring their own bicycles and helmets to the rodeo, bicycles and helmets were provided for those students who don't have one. Students were taught how to properly fit and adjust their bicycle helmets as well as conduct a bike check for tires, brakes, seat and handlebars and make minor repairs.

  Safe Moves encouraged schools to implement and/or promote Walking School Buses, Bicycle Trains and Walk/Bike to School events at elementary and middle schools with the goal of establishing walking school buses bicycle trains on a regular basis. In addition to promoting Walking School Buses, Bike Trains and Walk/Bike to School events in workshops and rodeos, Safe Moves suggested that schools use the following to encourage students and parents to participate:

1. School newsletter articles
2. Posters at schools
3. Announcement through the PTA
4. School e-mail or website

- **Train the Trainer Workshops -** While parents can serve as positive role models for their children most parents either overestimate their children's knowledge and skills or don't always model safe pedestrian or bicycling behaviors. Safe Moves conducted Train the Trainer workshops included the basics of pedestrian and bicycle safety, general bike maintenance and helmet use, including fitting and adjustment. These workshops addressed parental concerns of traffic speed and traffic volume around schools, as well as the social environment around schools, including crime and bullies. Safe Moves encouraged parents to volunteer for the Walking School Buses, Bike Trains, and other encouragement activities.

  In addition to the Train the Trainer workshops, Safe Moves provided education to those parents who did not attend the Train the Trainer workshops and/or traditional parent meetings. In order to reach those parents who do not attend school meetings Safe Moves positioned staff at entrances to schools to speak with them about safety issues in a polite and respectful way. The parents who were targeted to speak with were those who were witnessed as practicing unsafe behaviors. Meeting parents prior to school start took place on the days that programs were conducted at the elementary schools.

- **Safe Routes to School Toolkit** - Safe Moves promoted to schools and PTAs that starting a Safe Routes to School (SRTS) program is an opportunity to make walking and bicycling to school safer and more accessible for their children, including those with disabilities, and to increase the number of children who choose to walk and bicycle to enhance children's health and well-being, reduce traffic congestion near the school and improve air quality and improve families and school community's overall quality of life. Safe Moves produced a simple guidebook that outlined steps to provide a framework for establishing a SRTS program based on what has worked in other communities.

- **Safe Routes to School Curriculum** - Safe Moves produced Bicycle and Pedestrian Safety Curriculum that teaches and encourages pedestrian and bicycle safety for students' grades K through 5th Grade. It is organized into five lessons: walking/bicycling near traffic, crossing streets, crossing intersections, parking lot safety, and Each lesson builds upon previous set of skills learned. The curriculum is formatted for each grade level and designed for easy implementation by teachers.

The education and outreach summary provided in **Appendix J** includes information on which schools participated in what activities, as well as additional educational and programmatic recommendations.

Evaluation

The evaluation component of the program was led by Safe Moves. Data collection methodologies used (surveys and tallies) are consistent with those approved by Caltrans and the National Safe Routes to School Program Tracking System.

Safe Moves used the standard Federal SRTS parent survey and student tally forms to gather before and after data. These surveys helped measure average changes in school travel modes before and after SRTS program activities. Parent surveys and In-class Student Hand Tallies were conducted annually at each of the schools and also around the educational, encouragement and enforcement events during each school year to evaluate changes in behavior associated with the Safe Routes to School program.

Safe Moves distributed one hand tally per classroom for each round of surveying and worked with the schools to confirm that teachers understand how to administer the survey. Parent surveys and student tallies were conducted pre-program (Spring 2018) and post-program (Spring 2019) to establish baseline and ongoing data. Before and after comparisons of mode split data from surveys are provided in **Appendix K**.

Appendix A: School Fact Sheets

Appendix B: Project List

Appendix C: Intersection Turning Movement Counts and ADT

Appendix D: Raw Speed Data

Appendix E: Walk Audit Summaries

Appendix F: CrowdSource Map Summaries

Appendix G: Crossing Guard Analysis and Memorandum

Appendix H: Collision Analysis Memorandum

Appendix I: Countermeasure Toolkit

Appendix J: Education & Outreach Summary

Appendix K: Before/After Mode Split Comparison