

SAN MATEO COUNTY SAFE ROUTES TO SCHOOLS CABRILLO UNIFIED SCHOOL DISTRICT



FARALLONE VIEW ELEMENTARY SCHOOL WALK AND BIKE AUDIT FINAL REPORT 03.17.14



San Mateo County
SAFE ROUTES TO SCHOOL
Healthy Kids • Green Communities • Safe Journeys



Prepared by



Kimley-Horn
and Associates, Inc.

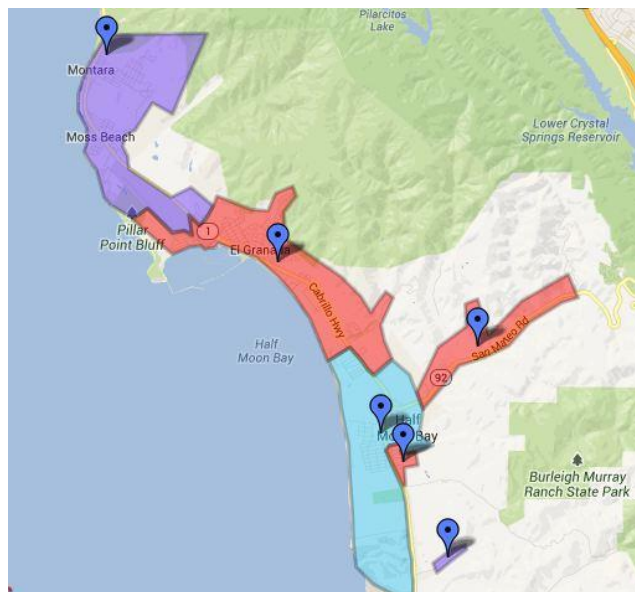
Introduction

In partnership with the San Mateo County Office of Education, the Cabrillo Unified School District planned to complete Walking and Bicycling Audits at Farallone View Elementary School during the 2013/2014 school years. Walking and bicycling audits are field visits to identify barriers or challenges to students using these modes to travel between home and school. Also known as assessments, audits generally include a tour of the school area, where participants identify issues related to walking and biking, followed by a debriefing and brainstorming session to rank high-priority concerns and identify potential solutions. Walking and bicycling audits provide community stakeholders with the information they need to analyze the design and condition of the transportation network.

A Walking and Bicycling Audit was completed for Farallone View Elementary School on October 29, 2013. Staff and parents from Farallone View Elementary School, as well as staff from the County of San Mateo, the National Parks Service (NPS) and the School District partnered with the selected engineering safety firm of Kimley-Horn and Associates to complete the field audit and a brainstorming session to discuss concerns and solutions. Subsequent to the field audit and debrief, the issues discussed have been incorporated into this report and recommendations for improvements are suggested herein.

School Boundaries

Below is a map showing the Farallone View Elementary School enrollment boundary (represented by the area shaded in purple).



Farallone View Elementary School Boundary

Survey Results

In Fall 2012, a student and parent survey was conducted for Cabrillo Unified School District. A total of 151 responses were collected for 258 students. The number of responses varied per survey question. The following is a summary of the survey results related to Safe Routes to Schools activities:

	Number	Percent
Male	111	45%
Female	133	55%
Total	244	100%

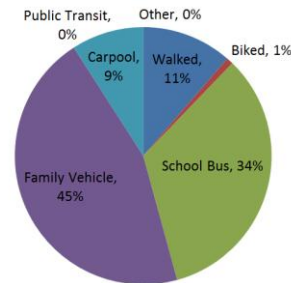
Approx. Distance between Home and School

	Number	Percent
¼ mile or less	46	21%
¼ – ½ mile	18	8%
½ – 1 mile	34	15%
1 – 2 mile	53	24%
More than 2 miles	71	32%
Total	222	100%

Twenty-one percent of students live within a quarter of a mile from school, while 29 percent live within a half mile from school. Fifty-six percent of students live more than a mile from school.

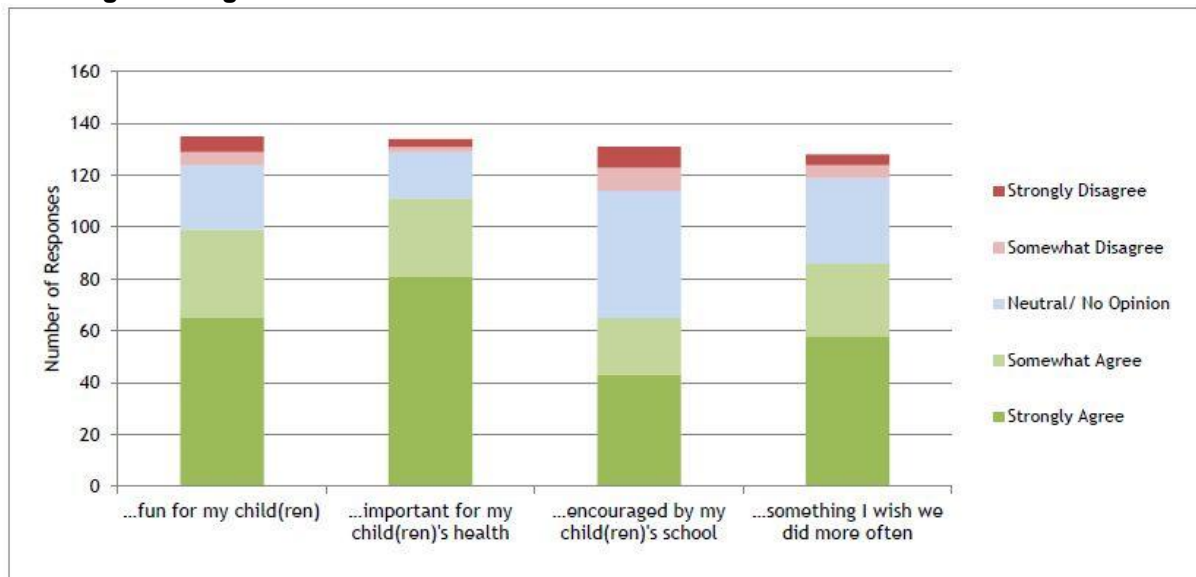
In April 2013, a survey was conducted asking students how they came and went home from school. From that survey, the main mode of travel was the family vehicle at 45 percent followed by the school bus at 34 percent.

Mode Split for All School Trips (n=352)



A majority of parents stated that walking or biking was important for their children's health. Other common statements include that walking or biking is fun for their children and is something parents wished they did more often.

Walking or biking to school is...



Field Audit

The field audit at Farallone View Elementary School focused on the following main areas of concern by the group:

- Le Conte Avenue (between 3rd Street and its terminus at the NPS property): This section of Le Conte Avenue terminates north of the school property, as a trailhead on NPS land. This section of Le Conte Avenue is traveled primarily by school-related traffic since the only other access is to a pre-school facility located on the north side of school property, one private property, and the NPS trailhead. Vehicle and pedestrian activity is moderate during school drop-off and dismissal periods. In addition, parents driving their children to/from school also utilize Le Conte Avenue north of the school driveway for on-street parking. Some observations during the field audit include:
 - There is a Pre-Kindergarten facility (Coastside Children's Programs) located on the north side of the school. Students and parents mainly access those classrooms for the Pre-K using the sidewalk on the east side of the school parking lot and use a gate on the east side of the parking lot. During drop-off periods, the additional volume of pedestrians using this sidewalk results in some congestion.
 - There are approximately 370 students attending the school, with approximately 120 students utilizing school busing from the Moonridge Community. Student buses arrive at the school around 8:20am and utilize the inner driveway immediately adjacent to the school to dwell and drop-off and pickup students. Bus turning movements entering and exiting campus were observed to be constrained by the roadway width of Le Conte Avenue. There is a YIELD bar striped on Le Conte Avenue for northbound traffic to wait south of the school driveway to provide sufficient area for buses exiting school property to turn onto southbound Le Conte Avenue.
 - As noted, NPS owns land in the vicinity of the school property including the land on Le Conte Avenue, north of the school. NPS is interested in improving the function of Le Conte Avenue just north of the school. Currently, many parents use this section of Le Conte Avenue for on-street parking to drop-off and pickup their students. The west side of Le Conte Avenue has a curb, gutter, and sidewalk in this section. The east side of this section of Le Conte Avenue has either a narrow or no dirt shoulder with no walking area for pedestrians, and borders private property. Some parents try to park in the narrow shoulder and walk their students into school. The roadway is relatively narrow (approximately 19-20' feet wide) and vehicles parking on the east side partially block northbound traffic from proceeding up Le Conte Avenue. Most parents choose to drive north on Le Conte Avenue to a wider dirt shoulder and conduct a multi-point turnaround to then travel south and park along the west side of Le Conte Avenue where the sidewalk is located. NPS requested that perhaps a turn-around could be installed to make this U-turn easier, as well as allow NPS to install an optional gate to control access to the trailhead and parking for the trailhead.

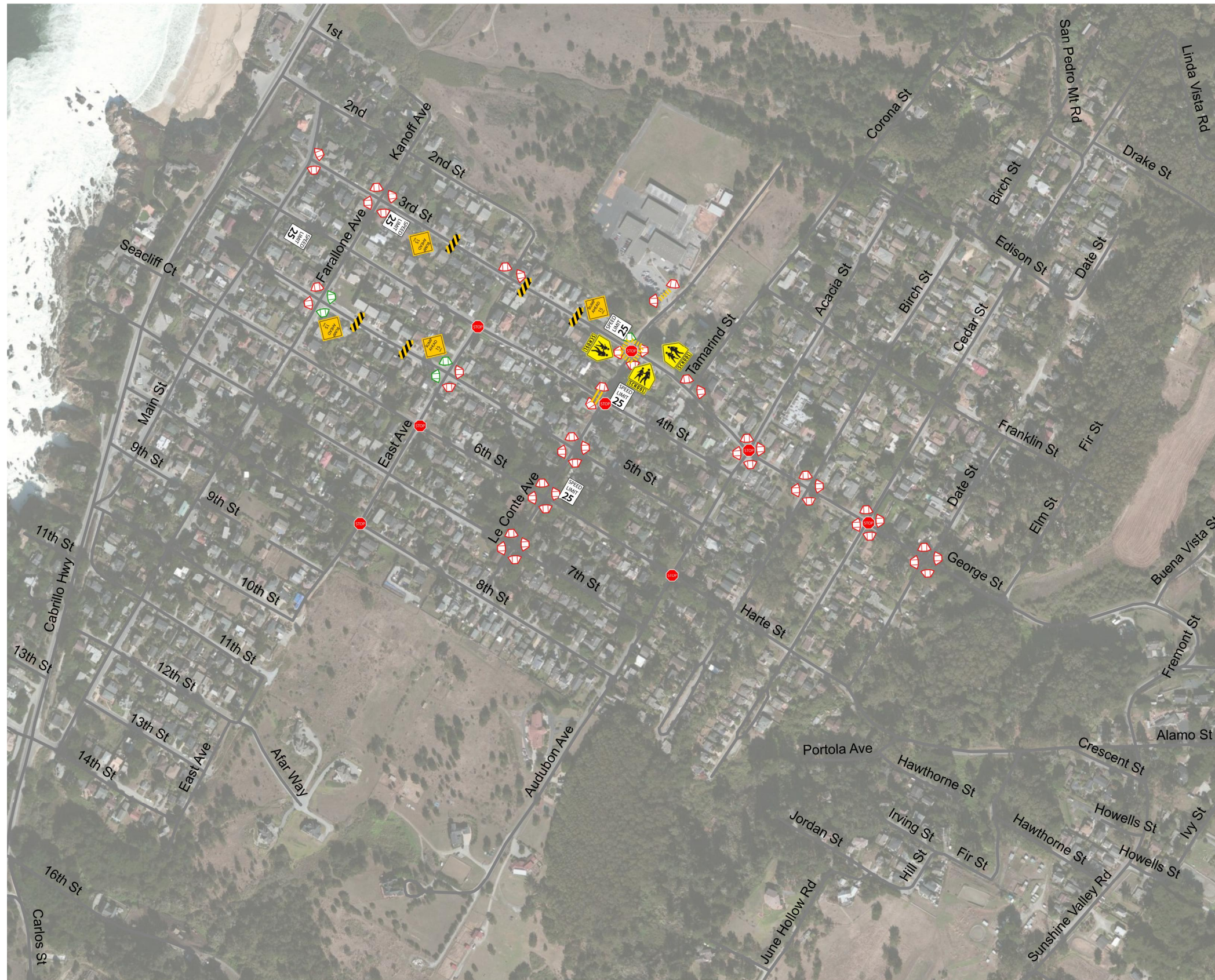
- The sidewalk on the west side of Le Conte Avenue requires some maintenance. Debris and vegetation block the sidewalk, especially on the northern end of the school property.
- There is a trail on NPS property that connects Le Conte Avenue to the east to Tamarind Street. The trail is used by some students and parents residing east of the school to access the school to avoid some of the vehicular traffic. Some trail improvements were discussed during the field audit.
- The San Mateo County Sheriff's Department representative attending the field audit noted that traffic is typically well-behaved and that previous studies have shown that vehicular speeding isn't a significant issue since most traffic using Le Conte Avenue is school-related.
- Farallone View School Parking Lot: The main school parking lot includes multiple areas for drop-off and pickup for buses and private vehicles, as well as a parking area for parents and visitors. There is additional parking for school staff and teachers just east of the main school parking area. Some on-site observations during the field audit include:
 - Buses use the drop-off lane immediately adjacent to the school building. The area is used exclusively by buses and the few vehicles that utilize the couple of parking spaces accessible from the drop-off lane.
 - Parent vehicles use a drop-off area cut-out from the northbound parking aisle lane that can accommodate 5-6 vehicles at one time. During the field audit, there were periods when this storage was maximized but additional queuing was not observed and traffic was not observed to block the traffic in the northbound drive aisle.
 - During the field audit, parking was observed to be fully utilized although very few vehicles were observed to circle the lot and search for a space. Some additional on-site parking could be helpful to encourage more parents to use campus parking rather than park on the street.
 - On-site crosswalks are faded and not consistent with recommended striping practices. These need to be refreshed and updated to current standards.
 - In general, vehicle traffic entering and exiting the school driveway is well behaved and observed to slow for pedestrians and other yield to other vehicles as appropriate.
 - The curb ramps at the school driveway should be updated to the current standard.
- 3rd Street (between Tamarind Street and East Avenue): 3rd Street is a main west-east roadway in Montara that many vehicles utilize to access the school area. Some pedestrians also were observed utilizing 3rd Street to access the school area although 3rd Street does not have dedicated areas for pedestrians to walk. The roadway cross-section of 3rd Street is approximately 21 feet, which is relatively narrow and provides no additional room for pedestrians to walk on the asphalt surface. There are multiple speed humps on 3rd Street to help to calm traffic and keep speeds relatively compliant with posted speed limits near the school.

Additional observations about walking and biking activities near the school campus:



- Signage: Generally the school zone signage is well maintained, although it is observed that all of the school zone and school crossing signs are not consistent with the current California MUTCD signage recommendation. The other signage intended to help control school-related activities such as no parking signs, drop-off and pickup times, etc. is faded and needs replacing or relocation.
- Walking to campus: Observations as well as experience from the site council noted that a moderate level of students walk to/from campus daily and this is the most highly used alternative transportation mode besides parents using personal vehicles. In general most students arrive to campus using school busing or personal vehicles.
- Biking to campus: A small percentage of students are biking to/from school. Bike racks are located on campus in a safe location. On a daily basis, bike racks are scarcely utilized and no additional bike racks are required.

The **Existing SR2S Elements** figure illustrates the existing pedestrian and bicycle safety features already in place in the study area.

Farallone View Elementary Safe Route to School Walk and Bike Audit



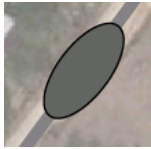
Legend:

-  School Crossing Sign
-  Speed Limit Sign
-  Speed Bump Sign
-  All-Way Stop Intersection
-  Existing Curb Ramp
-  No Curb Ramp
-  School Crosswalk
-  School Ladder Crosswalk
-  Speed Bump

Proposed Safe Route to School Elements

The **Proposed SR2S Elements** and **Proposed SR2S Elements (Near School)** figures illustrate the SR2S Plan on a conceptual basis. A brief discussion is provided below for each of the improvements proposed. For project planning purposes, each improvement is estimated to occur in the Short-term (within 1 year), Medium-term (1-3 years), or Long-term (3+ years). In addition, the responsible lead agency is identified for each improvement.

Le Conte Ave (North to South):



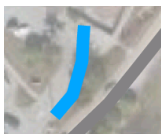
1. **Install a turnaround:** It is recommended that a cul-de-sac with a trail gate be installed on NPS property to assist with vehicle safety and turn around on Le Conte Avenue for preferred on-street drop-off on the west side of Le Conte Avenue. NPS preference is for the turnaround to utilize the area on the east shoulder of Le Conte Avenue since the west shoulder has a vertical change going downhill. (Estimated time frame: Medium-term, Responsible Lead Agency: NPS)



2. **Improve Existing Trail:** It is suggested that the trail between Le Conte Avenue and Tamarind Street be improved for safer pedestrian activity. NPS should work with the District and County as part of a funding request that can improve the trail with materials that will keep trail access available during the rainy season, such as compacted decomposed granite or other gravel treatments to minimize the mud in wet periods of the year. (Estimated time frame: Medium-term, Responsible Lead Agency: NPS)



3. **Install No Parking Signs:** It is recommended to partner with the private land owners immediately east of Le Conte Avenue to install NO PARKING signs on the east side of Le Conte Avenue, north of 3rd Street. (Estimated time frame: Short-term, Responsible Lead Agency: San Mateo County)



4. **Widen Sidewalk:** It is suggested that the sidewalk between the school driveway and the school frontage be widened to allow safer pedestrian activity. It is recommended that the sidewalk be constructed as 8 to 10 feet wide to allow for two-by-two passing of students and their parents. (Estimated time frame: Short-term, Responsible Lead Agency: Cabrillo USD)



5. **Update Pedestrian Ramps:** It is recommended that the current pedestrian curb ramps be updated to current ADA standards as pedestrian gap closures. (Estimated time frame: Medium-term, Responsible Lead Agency: San Mateo County)



6. **Install Enhanced Crosswalk (near-term):** As a near-term recommendation, the current crosswalk striping at the school driveway should be replaced by enhanced crosswalk striping to improve visibility for drivers. (Estimated time frame: Short-term, Responsible Lead Agency: Cabrillo USD)



7. **Install Enhanced Crossing with RRFB (long-term):** The medium-term recommendation for the school driveway crosswalk would be installation of a Rectangular Rapid Flashing Beacon (RRFB) crosswalk to improve pedestrian safety at this location. (Estimated time frame: Medium-term, Responsible Lead Agency: Cabrillo USD)

8. **Potentially Redesign Parking lot:** Currently the school parking lot has the following dedicated areas:
- Curbside drop-off and pickup for buses is conducted in the drive aisle immediately adjacent to the school. No parent vehicles are permitted to use this area during start and dismissal periods.
 - Curbside drop-off and pickup for personal vehicles is conducted in a dedicated lane in the parking area of the lot. Approximately 5-6 personal vehicles can conduct drop-off or pickup of students at any one time without blocking other traffic maneuvers on campus.
 - Parent and visitor parking spaces are available in the main area of the parking lot. This area is utilized by many parents to park and walk their student into or from their classrooms.



Currently, the drop-off and pickup periods are relatively well mannered, which is the observation of school staff as well as Sheriff's Department representatives. However, the parent and visitor parking is often full and additional parking may relieve some vehicle congestion on campus. If the school would like to increase parking, the recommendation is that the current parent drop-off area be restriped for angled parking. This change will require restriping this entire area of the parking lot because the current parking spaces will need to be shifted slightly south by making the drive aisle slightly narrower to accommodate the new parking. The parent drop-off and pickup area would be relocated to the driving aisle immediately adjacent to the school, where the buses currently use exclusively. While there is plenty of curb space for parent vehicles to also use this area, for better circulation it is recommended that the concrete island dividing the parking lot be redesigned. For better efficiency and to allow parent vehicles to exit the drop-off area when buses are present, it is recommended that the nose of the concrete median be removed, including the flag pole area. This change will allow for a wider exiting width and vehicles to pass the buses when they are parking. The flag pole can be relocated slightly east in the concrete median and still retain this central location.

The field observations do not necessarily show a high need for this infrastructure change; however, if the school is interested in additional parking then modification of the parking and drop off areas is recommended. (Estimated time frame: Medium-term, Responsible Lead Agency: Cabrillo USD)



9. **Update Yield Pavement Marking:** It is recommended that the current YIELD pavement marking, just north of the Le Conte Avenue and 3rd Street intersection, be updated to YIELD TO BUSES. It is also suggested that additional no parking signage be added to this area. (Estimated time frame: Short-term, Responsible Lead Agency: San Mateo County)



10. **Improve Walking Path (Le Conte Avenue):** It is suggested that the west walk path along Le Conte Avenue between 3rd Street and 5th Street be improved to allow for safer pedestrian activity. (Estimated time frame: Long-term, Responsible Lead Agency: San Mateo County)



11. **Improve Walking Path (5th Street):** It is suggested that the south walking path along 5th Street between Le Conte Avenue and Main Street be improved to allow for safer pedestrian activity. Reviewing the available Right-of-Way information, installation of this path or improvement of existing pathways is anticipated to require a detailed engineering design to balance the pathway design with the private property line and roadway width on 5th Street. It is anticipated that the walking path would be require funding and would be more costly than a typical walking path project due to existing slopes and other design constraints. The project will require outside grant funding and strong community support for a successful planning and design to be completed. (Estimated time frame: Long-term, Responsible Lead Agency: San Mateo County)

Overall School Zone Study Area:

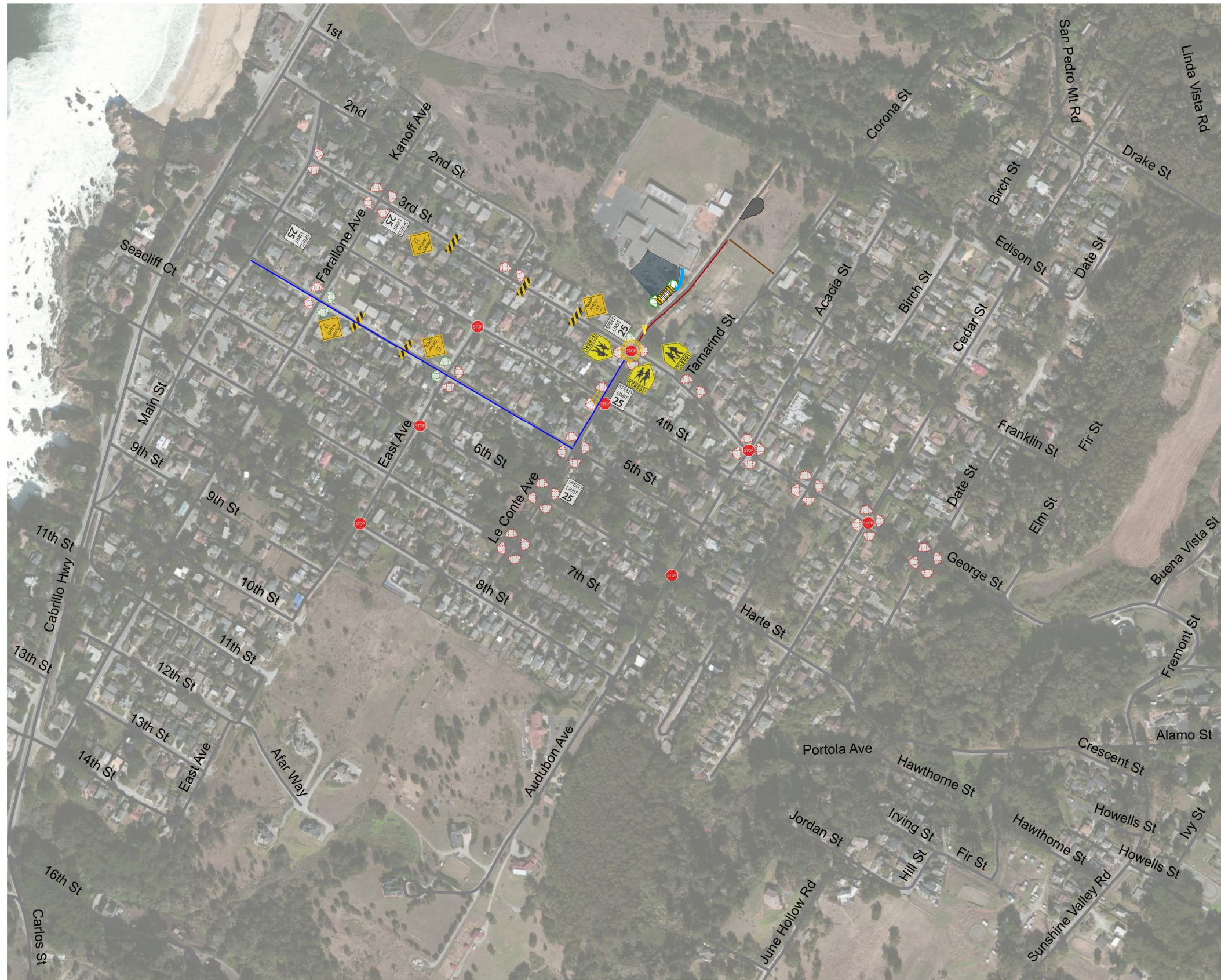
12. Some of the current school-related roadway signage is outdated based on the current version of the California Manual on Uniform Traffic Control Devices (MUTCD). This most recent version includes some updates to sign text and/or images, as well as standard for sign retro-reflectivity. It is recommended that future efforts for funding the elements of this plan also inventory the status of the current school signage and update all signs to the current standard. Specifically, many of the school zone and school crosswalk signs in the school area are based on previous sign standards and should be update as other elements of the SR2S plan are implemented. (Estimated time frame: Short-term, Responsible Lead Agency: Cabrillo USD)

13. Vegetation in the area around the school is overgrown in some locations, creating limited sight distance or obstructions for pedestrians using the walking paths and sidewalks. One example is an overgrowth of vegetation on the sidewalk on the west side of Le Conte Avenue, north of the school driveway, which students and parents utilize heavily for on-street drop-off and pickup. (Estimated time frame: Short-term, Responsible Lead Agency: San Mateo County)

Vehicular Drop-off and Pickup Procedure:










14. Although the primary goal of the Walk and Bike Audit is to encourage additional walking and biking through safety improvements of physical roadway features, the general safety of school areas is also observed. Farallone View Elementary School currently has parking lot procedures which outlines vehicular drop-off and pickup procedure. The school should continue to update and reinforce these procedures to improve the vehicular-related safety around the school campus. (Estimated time frame: Short-term, Responsible Lead Agency: Cabrillo USD)

Farallone View Elementary Safe Route to School Walk and Bike Audit












Legend:

Existing

-  School Crossing Sign
-  Speed Limit Sign
-  Speed Bump Sign
-  All-Way Stop Intersection
-  Existing Curb Ramp
-  No Curb Ramp
-  School Crosswalk
-  School Ladder Crosswalk
-  Speed Bump

Proposed Improvements










-  Curb Ramp
-  Update Yield Pavement Marking
-  Enhanced School Crosswalk (with Rectangular Rapid Flashing Beacon)
-  Improve Walking Path
-  Widen Sidewalk
-  Improve Trail
-  No Parking
-  Install Cul-de-sac
-  Redesign Parking Lot

Farallone View Elementary Safe Route to School Walk and Bike Audit












Legend:

Existing


















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-  Curb Ramp
-  Update Yield Pavement Marking
-  Enhanced School Crosswalk (with Rectangular Rapid Flashing Beacon)
-  Improve Sidewalk Path
-  Widen Sidewalk
-  Improve Trail
-  No Parking
-  Install Cul-de-sac
-  Redesign Parking Lot

Typical SR2S Element Summary

More details of the recommended elements included herein, as well as other typical SR2S elements are summarized in the table below.

SR2S Element	Application in accordance with:	Image	Dimensions (W x H)	Typical purpose	Typical Cost Range
SIGNS					
SCHOOL SPEED LIMIT	California MUTCD, Part 7, Section 7B.11 (School Speed Limit Assembly C (CA))		(24" x 8") + (18" x 24") + (24" x 10")	To indicated the speed limit where a reduce speed zone for a school area has been established	\$300 - \$500
SPEED LIMIT FEEDBACK	California MUTCD, Part 2, Sections 2B.13 (Vehicle Speed Feedback Sign)		(30" x 30")	To display to approaching drivers the speed at which they are traveling. Enhances driver awareness of their speed, especially when used in condition with speed limit sign (R2-1)	\$12, 500 - \$17, 500
NO PARKING ANYTIME	California MUTCD, Part 7, Section 7B.14 (R26(CA))		(12" x 18")	To prevent parked or waiting vehicles from blocking pedestrians' views , and drivers' view of pedestrians	\$300 - \$500
NO STOPPING ANYTIME	California MUTCD Part 2, Section 2B.39 (R26(S)(CA))		(12" x 18")	To inform motorist of a no stopping zone at a specific location where red curb marking is not used.	\$300 - \$500
SCHOOL PASSENGER LOADING ONLY	California MUTCD, Part 2, Section 2B.39 (R25D(CA))		(12" x 18")	To inform motorist of curb restriction at location for loading or unloading passengers for the time as specified by local ordinance.	\$300 - \$500
PEDESTRIAN ELEMENTS					
SCHOOL CROSSING WARNING SIGN	California MUTCD, Part 7, Section 7B.08 (School Warning Assembly A (CA))		(30" x 30") + (24" x 8")	Installed at marked crosswalk, or as close to it as possible to show the location of the school crossing.	\$300 - \$500
PEDESTRIAN COUNTDOWN SIGNAL	California MUTCD, Part 4, Section 4E.07			To inform pedestrians of the number of seconds remaining in the pedestrian change interval.	\$1,500
RECTANGULAR RAPID FLASHING BEACON (RRFB)	Federal High Administration approval per California MUTCD, Section 1A.10, Approval No. IA-11-83-RRFB-California Statewide		Beacon (4" x 29") + Warning Signs	For use at uncontrolled pedestrian and school crosswalk locations.	\$50,000
IN-ROADWAY LIGHTS	California MUTCD Part 4, Chapter 4L		~10" deep x ~7.5" Diameter	To warn road users that they are approaching a condition on or adjacent to the roadway that might not be readily apparent and might require the road user to slow down and/or come to a stop.	\$50,000
CURB RAMP	Caltrans 2010 Standard Plan A88A and A88B		Varies	To make sidewalks accessible for those who need mobility or visual assistance.	\$500 - \$800
BICYCLE ELEMENTS					
BICYCLE LANE	California MUTCD, Part 9, Section 9C.04		Varies	Pavement marking designated that portion of the roadway for preferential use by bicyclists.	\$100-\$150 per bike and arrow
BICYCLE LANE SIGN	California MUTCD, Part 9, Section 9B.04 (R81(CA))		(12" x 8")	Installed at the beginning of each designated Bike Lane and along each Bike Lane at all major changes to regulated bicycle and motor vehicle traffic.	\$300 - \$500
NO PARKING BIKE LANE SIGN	California MUTCD, Part 9, Section 9B.10 (R7-9)		(12" x 18")	To restrict parking, standing, or stopping in a bicycle lane.	\$300 - \$500
BICYCLE + SHARE THE ROAD	California MUTCD, Part 9, Section 9B.18 (W11-1 + W16-1)		(30" x30") + (18" x 24")	To warn motorist to watch for bicyclists traveling along the highway.	\$300 - \$500
ROADWAY IMPROVEMENTS					
CURB EXTENSIONS	City Jurisdiction		Varies	Improves safety for pedestrians and motorist at intersection. Increases visibility and reduces speed of turning vehicles.	Varies
RAISED PEDESTRIAN CROSSINGS	City Jurisdiction		Varies	Improves safety for pedestrians by increases visibility for drivers and reduces speed of vehicles.	Varies
SLOW SCHOOL XING PAVEMENT MARKINGS	California MUTCD, Part 7, Section 7C. 06 (7C-101 (CA))		N/A	Warning drivers in advance of all yellow school crosswalks.	\$400