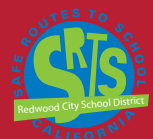




Redwood City Safe Routes to School Report

August 2013

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Redwood City

Safe Routes to School Report

Prepared for:

City of Redwood City

Redwood City 2020

Redwood City School District

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1. Introduction

The City of Redwood City, County of San Mateo, Redwood City School District, and Redwood City 2020 all encourage safe access and active transportation to school. The purpose of this report is twofold:

- To identify potential infrastructure projects and education and encouragement programs that could improve student safety and support walking and biking to school.
- To identify and promote suggested walking and biking routes for students and parents to and from school.

The Redwood City School District (RCSD) has been supported by Redwood City 2020 in the initiation and implementation of a Safe Routes to School (SRTS) program since the middle of the 2009-10 school year. Since the inception of the program, the effort has grown to include 10 of the 16 District schools. SRTS strategies have been customized to meet the needs of each school with the basic foundation of increasing students walking and cycling safely to school. Programs include walking school buses, establishing parking areas near school that permits students to walk from the parking to the school in cases where walking is too difficult and educational programming for parents and students. Additionally, the City of Redwood City in collaboration with RWC 2020 has successfully competed for an estimated \$2.0 million in SRTS infrastructure and non-infrastructure grants to support the program.

An overall goal for the District SRTS program is to promote safety, wellness, school community building and reduction in environmental impacts of vehicular student transportation.

This report presents recommendations to improve bicyclist & pedestrian safety and access to six schools in the Redwood City School District:

- Adelante Spanish Immersion School
- Fair Oaks Community School
- Hawes Community School
- John Gill Elementary School
- Roosevelt School
- Roy Cloud School

School site walking audits were conducted at each school either during the morning drop-off or afternoon pick-up periods. Audit teams included Alta Planning + Design staff, City or County staff, school principals, Redwood City 2020, and parents. Each visit began with a discussion of current challenge areas and what types of issues observers should pay attention to. The team then observed student access and reviewed the area near each school for quality of sidewalks, curb ramps, signage, as well as other engineering elements and behaviors of pedestrians, bicyclists, and drivers. Based on the observations and input provided by school staff and parents, the project team developed a report of potential recommendations which are presented for each school in a narrative and graphical format.

This report includes the following sections:

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This report is a step in providing improvements around Redwood City Schools. All recommendations in this report are contingent upon available funding, secured either through the City or the School District. Most recommended improvements (especially those needing significant engineering and construction) will be contingent upon winning federal, state, or regional grants. This report provides a blueprint for competitive grant applications, which may fund recommended improvements in future years.

1.1. How to Use this Report

At the heart of every successful Safe Routes to School program is a coordinated effort by parent volunteers, school and District staff, City and County staff, and law enforcement personnel.

For each school within this report, potential engineering recommendations are presented in graphic improvement plans with accompanying tables that identify the agency intended to implement the recommendation. Some recommendations are on school district property, while other recommendations in City or County right-of-way must be implemented by the respective agency.

Parents can use this report to understand the conditions at their children’s school and to become familiar with the ways the Safe Routes program can work to make walking and biking safer and easier.

School District and School staff can use this report to prioritize potential improvements identified on District property and develop programs that educate and encourage students and parents to seek alternatives to single family automobile commutes to school. In many cases, education and encouragement programs require dedicated parent volunteers to carry them out.

City and County staff can use this report to identify issues and opportunities related to walking and biking and to prioritize potential short-term and long-term infrastructure improvements. Staff can also use this report to support Safe Routes to School funding opportunities such as:

- California Active Transportation Program (ATP) grants
- Office of Traffic Safety (OTS) grants
- One Bay Area (OBAG) grants
- Highway Safety Improvement Program (HSIP) grants

Law Enforcement staff can use this report to understand issues related to walking and biking to school and to plan for and prioritize enforcement activities that may make it easier and safer for students to walk and bike to school.

2. Adelante Spanish Immersion School

2.1. School Information

| | |
|-------------------|--|
| Principal: | Linda Montes |
| Enrollment: | 567 Students, K-6 |
| School Arrival: | Kindergarten Early: – 8:15 AM Kindergarten Late: – 9:45 AM Kindergarten Th: – 8:05 AM 1 st – 6 th Grade: – 8:05 AM |
| School Dismissal: | Kindergarten Early: – 1:00 PM Kindergarten Late: – 2:30 PM Kindergarten Th: – 1:00 PM 1 st – 6 th Grade: – 2:30 PM 1 st – 6 th Grade Th: – 1:30 PM |



Adelante School

2.1.1. Layout

Adelante Spanish Immersion School is located in southwestern Redwood City, flush against the border with the community of Woodside to the south. The school is sited in a hilly residential area. While the neighborhood to the north of the school (within Redwood City limits) has sidewalks, the streets across the border in Woodside do not. There is a loading zone for automobile drivers in front of the school off of Granger Way; just south of the loading loop is diagonal parking for the adjacent playing fields. Staff and visitor parking are accessed via the back of the loading loop.

School access points include the main entrance via the loading loop on Granger Way and a sidewalk from the playing fields to the south, which ends at Harcross Road.

A significant challenge for walking and biking to Adelante Spanish Immersion School is that it is a magnet school, with students enrolled from all over Redwood City.

2.1.2. Loading Zones

There is one official off-street loading zone, accessed from Granger Way along the southeast side of the school. Parent volunteers operate a “kiddie valet” in the loading zone to assist students out of cars and keep traffic moving. In the afternoon, arriving parents put a nameplate in their car window with their students’ name, which a volunteer relays by walkie-talkie to assembled students outside the loading zone.

The primary parking lot for the school is sited at the rear of this loading zone. A second access point directly south of the loading zone exit contains a small number of parking spaces, including one designated for the winner of a parent auction. The exit from the loading zone is at an elbow in the road where Granger Way curves to the south. In addition, parents frequently drop off their children in the adjacent neighborhood on Granger Way in advance of the school.

2.1.3. Crossing Guard Location

There are no crossing guards for Adelante Spanish Immersion School.

2.1.4. Existing Programs

The school had two walking school buses, but the program was discontinued after two months. Wednesdays are “park and walk” days, where parents are encouraged to park on Granger Way and Mitchell Way. The school holds a monthly “Walk to School Day” and participated in a district-wide walk to school day event. The first Walk to School Day had 78 students participate, while 53 students participated in the second. During the district-wide Walk to School Day during Earth Day, 65 students walked to school, representing a seven percent increase over a normal school day.

Adelante Spanish Immersion School in the past school year provided 10 bicycle and pedestrian educational courses to students, contracted through an expert bicycle & pedestrian safety educator. Two parent education workshops were also provided, focusing on safe driving habits near schools, pedestrian safety, and the benefits of walking and biking to school. The workshops also provided information on how to form walking school buses or conduct other encouragement programs. Adelante Spanish Immersion School also has a website for parents to arrange carpools (<http://adelanteschool.org/carpool.html>). The carpool tool is not well used currently, and school staff plans to promote the tool more heavily with parents in the coming school year.

2.2. Issues and Recommendations

2.2.1. Feasibility of Walking, Biking, and Ridesharing to School

The National Center for Safe Routes to School predicts that the majority of students who live within 1.35 miles should be able to walk to and from school, while the majority of students within 2.6 miles should be able to bicycle.¹

Adelante Spanish Immersion School, as a magnet school, draws students from across Redwood City. The school’s enrollment map, **Figure 2-1**, shows that the majority of students live to the east of the school, clustered between Woodside Road, Jefferson Avenue, and El Camino Real. More than half of the students at Adelante Spanish Immersion School live more than two miles away from the school, while less than five percent of students live within half a mile. Moreover, students walking or biking to school from the east must cross major roadways such as Alameda de Las Pulgas and Fernside Street in order to reach the school. Adelante is an excellent candidate for ridesharing programs due to the longer distances families live from school and the density of families who live near each other.

2.2.2. Collisions

From 2006-2011, there were nine reported pedestrian / bicycle collisions involving youth under age 18 east of Adelante School, shown in **Figure 2-2**. Three of the four pedestrian collisions were reported at crossings of State Highway 84, while two bicycle collisions occurred on Massachusetts Avenue/Woodside Drive. None of the reported collisions took place within close vicinity of the School. All collisions occurred on weekdays.

¹ This is based on the finding that people are generally willing to travel about 30 minutes each way, regardless of travel mode. Assuming a student walking speed of 2.7 miles per hour and a bicycling speed of 8 mph, a child can travel 1.35 miles by foot or 4 miles via bicycle in 30 minutes. However, accounting for stop light interruptions, hilly terrain, and other factors, the National Center recommends a student bicycling distance target of 2.6 miles. <http://www.saferoutesinfo.org/program-tools/what-distances-are-reasonable-expect-elementary-school-students-bike-school>

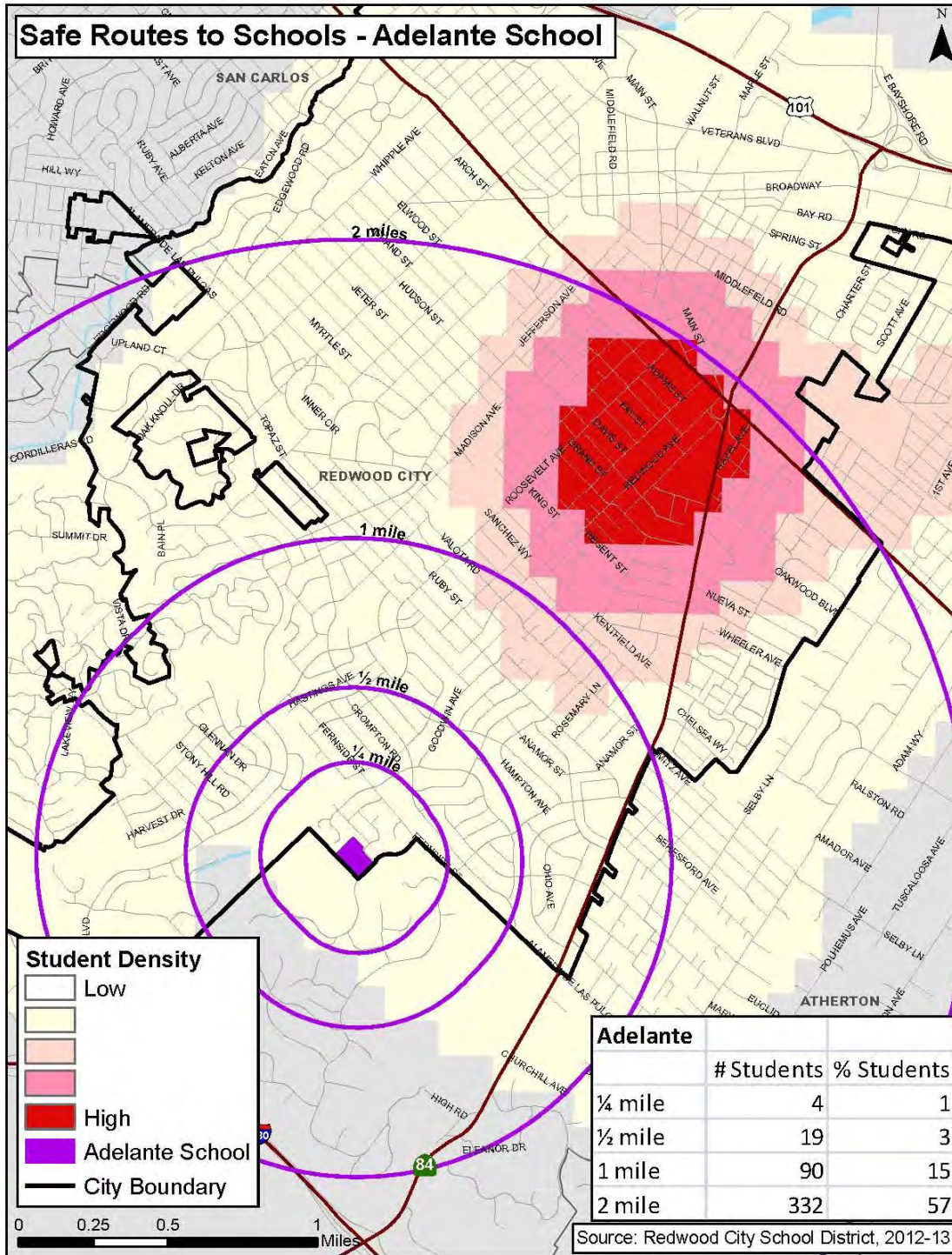


Figure 2-1: Adelante Spanish Immersion School Enrollment Map

Adelante Spanish Immersion School

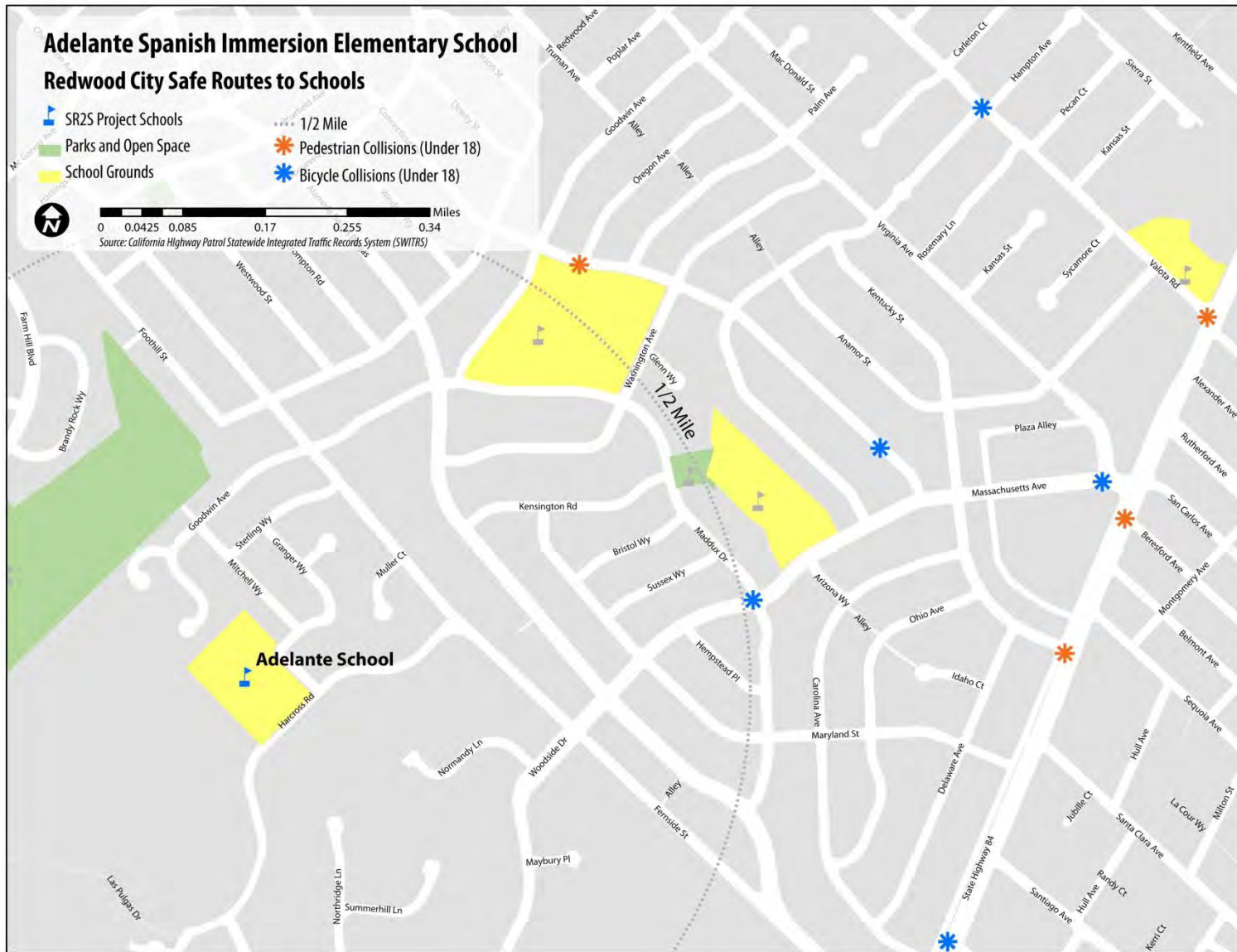


Figure 2-2: Adelante Area Youth Involved Pedestrian and Bicycle Collisions, 2006-2011

2.2.3. Potential Engineering Improvements

Potential engineering recommendations are shown and mapped in Figure 2-3. Improvement identification numbers reference numbers on the figure.

Adelante Loading Loop

The main passenger loading zone appears to work well, aided by parent volunteers running the “kiddie valet.” Parents, however, reported that the exit is difficult for drivers because of the bend in the road on Granger Way where the exit driveway lets out. The narrow curve in the road makes it difficult for two cars to pass when one is exiting from the loading loop. Furthermore, parents noted that drivers waiting to turn left from the loading loop exit can cause backups.

Recommendations (ID #1)

- Consider installing a “No Left Turn” sign at the exit to the loading loop, routing drivers south to Harcross Road. Consider whether routing traffic through Harcross Road to the south will create additional traffic impacts on local roadways.

Adelante Bicycle Parking

The school has a small amount of bicycle parking on campus, located in the staff/visitor parking lot adjacent to the loading loop. The racks are few and outdated (allowing only a single point of contact between the rack and the bicycle and limiting use of more secure u-locks), and are located in an area not immediately visible from the school office.

Recommendations (ID #2)

- Upgrade existing bike racks with U-racks or similar racks that can accommodate two points of contact with the bicycle frame. Consider providing an all-weather covering for the bicycle parking.
- Relocate the bicycle parking to be clearly visible from the school office windows.

Granger Way, Alongside the School

Granger Way has two high-visibility yellow crosswalks, one immediately before the loading loop entrance and one immediately after the loading loop exit. The first crosswalk is north/south-oriented while the second crosswalk is east/west-oriented, respectively, before and after the right angle turn Granger Way makes at Adelante Spanish Immersion School. There are curb ramps on Granger Way before the loading loop, but to the east of the existing north/south crosswalk.

The crosswalk to the south of the loading loop exit has a narrow width (less than seven feet wide, compared to the twelve-foot wide north/south-oriented crosswalk). It has outdated Assembly B signage, and lacks advance crossing Assembly D signage for northbound drivers. The crosswalk has no curb ramps at both ends, and the SLOW SCHOOL XING pavement markings are laid out such that the “XING” portion is located to the north of the crosswalk.

The east side of Granger Way has no pedestrian facilities and there are a number of “No Parking” signs; however, during the audit parents were observed parking on the east side and in many cases letting their children cross the exiting school traffic at uncontrolled locations.

Adelante Spanish Immersion School

The staff parking driveway immediately south of the loading loop exit (which is also the school fire lane), is often blocked by parent drivers during drop-off and pickup. There is a white transverse crosswalk across this driveway from the sidewalks along the playing fields to a walkway between the driveway and the loading loop that leads to the school.

Recommendations (ID #3 & #4)

- Relocate the northern crosswalk further east to utilize existing curb ramps.
- Restripe the southern crosswalk at a width equal to the northern crosswalk and construct curb ramps at both ends of the crosswalk. This may require additional engineering and construction of the sidewalk on the western end of the crosswalk due to the constrained configuration of adjacent parking lot spaces
- Restripe the SLOW SCHOOL XING pavement markings for northbound drivers so that all markings come before the southern crosswalk.
- Update all Assembly B & D signage, as necessary. Install an Assembly D sign for northbound drivers in advance of the southern crosswalk.
- Upgrade the white transverse crosswalk across the school fire lane to high-visibility yellow. Install yellow tactile dome strips at both ends of this crosswalk.
- Enforce no parking on the east side of Granger Way.

Neighborhood to the North

Mitchell Way and Granger Way experience high volumes of vehicle traffic during drop-off and pickup, as they are some of the limited access points to the school. Parents reported visibility issues at the Mitchell Way and Granger Way intersection. Many parents park on these streets and walk their students to school. The neighbors have expressed concerns with speeding drivers, but consensus is divided on installing stop control devices. Recently, a speed hump was installed on Mitchell Way to deter speeding and a new high-visibility crosswalk was installed at the intersection of Mitchell Way and Sterling Way.

Recommendations (ID #5 & #6)

- City staff should consider installing a 15 mph School Zone on both Mitchell Way and Granger Way, contingent upon a City ordinance adopting 15 mph School Zone.
- Stripe red curb at the Mitchell Way – Granger Way intersection to improve visibility.
- The school district should develop Park-and-Walk route maps that encourage parents to either park and walk, or drop off students, on Goodwin Avenue and on Mitchell Way north of Sterling Way. This would allow drivers leaving the school to exit via Sterling Way, reducing congestion closer to the school grounds.

Fernside Street

The intersection of Fernside Street at Goodwin Avenue is slightly askew from a 90 degree angle, with wide curb radii in the northwestern and southeast corners. At these corners, the crosswalk has to extend to reach the curb. The intersection is stop-controlled for east/west traffic, with free-flowing north/south traffic. The northern and southern crosswalks are high-visibility yellow and the western and eastern crosswalks are transverse yellow. The intersection of Carson Way at Fernside Street, immediately to the north, is stop-controlled for north/south traffic, with free-flowing traffic on Carson Way. A temporary speed hump has

recently been installed on Fernside Street. The principal has noted this intersection as a particular safety concern.

The intersection of Sterling Way at Fernside Street is uncontrolled in all directions. Audit observers noted a large amount of pedestrian traffic crossing Sterling Way at this intersection on their way to the crosswalk at Goodwin Avenue.

Recommendations (ID #7)

- Consider constructing curb extensions in the northwest and southeast corners of the intersection of Goodwin Avenue at Fernside Street, reducing excessive curb radii. If costs are deemed prohibitive, consider providing pavement markings and raised bollards in place of the curb extension.
- Stripe the eastern and western crosswalks as high-visibility.
- City to evaluate data for additional speed humps both north and south of the existing temporary humps.
- Consider converting Fernside Street at Goodwin Avenue to an all-way stop intersection and converting Carson Way at Fernside Street to stop-controlled for east/west traffic. This recommendation will require a traffic study.
- Consider installing a stop sign for traffic on Sterling Way at Fernside Street. If a stop sign is warranted, also stripe a stop bar behind the existing curb ramps.

Harcross Road

Harcross Road is the border between Redwood City and the community of Woodside. The street has no sidewalks and is used heavily by parents driving to and from Adelante. Some parents drop off students on Harcross Road near the playing fields south of the school. At the intersection of Granger Way at Harcross Road, there is a yellow transverse crosswalk, although it doesn't link to a sidewalk on either end.

The intersection of Harcross Road at Fernside Street is uncontrolled for traffic on Fernside Street. There are no marked crosswalks of Fernside Street for a quarter mile in both directions. There are curb ramps on both sides of Fernside Street on the western side of this intersection.

Recommendations (ID #8 & 9)

- Consider working with the community of Woodside to construct a sidewalk or a pathway along the north side of Harcross Road from Fernside Street to Adelante Spanish Immersion School.
- Replace the existing yellow transverse crosswalk across Granger Way at Harcross Road with a high-visibility yellow crosswalk, with curb ramps on both ends. May require paving over a portion of the landscaping at this intersection.
- Post "No Parking" signs along Harcross Road in proximity to the crosswalk at Granger Way to improve visibility.
- Stripe a high-visibility white crosswalk in western leg of Fernside Street at Harcross Road, using existing curb ramps. Outfit curb ramps with tactile dome strips. Install crossing signage for the crosswalk and stripe PED XING pavement markings in advance of the crossing.

Alameda de Las Pulgas at Maddux Drive

The intersection of Alameda de Las Pulgas at Maddux Drive was identified by parents as a key crossing for students walking from the east. The intersection has no crosswalks and is not stop-controlled on Alameda de Las Pulgas.

Recommendation (ID #10)

- Consider evaluating the intersection for an all-way stop and crosswalks.

Potential Engineering Improvement Summary

Table 2-1 lists the recommended potential improvements to address circulation issues around Adelante Spanish Immersion School and Figure 2-3 presents an improvement plan of these recommendations. The project identification numbers in Table 2-1 corresponds to those in Figure 2-3. The table shows the identified concerns, the proposed improvement, the agency likely to lead project implementation, and the recommended priority level for implementation. The “lead agency” is determined by on whose property/right-of-way the proposed improvement is located. The priority level is based on the anticipated safety and circulation benefit, the feasibility of implementation, and the projected cost.

Table 2-1: Adelante Spanish Immersion School Recommended Improvements

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|----------------------------|---|--|-------------|----------------|
| 1 | Adelante Loading Loop | <ul style="list-style-type: none"> Drivers wanting to make left turns cause back-up in loading loop. Curve in Granger Way makes it difficult for left-turning car from the load loop to negotiate with oncoming traffic. | <ul style="list-style-type: none"> Consider installing No Left Turn signage at exit from loading zone. Consider impact on local roads by diverting all exiting traffic south to Harcross Road. | District | Low |
| 2 | Adelante Bicycle Parking | <ul style="list-style-type: none"> Bicycle parking has poor visibility and is located within the parking lot. | <ul style="list-style-type: none"> Upgrade existing bicycle parking to U-racks, or similar, that provides 2 points of contact with bicycle. Relocate bicycle parking in location more visible to school offices. | District | Medium |
| 3 | Crosswalks on Granger Way | <ul style="list-style-type: none"> Southern crosswalk on Granger Way is non-standard and is missing curb ramps. Pavement markings are improperly placed with regards to the southern crosswalk. The northern crosswalk does not meet this existing curb ramps on Granger Way nearby. The southern crosswalk is missing Assembly D signage in advance of the crossing. | <ul style="list-style-type: none"> Relocate northern crosswalk further east to meet existing curb ramps. Restripe southern crosswalk at a width equal to the northern crosswalk. Consider installing curb ramps and tactile dome strips at both ends of the crosswalk. Restripe SLOW SCHOOL XING pavement markings so all markings are in advance of the southern crosswalk for northbound drivers. Update all Assembly B & D signage at both crosswalks. Enforce no parking on the east side of Granger Way. | City | High |
| 4 | Staff Parking Lot Entrance | <ul style="list-style-type: none"> Crosswalk across the driveway is often encroached upon by drivers. | <ul style="list-style-type: none"> Upgrade existing white transverse crosswalk in parking lot to high-visibility yellow. Install tactile dome strips at each end of the crosswalk. | District | Medium |
| 5 | Community to the North | <ul style="list-style-type: none"> Excessive speeding by parent drivers on Mitchell Way and Granger Way. | <ul style="list-style-type: none"> Consider installing 15 mph SCHOOL ZONE signage, contingent upon adoption of signage citywide. | City | Medium |
| 6 | Park & Walk Zones | <ul style="list-style-type: none"> Excessive school congestion on Mitchell Way and Granger Way to the south of Sterling Way. | <ul style="list-style-type: none"> Encourage parents to park and walk on Goodwin Ave and Mitchell Way, north of Sterling Way, allowing parents to exit via Sterling Way and avoid congestion on Granger Way. | District | Medium |

Adelante Spanish Immersion School

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|---------------------------------------|--|--|----------------|----------------|
| 7 | Fernside Street at Goodwin Avenue | <ul style="list-style-type: none"> • Priority intersection for principal Montes. • Key pedestrian & bicyclist access point from neighborhoods east of the Hetch Hetchy right-of-way. • Speeding on Fernside Street. • Drivers making high-speed turns at the intersection. | <ul style="list-style-type: none"> • Consider constructing curb extensions in the northwest and southeast corners, aligning the curb with the existing crosswalks. Consider alternative treatments if cost is prohibitive. • Stripe the eastern and western crosswalks as high-visibility yellow. • City to evaluate data for additional speed humps both north and south of existing temporary humps. • Consider converting Fernside Street at Goodwin Avenue to an all-way stop intersection and converting Carson Way at Fernside Street to stop-controlled for east/west traffic. This recommendation will require a traffic study. • Consider installing a stop sign for traffic on Sterling Way at Fernside Street. If a stop sign is warranted, also stripe a stop bar behind the existing curb ramps. | City | High |
| 8 | Harcross Road | <ul style="list-style-type: none"> • No dedicated pedestrian space on Harcross Road. • Parking near intersection at Granger Way, increasing difficulty for turning drivers at intersection. • Drop-off on far side of Harcross at the school. | <ul style="list-style-type: none"> • Consider working with the Community of Woodside to construct a sidewalk or pathway on the north side of Harcross Road to Adelante Spanish Immersion School. • Replace the existing yellow transverse crosswalk at Harcross Road and Granger Way with high-visibility yellow. • Install “No Parking” signs in proximity to the crosswalk at Granger Way | City, Woodside | Medium |
| 9 | Harcross Road at Fernside Street | <ul style="list-style-type: none"> • High-speed turns by drivers. • No marked crossing of Fernside Street between Woodside Drive and Goodwin Avenue. | <ul style="list-style-type: none"> • Stripe high-visibility white crosswalk on the west side of the intersection. • Outfit existing curb ramps with tactile dome strips. • Install crossing signage in both directions, including PED XING markings. | City | Low |
| 10 | Alameda de Las Pulgas at Maddux Drive | <ul style="list-style-type: none"> • Intersection on parent-identified walking route from the east | <ul style="list-style-type: none"> • Consider evaluating intersection for an all-way stop and crosswalks. | City | Low |

2.3. Recommended Programs

The five “E’s” of Safe Routes to School planning includes:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation

The potential infrastructure improvements presented on the previous pages address the recommended engineering improvements. The other four “E’s” are related to programs. Programs will complement engineering improvements such as sidewalk and crosswalk improvements by giving students and parents the tools they need to safely and confidently get to school. All of the Five E’s work together to enhance the school commute. The following section presents recommended programs to support safer school access.

The recommended programs were developed based on review of existing programs and community identified need.

Student Education Workshops

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help them understand basic traffic laws and safety rules. Example pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk. Typical bicycle education curriculum elements include helmet and bike fit, hand signals, and riding safely with traffic.

Adelante Spanish Immersion School conducted 10 bicycle and pedestrian education classes in the previous school year.

Recommendation: Adelante Spanish Immersion School should continue their current program of bicycle and pedestrian education courses. Because many families park-and-walk to campus, it is recommended the education curriculum program include a significant focus on pedestrian traffic safety. The education workshops should occur on an annual basis.

Parent Education Workshops

Parent education programs are also an essential component of a Safe Routes to School effort by helping parents lead by good example. Parents are taught key traffic safety skills they can practice with their children anytime they walk or bicycle as a family. Example parent education curriculum elements include basic pedestrian safety skills such as “look left, right, left,” obeying crossing guards, bicycle hand signals, and riding safely with traffic. The curriculum may also include safe driving behaviors, which is especially important in school zones.

Two driver behaviors and safety workshop were conducted for Adelante parents this past school year.

Recommendation: The school should continue to provide safety workshops to parents. It is recommended that parent traffic safety education workshops be held on an annual basis. The workshops should cover safe driving, walking, and bicycling behaviors.

Park-and-Walk

The school already encourages parents to park on Mitchell Way between Granger Way and Goodwin Avenue. The benefit of this program is reduced traffic congestion at the school and encouraging student physical activity.

Recommendation: It is recommended that the school formalize the program with Park-and Walk maps that are posted on the school website. The maps should be distributed in back to school packets and be available in the school office. School newsletters or related school news should remind parents of this program.

Kiddie Valet

Adelante hosts an existing Kiddie Valet program where staff and students assist with student loading on the loading area loop.

Recommendation: It is recommended Adelante continue the Kiddie Valet program.

Monthly Walk to School Day Events

The school currently hosts monthly Walk to School Day events with student incentives.

Recommendation: It is recommended the school continue the monthly Walk to School Day events. Outreach should include notices in the school newsletter or related school news to remind parents of this monthly event. Outreach should include advertisement of the Park-and Walk maps a week before each Walk to School Day event.

SchoolPool – CarPool

Carpooling complements walking and biking modes by reducing vehicle congestion and increasing pedestrian and bicyclist safety at schools, and by providing a greener transportation alternative for families who live further away from school, as many Adelante families do. Adelante has a website for parents to arrange carpools (<http://adelanteschool.org/carpool.html>). The carpool tool is not well used currently, and school staff plans to promote the tool more heavily with parents in the coming school year.

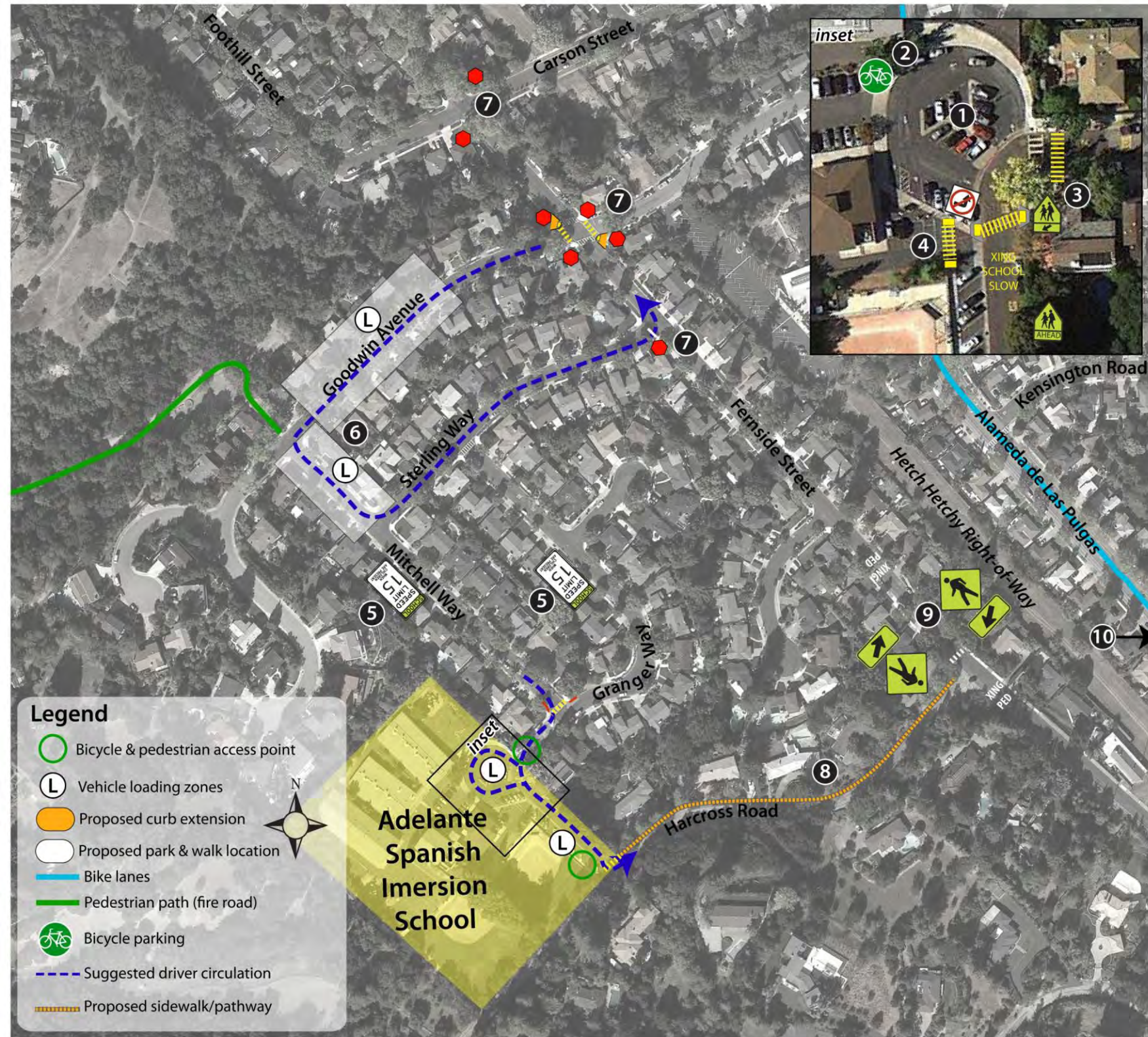
Recommendation: It is recommended Adelante continue promotion of their online carpool tool and work with the parent community to promote informal off-line carpooling. Outreach for the online tool and the event can include tabling during school arrival and dismissal and meet and greet sessions. Carpool outreach should also consider parents without internet access.

A Car Pool to School Day event toolkit is available through Redwood City 2020.

Trash Collection

Parents expressed concern about students bicycling to school on route where trash collection occurs in the morning.

Recommendation: The City should work with their waste management contractor to minimize trash collection during before-school and after-school hours on identified walking and biking routes to schools. The City should use the suggested walking route maps to help identify key routes and streets for consideration.



Adelante Spanish Immersion School Improvement Plan

- 1 Adelante Loading Loop**
 - Consider installing "No Left Turn" signage at exit from loading loop after consideration of impact on local streets.
- 2 Adelante Bicycle Parking**
 - Upgrade existing bicycle parking to U-racks, or similar, that provides 2 points of contact with bicycle.
 - Relocate bicycle parking to location more visible from school offices.
- 3 Crosswalks on Granger Way**
 - Relocate northern crosswalk east to meet curb ramps.
 - Restripe southern crosswalk to match width of the northern crosswalk. Consider installing curb ramps and tactile dome strips at both ends of the crosswalk.
 - Restripe SLOW SCHOOL XING pavement markings so all markings are in advance of the southern crosswalk for northbound drivers.
 - Update all Assembly B & D signage at both crosswalks.
 - Enforce no parking on the east side of Granger Way.
- 4 Staff Parking Lot Entrance**
 - Upgrade existing white transverse crosswalk in parking lot to high-visibility yellow.
 - Install tactile dome strips at each end of the crosswalk.
- 5 Neighborhood to the North**
 - Consider installing 15 mph SCHOOL ZONE signage, pending citywide adoption.
 - Stripe red curb at the Mitchell Way – Granger Way intersection to improve visibility.
- 6 Park & Walk Zones**
 - Encourage parents to park and walk on Goodwin Ave and Mitchell Way, north of Sterling Way, allowing parents to exit via Sterling Way and avoid congestion on Granger Way.
- 7 Fernside Street**
 - Consider constructing curb extensions in the northwest and southeast corners, aligning the curb with the existing crosswalks. Consider alternative treatments if cost is prohibitive.
 - Stripe the eastern and western crosswalks as high-visibility yellow.
 - City to evaluate data for additional speed humps both north and south of the existing temporary humps.
 - Consider converting Fernside Street at Goodwin Avenue to an all-way stop intersection and converting Carson Way at Fernside Street to stop-controlled for east/west traffic. This recommendation will require a traffic study.
 - Consider installing a stop sign for traffic on Sterling Way at Fernside Street. If a stop sign is warranted, also stripe a stop bar behind the existing curb ramps.
- 8 Harcross Road**
 - Consider working with the Community of Woodside to construct a sidewalk or a pathway on the north side of Harcross Road to Adelante Spanish Immersion School.
 - Replace the existing yellow transverse crosswalk at Harcross Road and Granger Way with high-visibility yellow.
 - Post "No Parking" signs along Harcross Road in proximity to the crosswalk at Granger Way.
- 9 Harcross Road at Fernside Street**
 - Stripe high-visibility white crosswalk on the west side of the intersection.
 - Outfit existing curb ramps with tactile dome strips.
 - Install crossing signage in both directions, including PED XING markings.
- 10 Alameda de Las Pulgas at Maddux Drive**
 - Consider evaluating intersection for all-way stop and crosswalks.



Figure 2-3: Adelante Spanish Immersion School Improvement Plan

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3. Fair Oaks Community School Recommendations

3.1. School Information

| | |
|-------------|---|
| Principal: | Guadalupe Guzman |
| Enrollment: | 405, K-5 |
| Arrival: | All grades – 8:15 AM |
| Dismissal: | K – 1:30 PM K, Early Dismissal – 1:10 PM Grades 1-3 – 2:30 PM Grades 1-3, Early Dismissal – 1:25 PM Grades 4-5 – 2:35 PM Grades 4-5, Early Dismissal – 1:30 PM |



Fair Oaks Community School

3.1.1. Layout

Fair Oaks Community School is located in the Fair Oaks neighborhood, unincorporated San Mateo County south of Redwood City. The school is fronted on three sides by Fair Oaks Avenue, Oakside Avenue, and Hampshire Avenue. Staff parking lots are located off of Fair Oaks Avenue and Hampshire Avenue. A charter school, opening in the coming school year, will share the campus with Fair Oaks and will be accessed via Oakside Avenue. Parents pick up and drop off along all three streets, though the school will discourage parents at Fair Oaks from using Oakside Avenue in the coming year to make room for charter school parents.

There are pedestrian and bicycle access points to the school on all three streets. On the south end of the school complex is a soccer field that is run by the City, used by members of the public during the weekend.

3.1.2. Loading Zone

The official loading zone for the school is on-street on Fair Oaks Avenue and Hampshire Avenue and off-street in the parking lot on Hampshire Avenue. The parking lot on Fair Oaks Avenue is coned off by the school and is reserved exclusively for teacher parking. The curb in front of the staff parking lot on Fair Oaks Avenue is striped yellow (commercial loading) and the curb in front of the parking lot on Hampshire Avenue is striped green (twenty minute parking).

SamTrans bus stops are located on Fair Oaks Avenue on both sides of the street adjacent to the school.

3.1.3. Crossing Guard Location

Two crossing guards serve Fair Oaks Community School, one at the intersection of Fair Oaks Avenue at Barron Avenue and one at the intersection of Fair Oaks Avenue at Second Avenue. The crossing at Barron Avenue is uncontrolled.

3.1.4. Existing Programs

Fair Oaks has a walking school bus program that walks to school together once every week. The school also holds Walk to School Day events every month on two concurrent days. The school has also participated in district wide events during International Walk & Bike to School Day and on Earth Day. During Monthly Walk to School Day, the school recorded 137 participating students. On International Walk to School Day, the school recorded 194 participating students, a twenty five percent increase over a normal day.

This past school year, Fair Oaks held 12 pedestrian and bicycle safety workshops with students. One workshop was held with parents to teach safe driving habits and awareness of pedestrians. Workshops also provided information on starting up a walking school bus or other encouragement activities.

3.2. Issues and Recommendations

3.2.1. Feasibility of Walking, Biking, and Ridesharing to School

The National Center for Safe Routes to School predicts that the majority of students who live within 1.35 miles should be able to walk to and from school, while the majority of students within 2.6 miles should be able to bicycle.²

Figure 3-1 shows the area of Fair Oaks' student enrollment. As shown in Figure 3-1, almost two thirds of students live within a quarter mile of the school and almost ninety five percent of students live within one mile of the school. This school is an excellent candidate for programs and infrastructure that encourage walking and biking to school. The enrollment map shows that the majority of the school enrollment is located immediately to the south, though there is a small concentration of students living half a mile away around Second Avenue. While ridesharing could be an option for this school, the close proximity families live to the school suggests programs encouraging walking or biking to school a better investment.

3.2.2. Collisions

Between 2006 and 2011, two bicycle and five pedestrian collisions involving youth under age 18 were reported near Fair Oaks Elementary School, shown in Figure 3-2. Two pedestrians were struck on Spring Street—one at 4th Avenue and one at 5th Avenue. Two collisions were recorded between 8:00am and 8:30am, while three others occurred between 3:00pm and 6:00pm. All but two collisions occurred on weekdays.

² This is based on the finding that people are generally willing to travel about 30 minutes each way, regardless of travel mode. Assuming a student walking speed of 2.7 miles per hour and a bicycling speed of 8 mph, a child can travel 1.35 miles by foot or 4 miles via bicycle in 30 minutes. However, accounting for stop light interruptions, hilly terrain, and other factors, the National Center recommends a student bicycling distance target of 2.6 miles. <http://www.saferoutesinfo.org/program-tools/what-distances-are-reasonable-expect-elementary-school-students-bike-school>

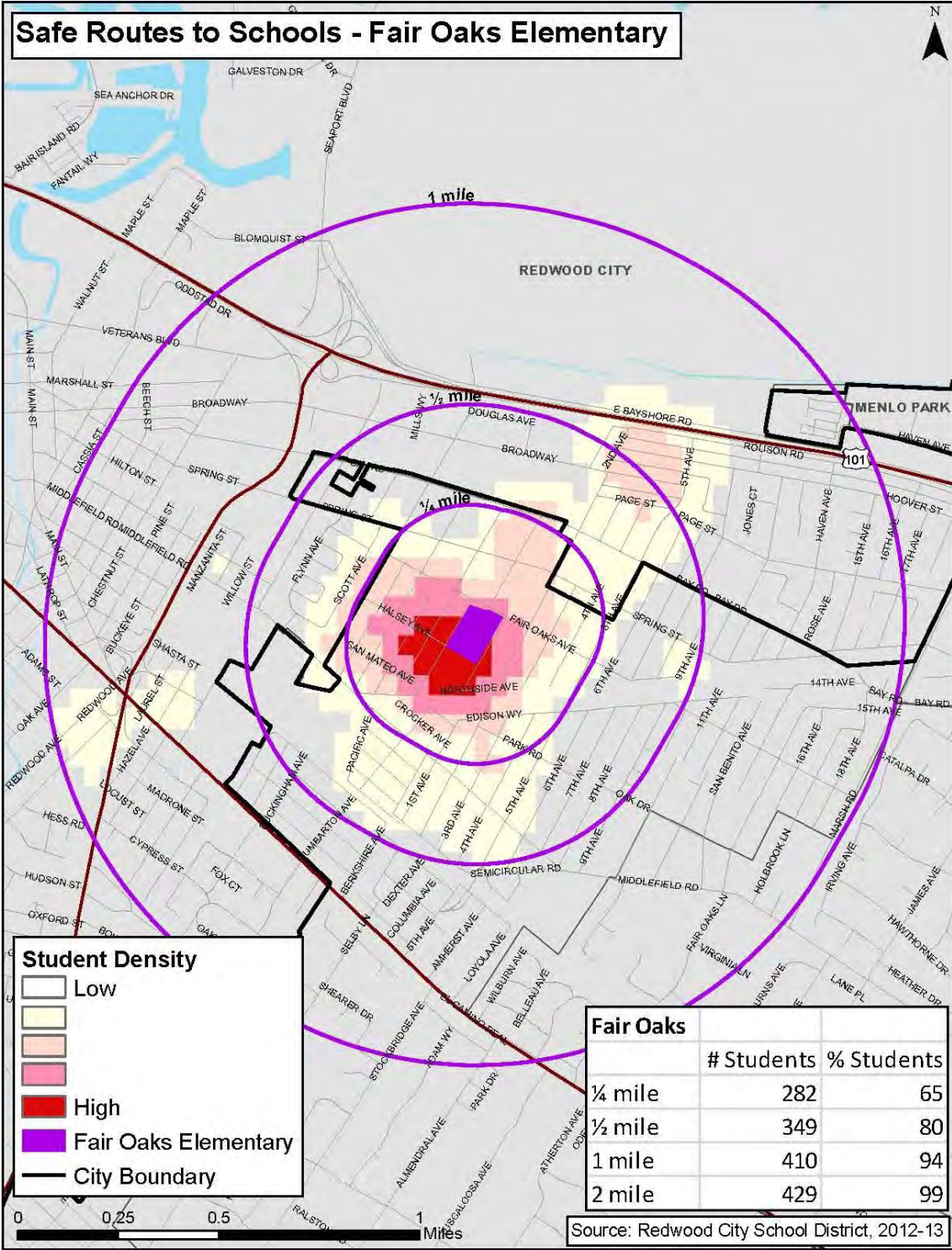


Figure 3-1: Fair Oaks Community School Enrollment Map

Fair Oaks Community School



Figure 3-2: Fair Oaks Area Youth Involved Pedestrian and Bicycle Collisions, 2006-2011

3.2.3. Potential Engineering Improvements

Potential engineering recommendations are shown and mapped in **Figure 3-3: Fair Oaks Community School Improvement Plan**. Improvement identification numbers reference numbers on the figure.

Fair Oaks Avenue

The intersection of Fair Oaks Avenue at Barron Avenue, immediately adjacent to the staff parking lot, is uncontrolled for traffic on Fair Oaks Avenue. There is a yellow transverse crosswalk across Fair Oaks Avenue that is staffed by a crossing guard. This crosswalk has an automated flashing beacon accompanying Assembly B signage. Assembly D signage is missing or outdated for this crosswalk. Despite the advanced treatments at this crossing, parents and staff still listed speeding drivers as a major concern.

There are yellow transverse crosswalks in the south leg of at Fair Oaks Avenue at Warrington Avenue, Hampshire Avenue, and Oakside Avenue. There is no red curb in advance of crosswalks, and drivers were observed encroaching on the crosswalk when parking, reducing the visibility of crossing pedestrians.

There are yellow transverse crosswalks in the southern, western, and eastern legs of the intersection of Fair Oaks Avenue at Second Avenue. A crossing guard is stationed at this intersection. The curb ramps at all corners of this intersection are not ADA compliant.

There is a SamTrans bus stop on the north side of the street just west of this intersection. There is no dedicated curb space for the bus and parents frequently park where the bus would otherwise alight. Parents at Fair Oaks expressed interest in closing the parking on Fair Oaks to improve traffic flow in the mornings. There is no Assembly A school zone signage on Fair Oaks Avenue in either direction.

Recommendation (ID #1, #2 & #3)

- Consider installing a raised crosswalk at Fair Oaks Avenue at Barron Avenue to reduce driver speed.
- Update Assembly D signage for the crosswalk at Barron Avenue.
- Stripe red curb on Fair Oaks Avenue for the westbound SamTrans bus stop.
- Consider a pilot closure of the parking lot on Fair Oaks Ave during morning drop off.
- Restripe yellow curb on Fair Oaks Avenue as white curb for loading.
- Restripe existing yellow transverse crosswalks on Fair Oaks Avenue at Oakside Avenue, Hampshire Avenue, and Warrington Avenue as high-visibility and stripe red curb in advance of crosswalks to improve visibility.
- Restripe all legs of the intersection of Fair Oaks Avenue at Second Avenue as high-visibility yellow. Stripe stop bars in the west, south, and east legs of the intersection.
- Ensure all curb ramps at all crosswalks are ADA compliant.
- Install Assembly A signage in both directions on Fair Oaks Avenue.

Pavement Markings Near School Grounds

There are multiple uncontrolled crosswalks on the north, west, and east sides of the school grounds. Each of these crosswalks have SLOW SCHOOL XING pavement markings that are in various states of disrepair.

Recommendation (ID #4)

- Refresh SLOW SCHOOL XING pavement markings on Fair Oaks Avenue, Hampshire Avenue, Oakside Avenue, and Warrington Avenue.

Hampshire Avenue

Hampshire Avenue has one uncontrolled crosswalk between the railroad to the south and Fair Oaks Avenue to the north, at Halsey Avenue. This crosswalk is striped as yellow transverse. Observers noticed many speeding drivers and many pedestrians jaywalking nearby the school parking lot, where the pedestrian access point is for the school. The curb between the parking lot's two driveways is striped green and signed for 20-minute parking. Parents at Fair Oaks expressed a strong desire for traffic calming on Hampshire Avenue.

Recommendation (ID #5)

- Replace the existing green curb with white curb and sign for loading only.
- Consider installing a mid-block crosswalk just south of the parking lot driveway entrance to provide a direct route to a school pedestrian access point. Stripe red curb in advance of the crosswalk and install Assembly D & B signage.
- Upgrade the existing yellow transverse crosswalk at Hampshire Avenue at Halsey Avenue to high-visibility yellow. Consider options that reduce driver speeds and improve pedestrian visibility when crossing, such as curb extensions or an in-pavement yield paddle. Update Assembly D & B signage.
- Consider installation of temporary speed humps or other traffic calming devices on Hampshire Avenue, pending a traffic study by the county.
- Ensure all curb ramps are ADA compliant.

Oakside Avenue

The intersection of Oakside Avenue with Fair Oaks Avenue has a standard yellow crosswalk across the western leg of the intersection. Parents and audit participants noted that drivers often block the crosswalk.

There is one mid-block crosswalk on Oakside Avenue, near a pedestrian access point. The crosswalk is transverse yellow and its west end is at a driveway into the school grounds. There is no crossing signage erected at this crosswalk. Parents at Fair Oaks expressed a strong desire for traffic calming on Oakside Avenue.

Recommendations (ID #6)

- Restripe midblock crosswalk as high-visibility yellow. Install Assembly D & B signage.
- Ensure all curb ramps are ADA compliant.
- Consider installation of temporary speed humps on Oakside Avenue, pending a traffic study by the county.

Soccer Field

The County-owned soccer field immediately south of Fair Oaks Elementary has a porta potty in lieu of permanent bathroom facilities. Parents expressed concern that the porta potty was not regularly serviced and could become a health hazard for students.

Recommendation (ID #7)

- Work with the County Parks Department to either service the porta potty more frequently, relocate it to another area of the soccer field, or construct permanent bathroom facilities.

Fair Oaks Elementary Bicycle Parking

The designated space for bicycle parking at Fair Oaks is in the northern area of the school grounds, near the staff parking lot. Observers reported that bicycles in the past had been stolen by passersby on Fair Oaks Avenue, who can look directly into the bicycle parking area.

Recommendations (ID #8)

- Upgrade existing bicycle parking to U-racks or similar, allowing two points of contact with bike.
- Install additional screening from the street to reduce theft.
- Consider installing an all-weather covering over the bicycle parking.

Second Avenue

Second Avenue is the most direct route across the railroad tracks to the south. At the railroad crossing at Second Street to the south of the school, there is no defined pedestrian space, but instead asphalt.

Recommendations (ID #8)

- Consider working with railroad operator to construct sidewalks on both sides of Second Avenue at the railroad crossing and to install pedestrian gates for crossing trains.
- Stripe a white transverse crosswalk at the intersection of Second Avenue at Northside Avenue. Ensure all curb ramps are ADA compliant.

Engineering Improvement Summary

Table 3-1 lists the recommended improvements to address circulation issues around Fair Oaks Elementary and Figure 3-3 presents an improvement plan of these recommendations. The project IDs in Table 3-1 correspond to those in Figure 3-3. The table shows the identified concerns, the proposed improvement, the agency likely to lead project implementation and the recommended priority level for implementation. The “lead agency” is determined by on whose property/right-of-way the proposed improvement is located. The priority level is based on the anticipated safety and circulation benefit, the feasibility of implementation, and the projected cost.

Table 3-1: Fair Oaks Community School Recommended Improvements

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|---------------------------------------|--|--|-------------|----------------|
| 1 | Fair Oaks Avenue at Barron Avenue | <ul style="list-style-type: none"> • Drivers failing to yield to students at crosswalk when crossing guard not on duty (afternoon & pick-up) • Speeding on Fair Oaks Avenue • Non-compliant curb ramps • Drivers park in SamTrans bus stop • Yellow curb striped in front of the school is for commercial loading | <ul style="list-style-type: none"> • Consider installation of a raised crosswalk/speed table at location of current crosswalk. • Update Assembly D signage in advance of crosswalk in both directions on Fair Oaks Avenue. • Ensure all curb ramps are ADA compliant. • Stripe red curb for SamTrans bus stop on Fair Oaks Avenue. Restripe yellow curb along school frontage as white curb loading zone. • Consider a pilot closure of the school parking lot during drop-off. | County | High |
| 2 | West of Barron Avenue | <ul style="list-style-type: none"> • Drivers encroach on crosswalk. • Cars parked right up to intersection reduce pedestrian visibility. | <ul style="list-style-type: none"> • Upgrade existing yellow transverse crosswalks at Hampshire Avenue and Warrington Avenue to high-visibility. • Stripe red curb in advance of crosswalk to improve visibility. • Install Assembly A signage for eastbound traffic near Hurlingame Avenue. | County | Low |
| 3 | East of Barron Avenue | <ul style="list-style-type: none"> • Existing crosswalks are faded. • Drivers on Second Street observed rolling through intersection without stopping. • Non-compliant curb ramps | <ul style="list-style-type: none"> • Upgrade all existing yellow transverse crosswalks to high-visibility. • Install additional high-visibility yellow crosswalk in northern leg of intersection. • Stripe stop bars in west, south, and east legs. • Ensure all curb ramps are ADA compliant. • Install Assembly A sign for westbound traffic near Third Avenue. | County | Medium |
| 4 | Pavement markings near school grounds | <ul style="list-style-type: none"> • Faded SLOW SCHOOL XING pavement markings at uncontrolled crosswalks | <ul style="list-style-type: none"> • Refresh SLOW SCHOOL XING markings at Fair Oaks Avenue, Oakside Avenue, Hampshire Avenue, and Warrington Avenue. | County | Medium |

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|--------------------------------------|---|--|------------------------|----------------|
| 5 | Hampshire Avenue | <ul style="list-style-type: none"> Speeding on Hampshire Avenue Parents and students observed crossing mid-block between Halsey Ave and Fair Oaks Ave for direct route to school access point. Parents park and walk at green curb on Hampshire Avenue, reducing utility as a loading zone. High driver speeds on Hampshire Ave | <ul style="list-style-type: none"> Replace existing green curb along school frontage with white curb loading zone. Consider constructing a mid-block crosswalk south of the teacher parking lot entrance. Would include curb ramps, Assembly B & D signage and advance red curb. Upgrade existing yellow transverse crosswalk at Halsey Avenue to high-visibility. Consider additional measures, such as curb extensions or in-pavement yield paddles. Update Assembly B & D signage. Consider installation of temporary speed humps on Hampshire Avenue, pending a traffic study. | County | High |
| 5 | Oakside Avenue Crosswalks | <ul style="list-style-type: none"> Vehicles parked in the crosswalk. Drivers failed to yield to pedestrians in the crosswalk. High driver speeds on Oakside Ave | <ul style="list-style-type: none"> Upgrade existing yellow transverse crosswalk to high-visibility. Install Assembly B & D signage. Ensure all curb ramps are ADA compliant. Consider installation of temporary speed humps on Oakside Avenue, pending a traffic study. | County | Low |
| 6 | Soccer Field | <ul style="list-style-type: none"> Parent concern about porta-potty health hazard | <ul style="list-style-type: none"> Work with County to either relocate porta-potty or replace with permanent bathroom facilities | County | Low |
| 7 | Fair Oaks Elementary Bicycle Parking | <ul style="list-style-type: none"> Passersby have stolen parts off of bikes parked at school by reaching over the fence from the street. | <ul style="list-style-type: none"> Upgrade existing bicycle parking facilities, screening parked bicycles from view on Fair Oaks Avenue to reduce theft. Consider all-weather covering over bicycle parking. | District | Medium |
| 8 | Second Avenue Railroad Crossing | <ul style="list-style-type: none"> Primary route to school for the neighborhood to the north. | <ul style="list-style-type: none"> Work with railroad operator to pave sidewalks across tracks and install pedestrian gates at crossing. Stripe white transverse crosswalk in the western leg of Second Avenue at Northside Avenue. Ensure all curb ramps are ADA compliant. | County & Rail Operator | Low |

3.3. Recommended Programs

The five “E’s” of Safe Routes to School planning includes:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation

The potential infrastructure improvements presented on the previous pages address the recommended engineering improvements. The other four “E’s” are related to programs. Programs will complement engineering improvements such as sidewalk and crosswalk improvements by giving students and parents the tools they need to safely and confidently get to school. All of the Five E’s work together to enhance the school commute. The following section presents recommended programs to support safer school access.

The recommended programs were developed based on review of existing programs and community identified need.

Community Traffic Safety Campaign

Many of the concerns raised by parents at Fair Oaks Elementary had to do with the behavior of either members of the community or residents who conduct business near to the school, whether it was the mobile home park nearby, the adjacent auto-repair businesses, or the taco-truck vendors who do business in the area. Many of those issues cannot be addressed solely through engineering recommendations, but instead require constant reinforcement to change behaviors in a lasting, long-term way.

Recommendation: It is recommended that the parents and staff at Fair Oaks Elementary organize a neighborhood traffic safety campaign. Funding through the County Department of Public Health may be available to augment such a campaign. Such a campaign can take the form of street banners, mailers sent out to the neighborhood, community meetings, or door-to-door outreach. Organizing parents around behavioral issues they care about can help to empower this community to achieve many of the changes they currently seek.

Student Education Workshops

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help them understand basic traffic laws and safety rules. Example pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk. Typical bicycle education curriculum elements include helmet and bike fit, hand signals, and riding safely with traffic.

Fair Oaks held twelve bicycle and pedestrian safety courses for students over the previous school year.

Recommendation: Because many families walk to school, it is recommended that future education curriculum program include a significant focus on pedestrian traffic safety. The current education workshops should continue on an annual basis.

Parent Education Workshops

Parent education programs are also an essential component of a Safe Routes to School effort by helping parents lead by good example. Parents are taught key traffic safety skills they can practice with their children anytime they walk or bicycle as a family. Example parent education curriculum elements include basic pedestrian safety skills such as “look left, right, left,” obeying to crossing guards, bicycle hand signals, and riding safely with traffic. The curriculum may also include safe driving behaviors, which is especially important in school zones.

Fair Oaks held one parent workshop in the prior school year, focused on driver safety and providing parents with tools to establish walking school buses.

Recommendation: It is recommended parent traffic safety education workshops continue on an annual basis. The workshops should cover safe driving, walking, and bicycling behaviors as well as tools for encouraging more bicycling and walking.

Traffic Safety Patrol

School traffic safety patrols are comprised of trained staff, parent or student volunteers responsible for enforcing drop-off and pickup procedures. School traffic safety patrols may also assist with street crossing; they do not stop vehicular traffic, but rather look for openings and then direct students to cross.

Recommendation: It is recommended Fair Oaks implement a Traffic Safety Patrol at the loading area on Fair Oaks Avenue. Those who staff the loading area should discourage parking and street side loading while directing parents to open spaces.

Monthly Walk to School Day Events

The school currently hosts monthly Walk to School Day events with student incentives.

Recommendation: It is recommended the school continue the monthly Walk to School Day events. Outreach should include notices in the school newsletter or related school news to remind parents of this monthly event. Outreach should include advertisement of the Suggested Routes to School maps a week before each Walk to School Day event.

Weekly Walking School Bus

The school hosts a weekly walking school bus.

Recommendation: Fair Oaks should continue and promote the Weekly Walking School Bus events.

Crossing Guards

The effectiveness of a crossing guard can be the deciding factor in a parent feeling comfortable enough to let their child walk or bike to school. Parents at Fair Oaks expressed a desire for uniform levels of training and effort between the two current crossing guards.

Recommendation: Provide standardized, district-wide crossing guard training according to best practices.

Trash Collection

Parents expressed concern about students bicycling to school on route where trash collection occurs in the morning.

Fair Oaks Community School

Recommendation: The County should work with their waste management contractor to minimize trash collection during before-school and after-school hours on identified walking and biking routes to schools. The County should use the suggested walking route maps to help identify key routes and streets for consideration.



Fair Oaks Community School Safe Routes to School Improvement Plan

- 1 Fair Oaks Avenue at Baron Avenue**
 - Consider installation of a raised crosswalk/speed table at location of current crosswalk.
 - Update Assembly D signage in advance of crosswalk in both directions on Fair Oaks Avenue.
 - Ensure all curb ramps on Fair Oaks Avenue are ADA compliant.
 - Stripe red curb for SamTrans bus stop on Fair Oaks Avenue.
 - Restripe yellow curb along school frontage as white curb loading zone.
- West of Baron Avenue**
 - Upgrade yellow transverse crosswalks at Hampshire Avenue and Warrington Avenue to high-visibility.
 - Stripe red curb in advance of crosswalks to improve visibility.
 - Install Assembly A sign for eastbound traffic near Hurlingame Ave.
- East of Baron Avenue**
 - Upgrade all existing yellow transverse crosswalks at Oakside Avenue and 2nd Avenue to high-visibility.
 - Install additional high-visibility yellow crosswalk in northern leg of 2nd Street intersection.
 - Stripe stop bars in west, south, and east legs of 2nd Ave intersection.
 - Install Assembly A sign for westbound traffic near Third Ave.
- 4 Pavement Markings Near School Grounds**
 - Refresh SLOW SCHOOL XING pavement markings on Fair Oaks Avenue, Hampshire Avenue, Oakside Avenue, and Warrington Avenue.
- 5 Hampshire Avenue**
 - Replace existing green curb with white curb loading zone.
 - Consider constructing a mid-block crosswalk south of teacher parking lot entrance to provide direct route to school access point. Would include curb ramps, Assembly B & D signage and advance red curb.
 - Upgrade existing yellow transverse crosswalk at Halsey Avenue to high-visibility. Consider measures to improve pedestrian visibility and reduce driver speeds, including curb extensions or in-pavement yield paddles. Update Assembly B & D signage.
 - Consider installation of temporary speed humps on Hampshire Avenue, pending a traffic study by the county.
- 6 Oakside Avenue Crosswalks**
 - Upgrade existing yellow transverse crosswalk to high-visibility. Install Assembly B & D signage.
 - Consider installation of temporary speed humps on Oakside Avenue, pending a traffic study by the county.
 - Ensure curb ramps at Oakside Avenue crosswalks are ADA compliant.
- 7 Soccer Field**
 - Work with County Parks Department to either relocate porta potty or construct permanent restroom facilities.
- 8 Fair Oaks Elementary Bicycle Parking**
 - Upgrade existing bicycle parking facilities, screening parked bicycles from view on Fair Oaks Avenue to reduce theft. Consider all-weather covering over bicycle parking.
- 9 Second Avenue Railroad Crossing**
 - Work with railroad operator to pave sidewalks across tracks and install pedestrian gates at crossing.
 - Stripe white transverse crosswalk in the western leg of Second Avenue at Northside Avenue. Ensure all curb ramps are ADA compliant.



Figure 3-3: Fair Oaks Community School Improvement Plan

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4. Hawes Community School Recommendations

4.1. School Information

| | |
|-------------|---|
| Principal: | Antonio Perez |
| Enrollment: | 419, K-5 |
| Arrival: | All Grades – 8:15 AM Late Kindergarten – 9:00 AM |
| Dismissal: | Early Kindergarten – 12:50 PM Late Kindergarten – 1:35 PM Grades 1-5 – 2:40 PM Early K, Early Dismissal – 12:40 PM Late K & Grades 1-5, Early Dismissal – 1:25 PM |



Hawes Community School

4.1.1. Layout

Hawes Community School is located in central Redwood City on a small campus, with the adjoining Hawes Park. The school's primary frontage is on Roosevelt Avenue, a thoroughfare through this part of Redwood City. There is on-street vehicle loading and a pedestrian gate near the center of the school site. There is access for vehicles from Hudson Street, where there is a parking lot for Hawes Park. A staff parking lot is located immediately north of the park's parking lot and is coned off during school hours.

There are pedestrian access points from Roosevelt Avenue and from the parking lot off of Hudson.

4.1.2. Loading Zones

There is one off-street loading zone and one on-street loading zone for Hawes Community School:

- Hawes Park parking lot off of Hudson Street, with access from Oak Avenue, exiting onto Hudson Street.
- A pull-in curb loading zone on Roosevelt Avenue.

4.1.3. Crossing Guard Location

There are three crossing guards that serve Hawes Community School. They are all located along Hudson Street, at Roosevelt Avenue, Oak Avenue, and Redwood Avenue.

4.1.4. Existing Programs

Hawes Community School holds monthly Walk to School Day events and runs two walking school buses on Walk to School Day. The school also participated in International Walk to School Day and Earth Day events. The school will have educational workshops with students, including bicycle & pedestrian training and a bike rodeo. During consecutive walk to school days in November and December, the school recorded between 129 and 143 participants. Over the four days, the school recorded a total of 545 walking trips to school. During International Walk to School Day, 265 students participated. During Earth Day, 82 students were recorded walking to school.

Hawes conducted 12 pedestrian and bicycle safety courses with students over the previous school year. The school held one parent workshop focused on driver education.

4.1.5. Hudson Street Bike/Ped Grant Application

Redwood City, in the most recent SMCTA Call For Projects, submitted a grant application for the Hudson Street corridor. The grant would install shared-lane markings (sharrows) for bicyclists along 1.7 miles from Whipple Street to Woodside Road. Signalized intersections would receive bicycle-sensitive loop detectors. On Hudson Street, the intersections at Roosevelt Avenue, Oak Avenue, and Redwood Avenue would all receive curb extensions according the terms of the grant application. The proposed elements for Hudson Street in the grant application are contained within the following proposed improvements for Hawes Community School.

4.2. Issues and Recommendations

4.2.1. Feasibility of Walking, Biking, and Ridesharing to School

The National Center for Safe Routes to School predicts that the majority of students who live within 1.35 miles should be able to walk to and from school, while the majority of students within 2.6 miles should be able to bicycle.³

Figure 4-1 shows that most students at Hawes are located very close to the school, primarily in neighborhoods immediately to the east and north. While only 20% of students live within a quarter mile of the school, over 80% of students live within a half mile. This is an excellent distance for both biking and walking to school, and improvements should be made to facilitate both modes. The positioning of the three crossing guards at Hawes serves well the density of students around the school. While ridesharing could be an option for this school, the close proximity families live to the school suggests programs encouraging walking or biking to school a better investment. Ridesharing should be promoted among families either living to the east of El Camino Real or to the south of Woodside Road.

4.2.2. Collisions

Between 2006 and 2011, twenty-six collisions involving youth under age 18 walking or biking were reported near Hawes Community School, shown in Figure 4-2. Eleven of these collisions occurred within a half-mile of the Hawes campus. Bicyclists riding on the wrong side of the road were a collision factor in two crashes reported nearest to Hawes Elementary that involved youth under age 18. One was a 2009 crash at Hudson Street and Oak Avenue, which occurred at 8:17am on a weekday. The other crash occurred at 5:49pm on a weekday at Redwood Drive and Ebener Street.

Collisions involving bicyclists and pedestrians near Hawes Community School occurred during morning and afternoon school commute hours. Nine of the 26 collisions were recorded between 7:30am and 8:30am, while thirteen of the remaining collisions were recorded in the afternoon and early evening hours between 2:00pm and 7:30pm. All but four collisions occurred on weekdays.

³ This is based on the finding that people are generally willing to travel about 30 minutes each way, regardless of travel mode. Assuming a student walking speed of 2.7 miles per hour and a bicycling speed of 8 mph, a child can travel 1.35 miles by foot or 4 miles via bicycle in 30 minutes. However, accounting for stop light interruptions, hilly terrain, and other factors, the National Center recommends a student bicycling distance target of 2.6 miles. <http://www.saferoutesinfo.org/program-tools/what-distances-are-reasonable-expect-elementary-school-students-bike-school>

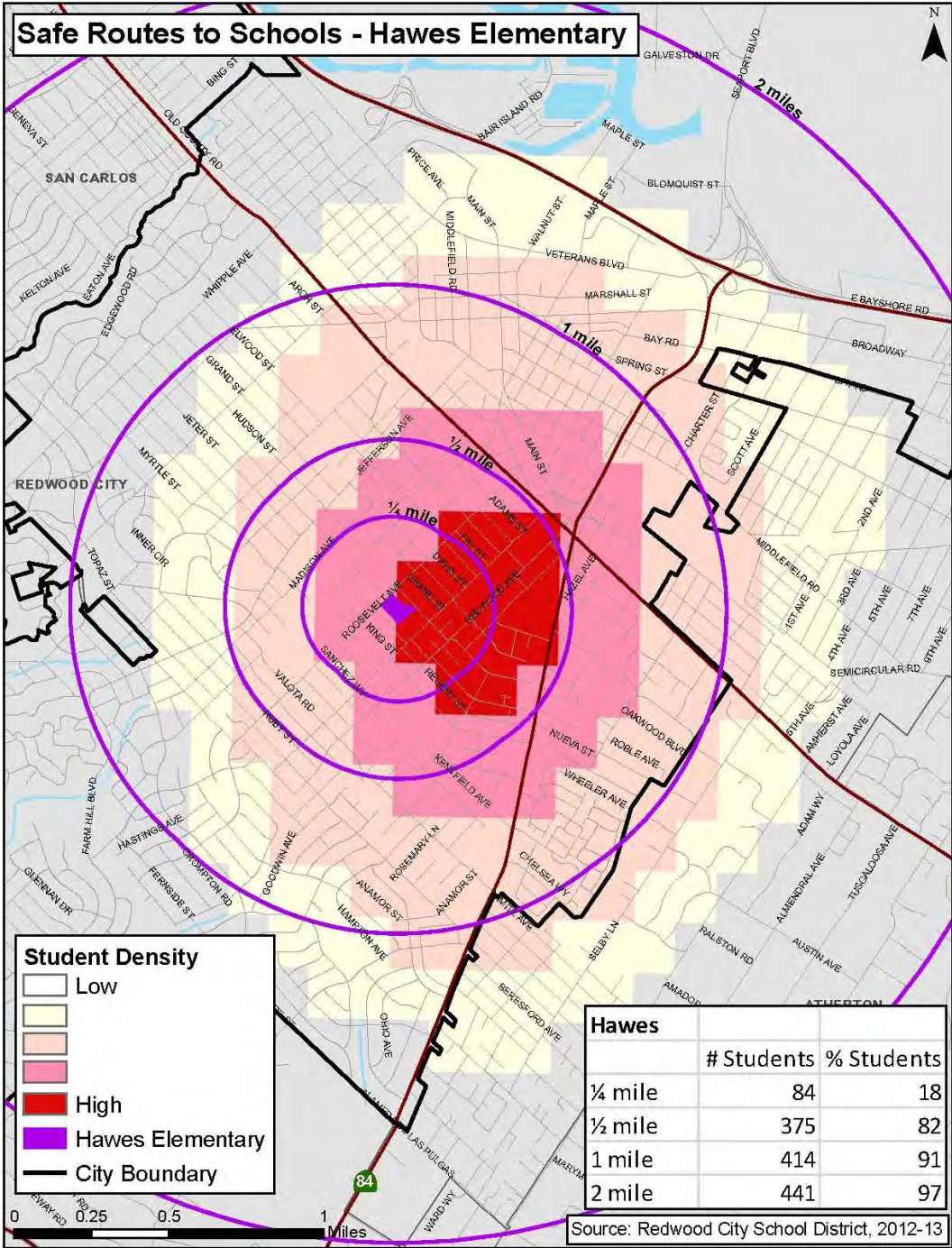


Figure 4-1: Hawes Community School Enrollment Map

Hawes Community School

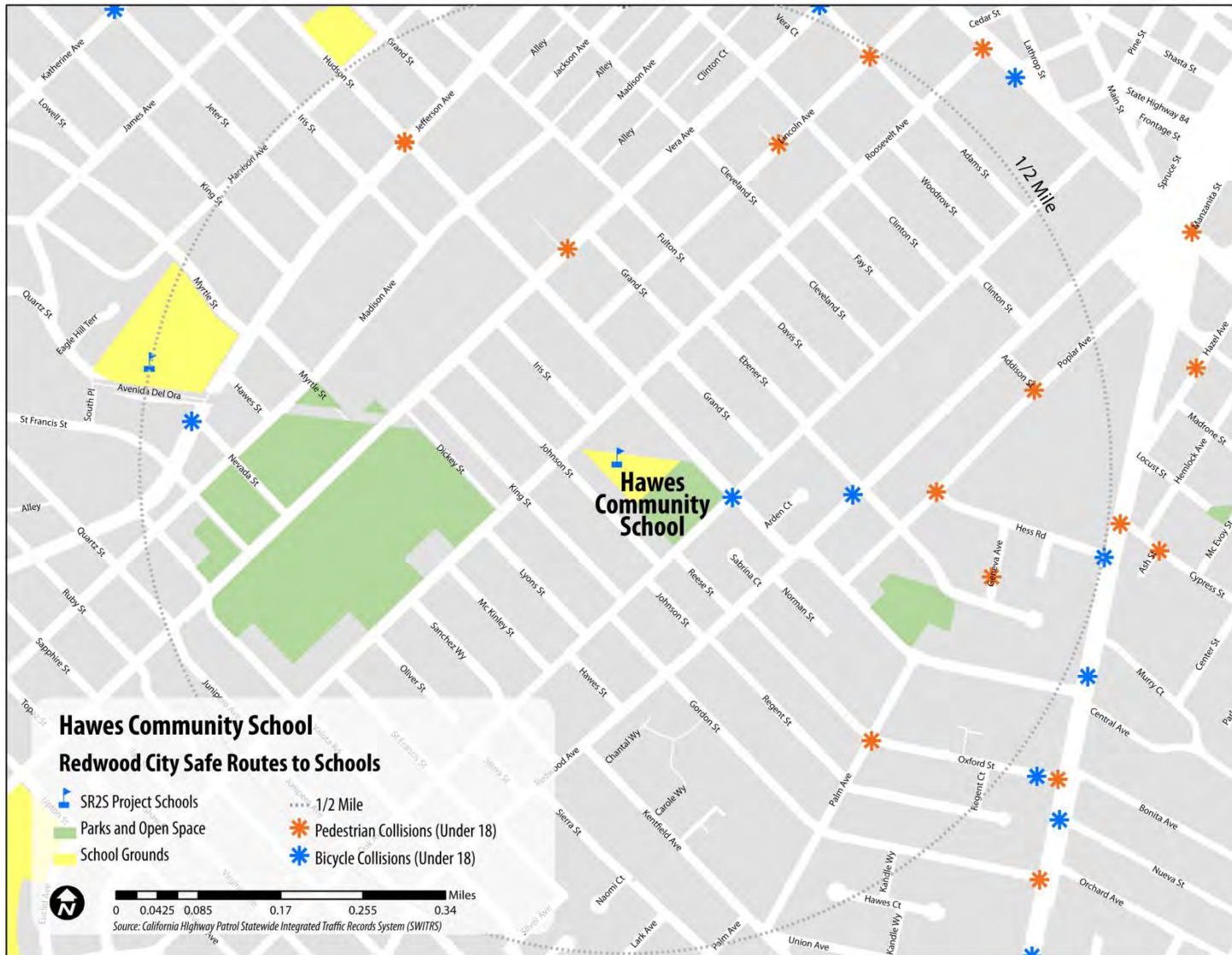


Figure 4-2: Hawes Area Youth Involved Pedestrian and Bicycle Collisions, 2006-2011

4.2.3. Potential Engineering Improvements

Potential engineering recommendations are shown and mapped in **Figure 4-3: Hawes Community School Improvement Plan**. Improvement identification numbers reference numbers on the figure.

Roosevelt Avenue

Roosevelt Avenue functions both as a key collector street through central Redwood City and as one of the two loading zones for students at Hawes Community School. There are no marked crosswalks across Roosevelt Avenue between Hudson Street in the north and Sanchez Way in the south, a distance of over a quarter mile. Participants observed many students and parents crossing a multiple points between these two crosswalks on the day of the audit.

There are landscaped bulb-outs on Roosevelt Avenue on the block where Hawes Community School is located. There is a bus bay pull-out on the northern side of Roosevelt Avenue across from the school, but parents often parked in the bus bay during loading periods. There is a pedestrian gate into Hawes from Roosevelt Avenue that faces the intersection at Iris Street, but there is not a marked crossing for pedestrians as this intersection. Students bicycling from the west and north were observed riding their bicycles through this gate and onto school grounds.

The Red Morton Community Park is located southwest of the school, but students walking to the park must either cross to the north at Hudson Street or far to the south at Sanchez Way.

Recommendations (ID #1, #2 & #3)

- Promote Red Morton Community Center as a “park and walk” remote drop-off location to reduce congestion on the streets surrounding Hawes, pending discussions between the City and the School District.
- Stripe a high visibility crosswalk at the intersection of Roosevelt Avenue at King Street to provide direct access to the park, including Assembly D & B signage.
- Consider striping a high visibility crosswalk at the intersection of Roosevelt Avenue at Iris Street in the southwest leg. A crosswalk in this location would require constructing a curb extension at the southern end to avoid conflicting with existing utility grates in the sidewalk. Study driver yield rate after installation of uncontrolled crosswalk and consider additional treatments, such as a Rapid Rectangular Flashing Beacon (RRFB) if driver yield rates are unsatisfactorily low.
- Stripe the loading zone curb white (temporary loading) if the school reports problems with parent compliance during drop off and pick up periods.
- Stencil “DISMOUNT HERE” for bicyclists at the gate onto school grounds.
- Replace the existing yellow transverse crosswalks at Roosevelt Avenue at Hudson Street with high-visibility yellow crosswalks. Install a curb extension in the northern corner of this intersection, per the Hudson Street bike/ped grant application. Assess other locations for curb extensions within the Hudson Street project area.
- Ensure all curb ramps at crosswalks are ADA compliant.
- Install Assembly A school zone signage on Roosevelt westbound at Ebener Street.

Hawes Bicycle Parking

The current bicycle parking at Hawes Community School is located in the northern area of the school grounds, near to the pedestrian gate at the street. The bike racks are well used, but are outdated.

Recommendations (ID #4)

- Consider upgrading all bicycle racks to U-racks or similar that provides two points of contact with the bike frame. Consider providing all-weather covering over the bike racks.

Hawes Park Parking Loop

The Hawes Park parking lot is a one-way loop from Oak Avenue out onto Hudson Street. Immediately north of the exit from the park's parking lot on Hudson Street is the driveway for the staff parking lot. Students dropped off in the parking loop walk through the staff parking lot to reach a pedestrian gate. The staff parking lot is coned-off during school hours, though observers reported parents moving the cones. Students riding their bicycles to school were observed riding through this parking lot to reach the school's back gate, and failing to dismount once reaching school grounds.

While the operations within the parking lot loop work fairly smoothly, traffic can back up when an exiting driver attempts to make a left turn.

There is a speed feedback sign on Hudson Street for northbound drivers, opposite the parking lot, but it was not working on the day of the walk audit.

Recommendation (ID # 5)

- Stencil "in" arrows and post "ENTRANCE ONLY" signage at the entry on Oak Avenue.
- Stencil "DISMOUNT HERE" for bicyclists at the entrance to school grounds from the parking lot.
- Consider installing "No left turn" signage at the exit, in effect during drop-off and pick-up, first considering impacts to circulation on local streets.
- Ensure the speed feedback sign on Hudson Street is operational.
- Consider striping curb on Hudson adjacent to the parking lot white for loading, or erect loading zone signage in effect only during drop-off and pick-up periods.

Oak Avenue

Oak Avenue also saw high volumes of pedestrian and vehicle traffic on the day of the walk audit. At the intersection of Oak Avenue at Hudson Street, observers reported high volumes of crossing pedestrians and turning traffic, with many drivers and bicyclists failing to come to a complete stop at the stop sign. In the northwest approach to the intersection on Hudson Avenue, there is a painted buffer in the roadway along the curb, delineated by raised pavement markers.

There is an uncontrolled high-visibility crosswalk across Oak Avenue at Reese Street further to the west. There is no advance Assembly D signage in the northbound direction for this crosswalk.

Recommendations (ID # 6 & #7)

- Replace the existing yellow transverse crosswalks at Oak Avenue at Hudson Street with high-visibility crosswalks. Construct curb extensions in all corners of the intersection, per the Hudson Street bike/ped grant application.
- Install Assembly D signage in advance of the crosswalk across Oak Avenue at Reese Street in the westbound direction and update existing Assembly D signage in the eastbound direction
- Ensure all curb ramps are ADA compliant.

Hudson Street at Redwood Avenue

This intersection is offset, with Hudson Street jogging 10 feet to the east on the south side of the intersection. There are yellow transverse crosswalks in all legs of the intersection. Due to its offset nature, the intersection is very wide, and the crosswalk in the northeast leg travels diagonally to a triangle of pavement in the middle of Hudson Street marked off with paint and “chatter bars”, meeting the southeast crosswalk mid-way across the street.

Recommendation (ID # 8)

- Replace all existing yellow transverse crosswalks with high-visibility crosswalks.
- Install raised pedestrian refuge island in triangle of roadway on Hudson Avenue currently delineated with paint and wheel stops, per the Hudson Street bike/ped grant application.
- Construct curb extensions in all corners of the intersection, per the Hudson Street bike/ped grant application.

Redwood Avenue

Redwood Avenue is an important corridor for pedestrian travel to school. Audit participants noted it is part of a walking to school route west of Hudson Street, the route crosses Redwood Avenue at Regent Street. The eastern end of Redwood Avenue between Ebener and Clinton Streets includes higher density housing but no marked crossings.

Recommendation (ID # 9)

- Install high visibility crosswalks across Redwood Avenue at Regent Street, Ebener Street, and Addison Street, including pedestrian crossing signage.
- After installation of crosswalk, study driver yielding rates and whether enhanced crossing treatments, such as RRFB's or in-pavement yield paddles, are necessary.

Engineering Improvement Summary

Table 4-1 lists the recommended improvements to address safety and circulation issues around Hawes Community School and Figure 4-3 presents an improvement plan of these recommendations. The project identification numbers in Table 4-1 corresponds to those in Figure 4-3. The table shows the identified concerns, the proposed improvement, the agency likely to lead project implementation and the recommended priority level for implementation. The “lead agency” is determined by on whose property/right-of-way the proposed improvement is located. The priority level is based on the anticipated safety and circulation benefit, the feasibility of implementation, and the projected cost.

Table 4-1: Hawes Community School Recommended Improvements

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority |
|----|---------------------------------|--|--|-------------|----------|
| 1 | Roosevelt Avenue at King Street | <ul style="list-style-type: none"> No marked crossings of Roosevelt Avenue between Hudson Street and Sanchez Way. Heavy drop-off congestion on Roosevelt Avenue. | <ul style="list-style-type: none"> Promote Red Morton Community Center as “park-and-walk” location to reduce congestion around school grounds, pending discussion between the City and District. Stripe high-visibility crosswalk in southwest corner of intersection, providing access to Red Morton Community Park Install Assembly B signage in both directions at the crossing and Assembly D signage in the northeast bound direction Place SLOW SCHOOL XING pavement markings in advance of the crossing. | City | Low |
| 2 | Roosevelt Avenue at Iris Street | <ul style="list-style-type: none"> Parents and students observed crossing mid-block to reach the pedestrian gate. Curb ramps missing tactile dome strips. Parents park in the loading zone on Roosevelt Avenue. Students ride bikes on school grounds once through gate. | <ul style="list-style-type: none"> Consider striping a new high-visibility crosswalk in southwest corner of intersection; install curb extension at southern end of crosswalk. Study impact of crosswalk to determine need for additional crossing treatments such as RRFBs or in-pavement yield paddle. Ensure all curb ramps are ADA compliant. Install Assembly B signage in both directions at the crossing and Assembly D signage in the southwest bound direction. Consider striping white curb along loading zone on Roosevelt Avenue, pending a request by the school. Stencil “DISMOUNT HERE” for bicyclists at the school gate entrance from Roosevelt Avenue. | City | High |

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority |
|----|-----------------------------------|---|---|-----------------|----------|
| 3 | Roosevelt Avenue at Hudson Street | <ul style="list-style-type: none"> High volume intersection for pedestrian traffic. Curb ramps missing tactile dome strips. | <ul style="list-style-type: none"> Replace existing transverse crosswalks with high-visibility yellow crosswalks. Ensure all curb ramps are ADA compliant. Construct curb extension in northern corner, per the Hudson Street bike/ped grant application. Consider other corners of the intersection for additional curb extensions. Install Assembly A sign for westbound drivers on Roosevelt Avenue at Ebener Street. | City | Medium |
| 4 | Hawes Bicycle Parking | <ul style="list-style-type: none"> Existing bike parking has a short fence, visible from the street. | <ul style="list-style-type: none"> Upgrade existing bicycle parking. Consider providing all-weather covering. | District | Medium |
| 5 | Hawes Park Parking Lot Loop | <ul style="list-style-type: none"> Drivers turning left at Hudson Street exit cause backup in parking lot. Speed feedback sign was not working on the day of the walk audit. Heavy congestion in parking lot loop. Drivers attempt to leave via the entry-only driveway on Oak Avenue. Students ride bikes on school grounds after entering through parking lot. | <ul style="list-style-type: none"> Stencil "in" arrows at driveway on Oak Avenue. Post "ENTRANCE ONLY" signage at driveway on Oak Avenue. Stencil "DISMOUNT HERE" for bicyclists at school entrance from parking lot. Consider installing no-left-turn sign at exit on Hudson Street, enforced during drop-off and pick-up. Ensure speed feedback sign on Hudson Street is operational. Consider striping Hudson Street curb white for loading. | City & District | Medium |
| 6 | Oak Avenue at Hudson Street | <ul style="list-style-type: none"> High volumes of pedestrians at intersection. | <ul style="list-style-type: none"> Replace existing transverse crosswalks with high-visibility yellow crosswalks. Construct curb extensions in all corners of the intersection, per the Hudson Street bike/ped grant application. | City | High |

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority |
|----|---------------------------------|---|--|-------------|----------|
| 7 | Oak Avenue at Reese Street | <ul style="list-style-type: none"> • Assembly D signage missing southwest of the crossing. | <ul style="list-style-type: none"> • Install Assembly D signage in advance of the crosswalk in the westbound direction; update Assembly D signage in advance in the eastbound direction. | City | Medium |
| 8 | Redwood Avenue at Hudson Street | <ul style="list-style-type: none"> • Offset intersection with awkward crosswalk alignment • High-volume pedestrian crossing. • Overly wide intersection. | <ul style="list-style-type: none"> • Replace existing transverse yellow crosswalks with high-visibility yellow crosswalks. • Construct raised pedestrian refuge island where painted buffer currently exists on Hudson Street, per the Hudson Street bike/ped grant application. • Construct curb extensions in all corners of the intersection, per the Hudson Street bike/ped grant application | City | High |
| 9 | Redwood Avenue | <ul style="list-style-type: none"> • High volumes of crossing pedestrians • Few crosswalks | <ul style="list-style-type: none"> • Install high-visibility crosswalks, with pedestrian crossing signage, across Redwood Avenue at Regent Street, Ebener Street, and Addison Street. • Study impact of crosswalks to determine need for additional crossing treatments such as RRFB or in-pavement yield paddle. | City | Medium |

4.3. Recommended Programs

The five “E’s” of Safe Routes to School planning includes:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation

The potential infrastructure improvements presented on the previous pages address the recommended engineering improvements. The other four “E’s” are related to programs. Programs will complement engineering improvements such as sidewalk and crosswalk improvements by giving students and parents the tools they need to safely and confidently get to school. All of the Five E’s work together to enhance the school commute. The following section presents recommended programs to support safer school access.

The recommended programs were developed based on review of existing programs and community identified need.

Student Education Workshops

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help them understand basic traffic laws and safety rules. Example pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk. Typical bicycle education curriculum elements include helmet and bike fit, hand signals, and riding safely with traffic.

The school has conducted twelve bicycle and pedestrian safety courses with students over the previous school year.

Recommendation: Because many families walk to school, it is recommended the future education curriculum program include a significant focus on pedestrian traffic safety. The education workshops should continue to occur on an annual basis.

Parent Education Workshops

Parent education programs are also an essential component of a Safe Routes to School effort by helping parents lead by good example. Parents are taught key traffic safety skills they can practice with their children anytime they walk or bicycle as a family. Example parent education curriculum elements include basic pedestrian safety skills such as “look left, right, left,” obeying to crossing guards, bicycle hand signals, and riding safely with traffic. The curriculum may also include safe driving behaviors, which is especially important in school zones.

Hawes parents received one driver behavior and safety workshop this year, with additional emphasis on tools to start up a walking school bus.

Recommendation: It is recommended parent traffic safety education workshops continue to be held on an annual basis. The workshops should cover safe driving, walking, and bicycling behaviors.

Monthly Walk to School Day Events

The school currently hosts monthly Walk to School Day events with student incentives.

Recommendation: It is recommended the school continue the monthly Walk to School Day events. Outreach should include notices in the school newsletter or related school news to remind parents of this monthly event. Outreach should include advertisement of the Suggested Routes to School maps a week before each Walk to School Day event.

Walking School Bus

While a walking school bus program was proposed and not implemented during previous outreach efforts, this program can help with traffic congestion around the school, help develop healthy habits, and build community.

Recommendation: It is recommended Hawes develop a Walking School Bus program. The program may be organized through outreach including tabling, meet and greet sessions, and through school communications. Meet and greet sessions may bring parents together and instill a sense of comfort with parents leading the Walking School Bus.

Crossing Guards

The effectiveness of a crossing guard can be the deciding factor in a parent feeling comfortable enough to let their child walk or bike to school. Parents at Hawes expressed a desire for uniform levels of training and effort between the three current crossing guards.

Recommendation: Provide standardized, district-wide crossing guard training according to best practices.

Trash Collection

Parents expressed concern about students bicycling to school on route where trash collection occurs in the morning.

Recommendation: The City should work with their waste management contractor to minimize trash collection during before-school and after-school hours on identified walking and biking routes to schools. The City should use the suggested walking route maps to help identify key routes and streets for consideration.



Hawes Community School Safe Routes to School Improvement Plan

- 1 Roosevelt Avenue at King Street**
 - Promote Red Morton Community Center as “park-and-walk” location, pending agreement between the City and School District.
 - Stripe high-visibility crosswalk in southwest corner of intersection, providing access to Red Morton Community Park
 - Install Assembly B signage in both directions at the crossing and Assembly D signage in the northeastbound direction
 - Place SLOW SCHOOL XING pavement markings in advance of crossing.
- 2 Roosevelt Avenue at Iris Street**
 - Consider striping high-visibility crosswalk in southwest corner of intersection; install curb extension at southern end of crosswalk.
 - If installed, study crosswalk impact to determine if additional treatments needed to ensure proper driver yielding rate to pedestrians.
 - Ensure all curb ramps are ADA compliant.
 - Install Assembly B signage in both directions at the crossing and Assembly D signage in the southwestbound direction.
 - Consider striping white curb along loading zone on Roosevelt Avenue.
 - Stencil “DISMOUNT HERE” for bicyclists at school gate from Roosevelt Avenue.
- 3 Roosevelt Avenue at Hudson Street**
 - Replace existing transverse crosswalks with high-visibility yellow crosswalks. Ensure all curb ramps are ADA compliant.
 - Construct curb extension in northern corner, per Hudson St grant application.
 - Assess other corners of intersection for possible curb extensions.
 - Install Assembly A sign on Roosevelt westbound at Ebener Street.
- 4 Hawes Bicycle Parking**
 - Upgrade existing bicycle parking; consider providing all-weather covering.
- 5 Hawes Park Parking Lot Loop**
 - Stencil “in” arrows & post “ENTRANCE ONLY” signage at driveway on Oak Avenue.
 - Stencil “DISMOUNT HERE” for bicyclists at school entrance from parking lot.
 - Consider installing no-left-turn sign at exit on Hudson Street, enforced during drop-off and pick-up, after considering impact on local street traffic.
 - Ensure speed feedback sign on Hudson Street is operational.
 - Consider striping Hudson Street curb white for loading.
- 6 Oak Avenue at Hudson Street**
 - Replace existing transverse crosswalks with high-visibility yellow crosswalks.
 - Construct curb extensions in all corners, per Hudson St grant application.
- 7 Oak Avenue at Reese Street**
 - Install Assembly D sign on Oak Avenue westbound, update Assembly D sign on Oak Avenue eastbound.
 - Ensure curb ramps at intersection are ADA compliant.
- 8 Redwood Avenue at Hudson Street**
 - Replace existing transverse yellow crosswalks with high-visibility yellow crosswalks.
 - Construct raised pedestrian refuge island where painted buffer currently exists on Hudson Street, per Hudson St grant application.
 - Construct curb extensions in all corners, per Hudson St grant application.
- 9 Redwood Avenue**
 - Stripe high-visibility crosswalks, with crossing signage, across Redwood Avenue at Regent Street, Ebener Street, and Addison Street.
 - After installation of crosswalk, study crosswalk impact and whether enhanced crossing treatments are needed to increase driver yield rate.



Figure 4-3: Hawes Community School Improvement Plan

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5. John Gill Elementary Recommendations

5.1. School Information

| | |
|-------------|---|
| Principal: | Josh Griffith |
| Enrollment: | 484 Students, K-5 |
| Arrival: | All Grades – 8:20 AM |
| Dismissal: | Kindergarten – 11:40 AM Grades 1-5 – 2:40 PM Minimum Days – 1:30 PM |



John Gill Elementary School

5.1.1. Layout

John Gill Elementary is located on a hillside in central Redwood City. The school looks down the hillside onto Jefferson Avenue, an arterial east/west roadway through Redwood City. The school also has frontage along Avenida Del Ora to the west and Myrtle Street to the east. To the north, the school is fronted by homes on either Harrison Avenue or Eagle Hill Terrace.

Students can access the school grounds via Avenida Del Ora and Myrtle Street.

5.1.2. Loading Zones

There are two on-street loading zones for John Gill Elementary, on Avenida Del Ora and on Myrtle Street.

Avenida Del Ora has two pull-out bays for loading. One of those bays is designated for student buses only. Teachers and yard duty staff monitor both of these loading bays. Avenida Del Ora also has access to two parking lots; the lower lot is used for student loading while the upper lot is reserved for staff.

Myrtle Street has curbside loading that is monitored by staff. This curb has signs indication times for loading-only.

5.1.3. Crossing Guard Location

There is one school staffer crossing guard, stationed at the intersection of South Place at Avenida Del Ora. There are crossing guards on Jefferson Avenue at Cleveland Street to the northeast.

5.1.4. Existing Programs

John Gill Elementary has a “Bi-Monthly Pedi-Pledge Program” where families pledge to walk a certain number of times every month. Students who fulfill their pledge are entered in a raffle to win a small prize. The average participation is around 140 students. During the 2011-2012 school year, five walking school buses operated at John Gill Elementary. All walking school buses, however, did not continue in the 2012-2013 school year due to the parent champions moving their children to other schools.

Students received four bicycle and pedestrian safety assemblies over the previous school year.

5.1.5. Other Improvement Plans

In the spring of 2011, students at Stanford University conducted a walk audit at John Gill Elementary as part of an urban studies course. They developed recommendations primarily for Myrtle Street and its intersection at Jefferson Avenue. Some recommendations, such as erecting “No U-turn” signage on Myrtle and “Right turn only” signage where Myrtle Street meets Jefferson Avenue, were adopted by the City. Other recommendations, such as relocating the adjacent stoplight at Jefferson Street at Hawes Street, were not adopted by the City. The report’s recommendations were centered around reducing traffic congestion and improving driver behavior on Myrtle Street during loading periods.

The City has submitted a grant application in the most recent SMCTA Call for Projects to enhance bicycle and pedestrian safety on Hudson Street from Whipple Avenue to Woodside Road. This project will pass to the northeast of the school area for John Gill Elementary. The project will include shared lane markings for bicyclists, signage, and curb extensions in the area of Hawes Community School.

5.2. Issues and Recommendations

5.2.1. Feasibility of Walking, Biking, and Ridesharing to School

The National Center for Safe Routes to School predicts that the majority of students who live within 1.35 miles should be able to walk to and from school, while the majority of students within 2.6 miles should be able to bicycle.⁴

As shown in **Figure 5-1**, just under 30% of students live within half a mile of school and over 80% of students live a mile from school. The overwhelming majority of these students live to the northeast of John Gill Elementary, in areas of Redwood City that are fairly flat. The primary barrier to students walking and bicycling from these neighborhoods to John Gill Elementary is the difficulty of crossing major streets. If major roadways separating John Gill Elementary from these neighborhoods, such as Jefferson Avenue, were more bicycle and pedestrian friendly, it might encourage more students and families to walk and bike to school. John Gill is an excellent candidate for ridesharing programs due to the longer distances families live from school and the density of families who live near each other.

5.2.2. Collisions

Between 2006 and 2011, nine collisions involving youth under age 18 walking or biking were reported near John Gill Elementary School, shown in **Figure 5-2**. Five collisions occurred within a half mile of the school. One of the three bicycle collisions in the area and two of the six pedestrian collisions occurred on Jefferson Avenue.

As with the other schools areas in this report, collisions involving bicyclists and pedestrians near John Gill generally occurred during morning and afternoon school commute hours. Three of the 9 collisions were recorded between 7:30am and 8:00am; the six other collisions were recorded in the afternoon and early evening hours between 2:00pm and 7:00pm. All collisions occurred on weekdays.

⁴ This is based on the finding that people are generally willing to travel about 30 minutes each way, regardless of travel mode. Assuming a student walking speed of 2.7 miles per hour and a bicycling speed of 8 mph, a child can travel 1.35 miles by foot or 4 miles via bicycle in 30 minutes. However, accounting for stop light interruptions, hilly terrain, and other factors, the National Center recommends a student bicycling distance target of 2.6 miles. <http://www.saferoutesinfo.org/program-tools/what-distances-are-reasonable-expect-elementary-school-students-bike-school>

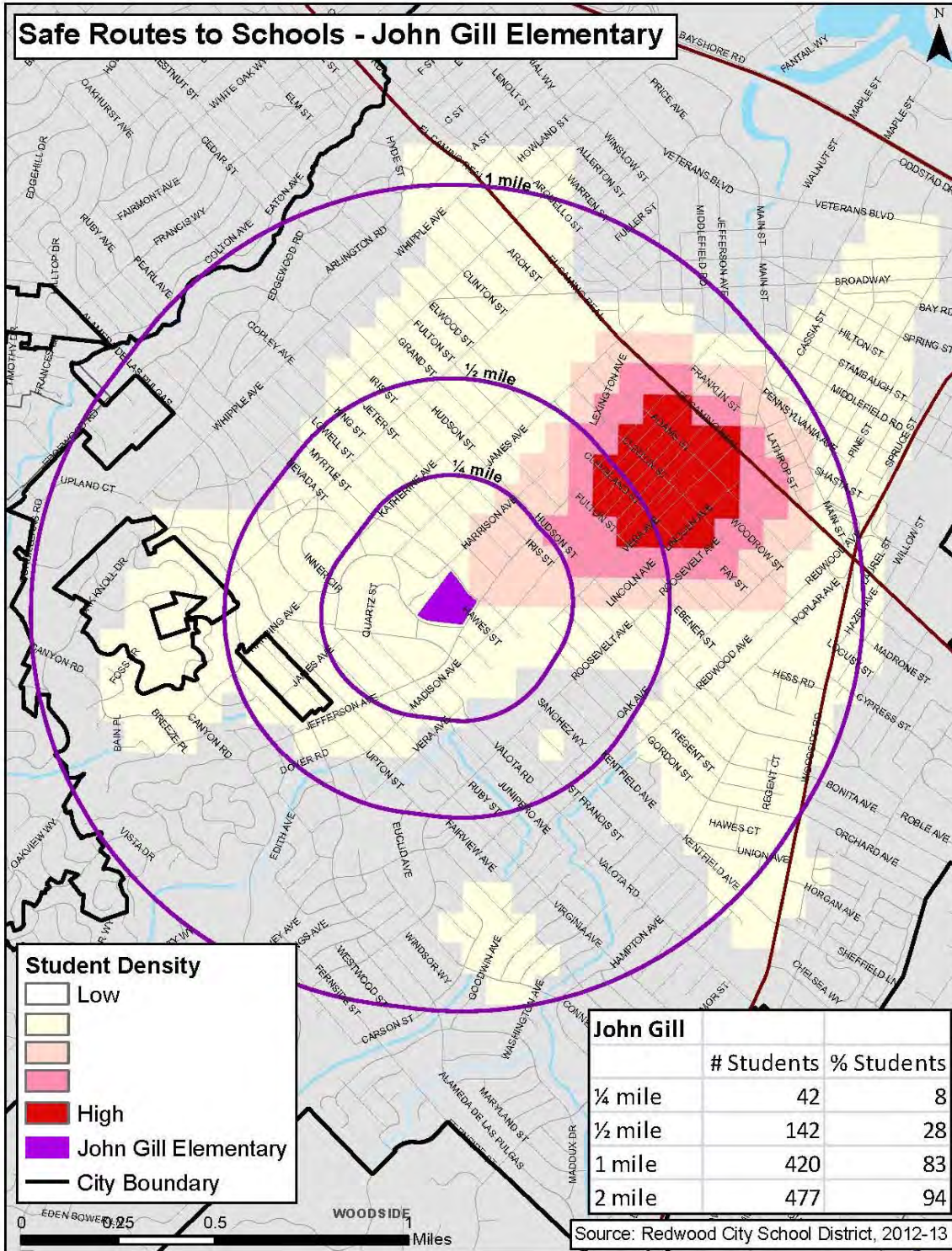


Figure 5-1: John Gill Elementary Enrollment Map

John Gill Elementary School



Figure 5-2: John Gill Area Youth Involved Pedestrian and Bicycle Collisions, 2006-2011

5.2.3. Potential engineering Improvements

Potential engineering recommendations are shown and mapped in Figure 5-3. Improvement identification numbers reference numbers on the figure.

Avenida Del Ora Loading Zone

The on-street loading zones on Avenida Del Ora are currently overseen by teachers and yard duty staff. There are two pull-outs used for loading, separated by landscaped curb extensions. The loading zone closer to South Place is used for bus loading. During the walk audit, participants observed drivers parking in the bus loading area. Drivers were also observed making U-turns on Avenida Del Ora after dropping off students.

Recommendations (ID #1)

- Recruit student and parent volunteers to assist teachers in loading zones.
- Consider installing “No U-Turn” signage on Avenida Del Ora.

Jefferson Avenue

Jefferson Avenue is a four-lane arterial roadway through Redwood City. The current roadway configuration is not conducive to walking and bicycling: no dedicated bicycle infrastructure, high driver speeds, narrow sidewalks, and few controlled street crossings for pedestrians. Stretches of Jefferson Avenue have no street parking, placing 30 mph traffic directly adjacent to pedestrians on narrow sidewalks.

Where Jefferson Avenue fronts the school grounds, the sidewalks are narrow (approximately 5-6 feet wide), with no street parking to buffer pedestrians from moving traffic. Dirt from the hillside spills out onto the sidewalk, further diminishing the usable pedestrian space.

The intersection of Jefferson Avenue at Hawes Street is signalized, with yellow transverse crosswalks in the southern and eastern legs. There is a small pedestrian island in the center of Jefferson Avenue with a pedestrian-phase push button, but the island is not wide enough to meet current standards for pedestrian islands. The wide curb radii at this intersection leave little space at which to wait before using the crosswalk.

The intersection of Jefferson Avenue at St. Francis Street is uncontrolled and has two high-visibility yellow crosswalks across Jefferson Street and a yellow transverse crosswalk in the northern leg of the intersection.

Recommendations (ID #2, #3, #4 & #5)

- Consider a road diet project on Jefferson Avenue to reduce the number of travel lanes and provide bike lanes on Jefferson Avenue. Additional traffic, engineering, and feasibility studies will be needed for such a project. Design considerations must take into account existing raised and landscaped medians. A road diet in this location could improve comfort and safety for bicyclists by providing dedicated on-street facilities and for pedestrians by reducing the number lanes pedestrians must cross. Where feasible, consider sidewalk widening as part of a road diet project.
- Consider widening the sidewalk along the northern side of Jefferson Avenue between Myrtle Street and Avenida Del Ora. Study whether travel lanes can be narrowed, or if the project can be incorporated into the proposed road diet, before considering cutting into the hillside to accommodate wider sidewalks.
- Upgrade the existing yellow transverse crosswalks at Jefferson Avenue at Hawes Street to high-visibility. Stripe advance stop bars for traffic on Jefferson Avenue at this intersection.

John Gill Elementary School

- Consider constructing a curb extension in the eastern corner of the intersection to reduce crossing distance on Jefferson and improve pedestrian visibility. Ensure the curb extension does not interfere with storm drain on Hawes Street.
- Consider expanding the existing median to meet current standards, including protective curbing on both sides of the crosswalk; ensure that construction works in tandem with the potential road diet on Jefferson Avenue.
- Ensure vegetation on Jefferson Avenue is trimmed back from the sidewalk to maximize pedestrian space and ensure visibility.
- Consider additional treatments to improve driver yield rates at the crosswalks across Jefferson Avenue at St. Francis Street, such as advance yield pavement markings, a rapid rectangular flashing beacon (RRFB), pedestrian refuge islands, or in-pavement yield paddles.
- Ensure all curb ramps are ADA compliant at crosswalks on Jefferson Avenue at St. Francis Street, Avenida Del Ora, Hawes Street, Myrtle Street, and King Street. Develop a prioritization matrix for curb ramp construction that gives added weight to established and identified walking routes to schools.

Avenida Del Ora

Participants observed drivers on Avenida Del Ora traveling at high speeds. This was especially the case for drivers coming downhill on Quartz Street and eastbound on Avenida Del Ora towards Jefferson Avenue. There is a landscaped triangle where the two streets meet; downhill traffic on Quartz Street merges into Avenida Del Ora at an oblique angle on the south side of the landscaped triangle, allowing high-speed turns. There is a perpendicular intersection on the north end of the landscaped triangle that can accommodate traffic moving in all directions, making the oblique merge on the southern side of the triangle unnecessary. There are two driveways that access the street via this angled merge area.

Recommendations (ID #6)

- Consider closing the angled merge on Quartz Street to traffic, either by extending the landscaped triangle or with bollards and pavement striping. Convert part of this angled merge into a cul-de-sac to maintain access for the two adjacent homes. Route all traffic to the perpendicular intersection on the north side of the landscaped triangle.
- Evaluate installing a stop sign and striping a stop bar for traffic on Quartz Street.
- This improvement requires study of traffic and emergency vehicle access impacts.
- Consider a three-way stop sign at the intersection of Avenida Del Ora at South Place; if infeasible, update existing Assembly D & A signage in all directions.

Hetch-Hetchy Right-of-Way

The path of the Hetch-Hetchy aqueduct travels right by John Gill Elementary, with an uninterrupted strip of open space from South Place in the east to Harding Avenue in the west. As the easement for this right-of-way does not allow building construction, this could be an opportunity to construct a Class I pathway, providing access to students living west of John Gill Elementary. Similar Class I pathways have been built along the Hetch-Hetchy right-of-way in Mountain View.

Recommendations (ID #7)

- Consider working with the SF Water Department to construct a Class I pathway from South Place to Harding Avenue, with high-visibility crosswalks, ADA compliant curb ramps, and appropriate crossing signage at each cross-street.

Bicycle Parking

Standard bicycle parking is located nearby the gate to Myrtle Street. The principal expressed interest in bicycle parking for students approaching on Avenida Del Ora.

Recommendations (ID #8)

- Install updated bicycle parking on the southwest side of school grounds.

James Avenue at Grand Street

Parents identified a need for a crosswalk in the southern leg of this intersection.

Recommendation (ID #9)

- Stripe a yellow transverse crosswalk in the southern leg of the intersection (within 600' of MIT school).

Jefferson Avenue at Cleveland Street

Parents identified this uncontrolled crosswalk as a key area of concern. The crosswalk is high-visibility yellow in the western leg of the intersection, with accompanying signage and pavement markings. The crosswalk has a crossing guard.

Recommendation (ID #10)

- Evaluate the intersection for improved crossing enhancements. This may include a signal warrant for the intersection, or enhancements for the uncontrolled crosswalk such as RRFBs or a pedestrian median refuge island.

Engineering Improvement Summary

Table 5-1 lists the recommended improvements to address circulation issues around John Gill Elementary and Figure 5-3 presents an improvement plan of these recommendations. The project IDs in

Table 5-1 corresponds to those in Figure 5-3. The table shows the identified concerns, the proposed improvement, the agency likely to lead project implementation and the recommended priority level for implementation. The “lead agency” is determined by on whose property/right-of-way the proposed improvement is located. The priority level is based on the anticipated safety and circulation benefit, the feasibility of implementation, and the projected cost.

Table 5-1: John Gill Elementary Recommended Improvements

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|----------------------------------|---|---|----------------|----------------|
| 1 | Avenida Del Ora Loading Zone | <ul style="list-style-type: none"> • U-turns on Avenida Del Ora • Poor driver behavior at loading zones | <ul style="list-style-type: none"> • Recruit student and parent volunteers to act as loading zone valets. Outfit valets with reflective vests. • Consider installing “No U-turn” signage on Avenida Del Ora. | District, City | Medium |
| 2 | Jefferson Avenue | <ul style="list-style-type: none"> • No on-street bicycling facilities • Narrow sidewalks • Difficult pedestrian crossings • High driver speeds | <ul style="list-style-type: none"> • Consider a road diet project for Jefferson Avenue to provide dedicated on-street facilities for bicyclists, improve the pedestrian experience on the street, and improve conditions for crossing pedestrians. Requires additional traffic, engineering, and feasibility studies, especially in locations with existing raised and/or landscaped medians. • Prioritize ADA compliant curb ramps at Myrtle Street, Avenida Del Ora, St. Francis Street and King Street. • Ensure vegetation is trimmed back from sidewalk on Jefferson Avenue to maximize pedestrian space. | City | High |
| 3 | Jefferson Avenue Sidewalk | <ul style="list-style-type: none"> • Narrow sidewalk with no buffer from vehicle traffic | <ul style="list-style-type: none"> • Consider widening sidewalk along the northwest side of Jefferson Avenue, from Myrtle Street to Avenida Del Ora. Attempt to incorporate into potential road diet project. Do not expand into hillside where utility boxes and utility poles preclude construction. | City | Medium |
| 4 | Jefferson Avenue at Hawes Street | <ul style="list-style-type: none"> • Faded crosswalk • Pedestrian refuge island is too narrow to meet current standards • Wide curb radii | <ul style="list-style-type: none"> • Upgrade yellow transverse crosswalks to high-visibility. Ensure all curb ramps are ADA compliant. • Stripe advance stop bars for traffic on Jefferson Avenue. • Consider constructing a curb extension in the southeastern corner. Curb extension cannot obstruct storm drain on Hawes Street. • Consider expanding existing median to a standard pedestrian refuge, including curbing on both sides of the crosswalk. | City | High |

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|---------------------------------------|---|--|------------------------|----------------|
| 5 | Jefferson Avenue at St Francis Street | <ul style="list-style-type: none"> Existing high-visibility crossing could use additional treatments | <ul style="list-style-type: none"> Consider treatments to improve driver yield rates for pedestrians crossing Jefferson Avenue, such as advance yield pavement markings, rapid rectangular flashing beacons (RRFBs), pedestrian refuge islands, or in-pavement yield paddles. | City | Medium |
| 6 | Avenida Del Ora | <ul style="list-style-type: none"> High driver speeds on Avenida Del Ora from drivers exiting Quartz Street Angled merge at landscaped triangle facilitates high driving speeds. High driver speeds headed towards Jefferson Avenue. | <ul style="list-style-type: none"> Consider closing southern outlet of Quartz Street to traffic, routing all traffic through the perpendicular intersection on Avenida Del Ora. Maintain driveway access to homes south of the outlet closure via a cul-de-sac accessed from Avenida Del Ora. Evaluate a stop sign at intersection for traffic on Quartz Street. Study impacts to traffic and emergency vehicle access. Consider 3-way stop sign at Avenida Del Ora at South Place; if infeasible update Assembly D & A signage. | City | Medium |
| 7 | Hetch-Hetchy Right-of-Way | <ul style="list-style-type: none"> Right of way would make excellent pathway for students living to the west of the school | <ul style="list-style-type: none"> Consider constructing a Class I shared use pathway along the Hetch-Hetchy right-of-way, from Avenida Del Ora in the east to Harding Avenue in the west. Consider installing high-visibility crosswalks with appropriate crossing signage at each cross street. | City, SF Dept of Water | Medium |
| 8 | Additional Bicycle Parking | <ul style="list-style-type: none"> Bicycle parking is only available at Myrtle Street gate. | <ul style="list-style-type: none"> Install additional bicycle parking on the west side of the school. | District | Low |
| 9 | James Avenue at Grand Street | <ul style="list-style-type: none"> Regular walking route missing crosswalk in southern leg | <ul style="list-style-type: none"> Stripe yellow transverse crosswalk in southern leg | City | Low |
| 10 | Jefferson Avenue at Cleveland Street | <ul style="list-style-type: none"> Uncontrolled high visibility crosswalk used by many students from many schools in the area. | <ul style="list-style-type: none"> Evaluate crossing enhancements, such as a signal warrant, median pedestrian refuge island, or RRFBs | City | High |

5.3. Recommended Programs

The five “E’s” of Safe Routes to School planning includes:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation

The potential infrastructure improvements presented on the previous pages address the recommended engineering improvements. The other four “E’s” are related to programs. Programs will complement engineering improvements such as sidewalk and crosswalk improvements by giving students and parents the tools they need to safely and confidently get to school. All of the Five E’s work together to enhance the school commute. The following section presents recommended programs to support safer school access.

The recommended programs were developed based on review of existing programs and community identified need.

Student Education Workshops

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help them understand basic traffic laws and safety rules. Example pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk. Typical bicycle education curriculum elements include helmet and bike fit, hand signals, and riding safely with traffic.

John Gill Elementary has conducted four bicycle and pedestrian safety assemblies with students in the previous school year.

Recommendation: It is recommended John Gill not only continue to host student education workshops, but also to increase the number of workshops provided each school year. While most families walk to school, a bicycle education component should be added to the curriculum. Bicycle education lessons will benefit the students beyond their commute to school and teach them valuable bicycle traffic safety skills. The education workshops should occur on an annual basis.

Parent Education Workshops

Parent education programs are also an essential component of a Safe Routes to School effort by helping parents lead by good example. Parents are taught key traffic safety skills they can practice with their children anytime they walk or bicycle as a family. Example parent education curriculum elements include basic pedestrian safety skills such as “look left, right, left,” obeying to crossing guards, bicycle hand signals, and riding safely with traffic. The curriculum may also include safe driving behaviors, which is especially important in school zones.

There were no parent workshops conducted in the past school year at John Gill Elementary.

Recommendation: It is recommended a parent traffic safety education workshop be held on an annual basis. The workshops should cover safe driving, walking, and bicycling behaviors.

Monthly Pedi-Pledge Program

Students pledge to walk to school a number of times a month. The program includes incentives.

Recommendation: Continue the Monthly Pedi-Pledge Program.

Park-and-Walk

A Park-and-Walk program can reduce traffic congestion at the school and encouraging student physical activity.

Recommendation: It is recommended that the school develop a Park-and-Walk program with maps of recommended parking areas that are posted on the school website. The maps should be distributed in back to school packets and be available in the school office. School newsletters or related school news should remind parents of this program. A potential park-and-walk site is the Red Morton Community Park to the southeast.

Walking School Bus

While a walking school bus program was implemented but discontinued due to loss of parent champions, this program can help with traffic congestion around the school, help develop healthy habits, and build community.

Recommendation: It is recommended John Gill reinstate a Walking School Bus program. The program may be organized through outreach including tabling, meet and greet sessions, and through school communications. Meet and greet sessions may bring parents together and instill a sense of comfort with parents leading the Walking School Bus.

Monthly Walk to School Day Events

Monthly Walk to School Day events help advertise walking to school and related programs such as Park-and-Walk, Walking School Buses and the Pedi-Pledge Program.

The school currently hosts monthly Walk to School Day events with student incentives.

Recommendation: It is recommended the school continue the monthly Walk to School Day events. Outreach should include notices in the school newsletter or related school news to remind parents of this monthly event. Outreach should include advertisement of the Suggested Routes to School maps a week before each Walk to School Day event.

SchoolPool – CarPool

Carpooling complements walking and biking modes by reducing vehicle congestion and increasing pedestrian and bicyclist safety at schools, and by providing a greener transportation alternative for families who live further away from school, as many John Gill families do. There is a high concentration of families living between one-half and one mile from school to the east near El Camino Real. Families in this area are ideal candidates for a carpool program.

Recommendation: It is recommended John Gill participate in an online carpooling tool,, work with the parent community to promote informal off-line carpooling, and host a Car Pool to School day early in the school year. Outreach for the online tool and the event can include tabling during school arrival and dismissal and meet and greet sessions. Examples of such websites are at (www.carpoolassist.com) and (www.carpooltoschool.com). Carpool outreach should also consider parents without internet access.

A Car Pool to School Day event toolkit is available through Redwood City 2020.

Crossing Guards

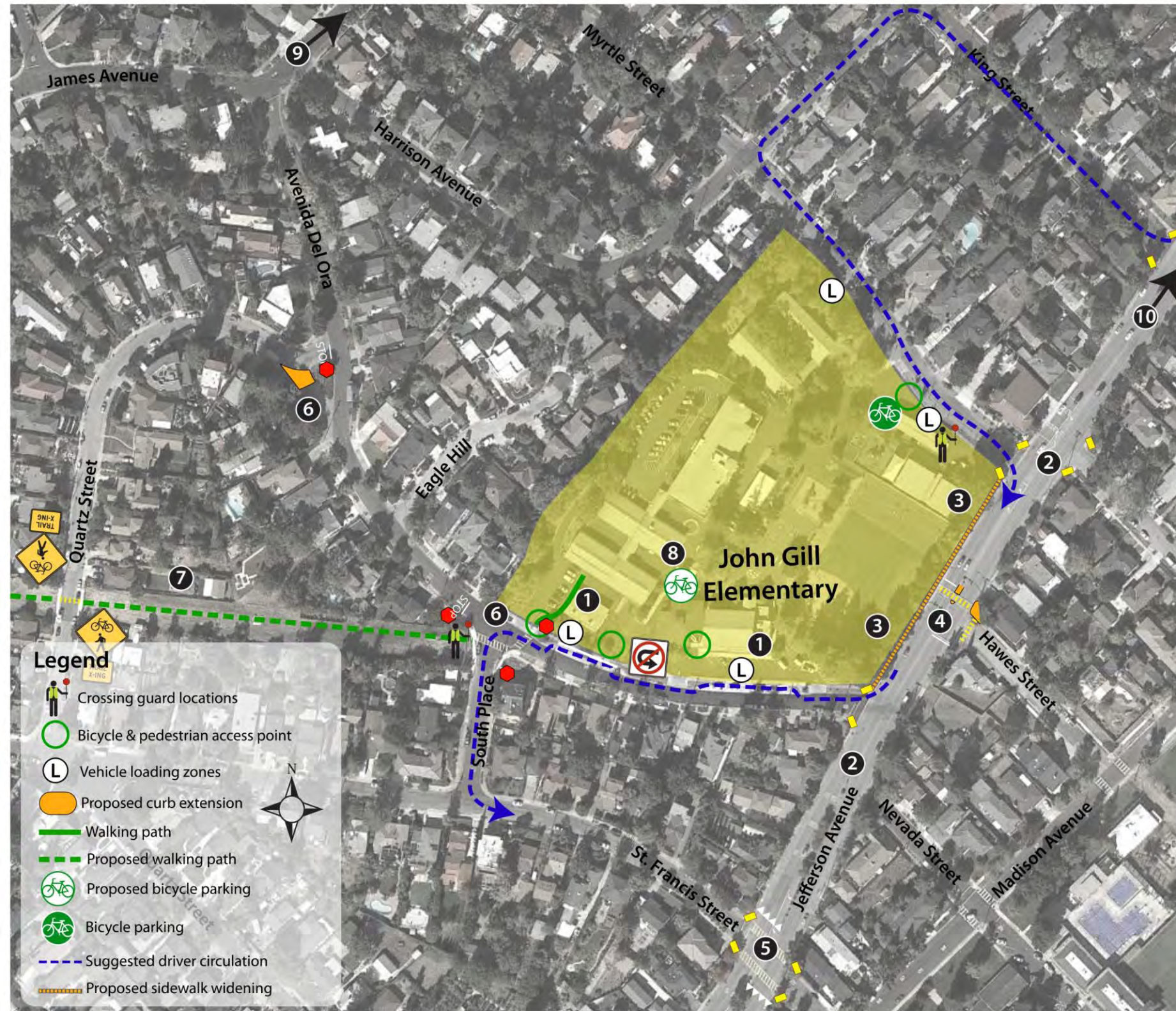
The effectiveness of a crossing guard can be the deciding factor in a parent feeling comfortable enough to let their child walk or bike to school.

Recommendation: Provide standardized, district-wide crossing guard training according to best practices.

Trash Collection

Parents expressed concern about students bicycling to school on route where trash collection occurs in the morning.

Recommendation: The City should work with their waste management contractor to minimize trash collection during before-school and after-school hours on identified walking and biking routes to schools. The City should use the suggested walking route maps to help identify key routes and streets for consideration.



John Gill Elementary Safe Routes to School Improvement Plan

- 1 John Gill Elementary Loading Zones**
 - Recruit student and parent volunteers to assist teachers in loading zones.
 - Consider installing "No U-Turn" signage on Avenida Del Ora.
- 2 Jefferson Avenue Road Diet**
 - Consider a road diet project for Jefferson Avenue. Requires additional traffic, engineering, and feasibility studies, especially in locations with existing raised and/or landscaped medians.
 - Prioritize ADA compliant curb ramps on Jefferson Street at Myrtle Street, Avenida Del Ora, St Francis Street & King Street.
- 3 Jefferson Avenue Sidewalk**
 - Consider widening the sidewalk along Jefferson Avenue, from Myrtle Street to Avenida Del Ora. Attempt to incorporate into proposed road diet project. Do not expand into hillside where utility boxes and utility poles preclude construction.
- 4 Jefferson Avenue at Hawes Street**
 - Upgrade yellow transverse crosswalks to high-visibility. Ensure all curb ramps are ADA compliant.
 - Stripe advance stop bars for traffic on Jefferson Avenue.
 - Consider constructing curb extension in eastern corner to reduce curb radius and reduce crossing distance on Jefferson. Curb extension cannot obstruct storm drain on Hawes Street.
 - Consider expanding the existing median to a standard pedestrian refuge, including curbing on both sides of the crosswalk.
- 5 Jefferson Avenue at St. Francis Street**
 - Consider treatments to improve driver yield rates for pedestrians crossing Jefferson Avenue, such as advance yield pavement markings, rapid rectangular flashing beacons (RRFBs), pedestrian refuge islands, or in-pavement yield paddles.
- 6 Avenida Del Ora**
 - Consider closing the southern outlet of Quartz Street to traffic, routing all traffic through the perpendicular intersection on Avenida Del Ora. Maintain driveway access to homes south of the outlet closure via a cul-de-sac accessed from Avenida Del Ora.
 - Evaluate a stop sign at intersection for traffic on Quartz Street.
 - Consider 3-way stop at Avenida Del Ora at South Place; if not feasible, upgrade outdated Assembly D & A signage.
- 7 Hetch-Hetchy Right-of-Way**
 - Consider constructing a Class I shared use pathway along the Hetch-Hetchy right-of-way, from Avenida Del Ora to Harding Avenue.
 - Consider installing high-visibility crosswalks with appropriate crossing signage at each cross street.
- 8 Additional Bicycle Parking**
 - Install additional bicycle parking on the west side of the school.
- 9 James Avenue at Grand Street**
 - Stripe a yellow transverse crosswalk in the southern leg.
- 10 Jefferson Avenue at Cleveland Street**
 - Evaluate for improved crossing enhancements, including signal warrant, median refuge island, or RRFBs.

Legend

- Crossing guard locations
- Bicycle & pedestrian access point
- Vehicle loading zones
- Proposed curb extension
- Walking path
- Proposed walking path
- Proposed bicycle parking
- Bicycle parking
- Suggested driver circulation
- Proposed sidewalk widening



Figure 5-3: John Gill Elementary Improvement Plan

Chapter 5

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6. Roosevelt Elementary School Recommendations

6.1. School Information

| | |
|-------------|--|
| Principal: | Patricia Girardi |
| Enrollment: | 553 Students, K-8 |
| Arrival: | K-6 – 7:58 AM |
| Dismissal: | Early Kindergarten – 12:40 PM Late Kindergarten – 1:50 PM Grades 1-3 – 2:00 PM Grades 4-8 – 2:20 PM Grades 1-3, Early Dismissal – 1:00 PM Grades 4-8, Early Dismissal – 1:20 PM |



Roosevelt School

6.1.1. Layout

Roosevelt School is an elementary school that is in the process of expanding from a K-5 school to a K-8 school over three years. The school is located in western Redwood City. While the neighborhoods to the east are fairly flat, the neighborhoods to the west are quite hilly. Roosevelt School itself is located on a hillside. Two major arterials in Redwood City are in close proximity to the school, with Alameda de Las Pulgas to the west and Jefferson Avenue to the north. The school has frontage on Vera Avenue, Upton Street, and Euclid Avenue. There is access to school from a parking lot and loading area off-street from McGarvey Avenue.

Students access the school site from:

- Two gates on Vera Avenue
- Gates on the corner of school grounds on Upton Street
- Euclid Avenue, beside the library
- A pedestrian path from the parking lot off of McGarvey Avenue

The school location presents challenges for walking and bicycling, especially from the hilly neighborhoods to the west. There are bike lanes on Alameda de Las Pulgas and McGarvey Avenue has Class III shared lane markings from Chesterton Avenue to Jefferson Avenue.

6.1.2. Loading Zones

There are three official loading zones for the school, one on Vera Avenue and in a parking lot off of McGarvey Avenue. One new loading zone has been recently installed on Euclid Avenue. Many parents also drop off students on McGarvey Avenue and in the shopping center parking lot opposite the school on Euclid Avenue.

6.1.3. Crossing Guard Location

There are two crossing guards serving Roosevelt School. One crossing guard is at the uncontrolled crosswalk at the intersection of Vera Avenue at Windsor Way, which is at the school's main entrance. The second crossing guard is at the intersection of Upton Street at Roosevelt Avenue, which is a signalized intersection.

6.1.4. Existing Programs

There is no formal walking or bicycling programming currently in place at Roosevelt School.

6.2. Issues and Recommendations

6.2.1. Feasibility of Walking, Biking, and Ridesharing to School

The National Center for Safe Routes to School predicts that the majority of students who live within 1.35 miles should be able to walk to and from school, while the majority of students within 2.6 miles should be able to bicycle.⁵

As shown in Figure 6-1, half of students live at least a mile away from school, and only 20% live within half a mile. The largest concentration of students is in central Redwood City to the east, along Redwood Avenue and Roosevelt Avenue. Student concentrations are much lower to the west. Roosevelt is an excellent candidate for ridesharing programs due to the longer distances families live from school and the density of families who live near each other.

6.2.2. Collisions

Between 2006 and 2011, one collision involving youth under age 18 walking or biking was reported near Roosevelt Elementary School, shown in Figure 6-2. This pedestrian collision occurred near Connecticut Avenue and Oregon Avenue on a weekday just before 8:00am.

⁵ This is based on the finding that people are generally willing to travel about 30 minutes each way, regardless of travel mode. Assuming a student walking speed of 2.7 miles per hour and a bicycling speed of 8 mph, a child can travel 1.35 miles by foot or 4 miles via bicycle in 30 minutes. However, accounting for stop light interruptions, hilly terrain, and other factors, the National Center recommends a student bicycling distance target of 2.6 miles. <http://www.saferoutesinfo.org/program-tools/what-distances-are-reasonable-expect-elementary-school-students-bike-school>

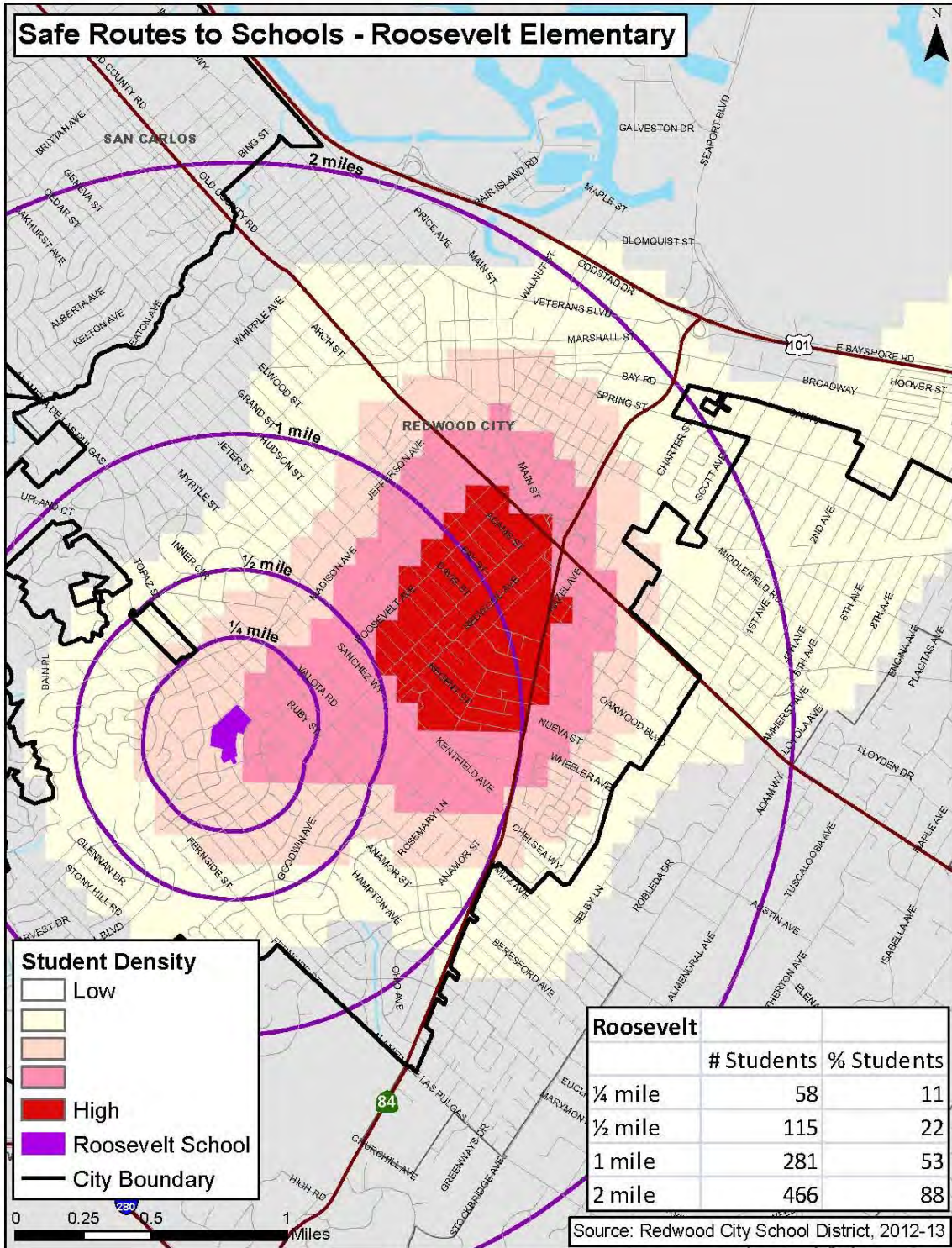


Figure 6-1: Roosevelt Elementary Enrollment Map

Roosevelt Elementary School

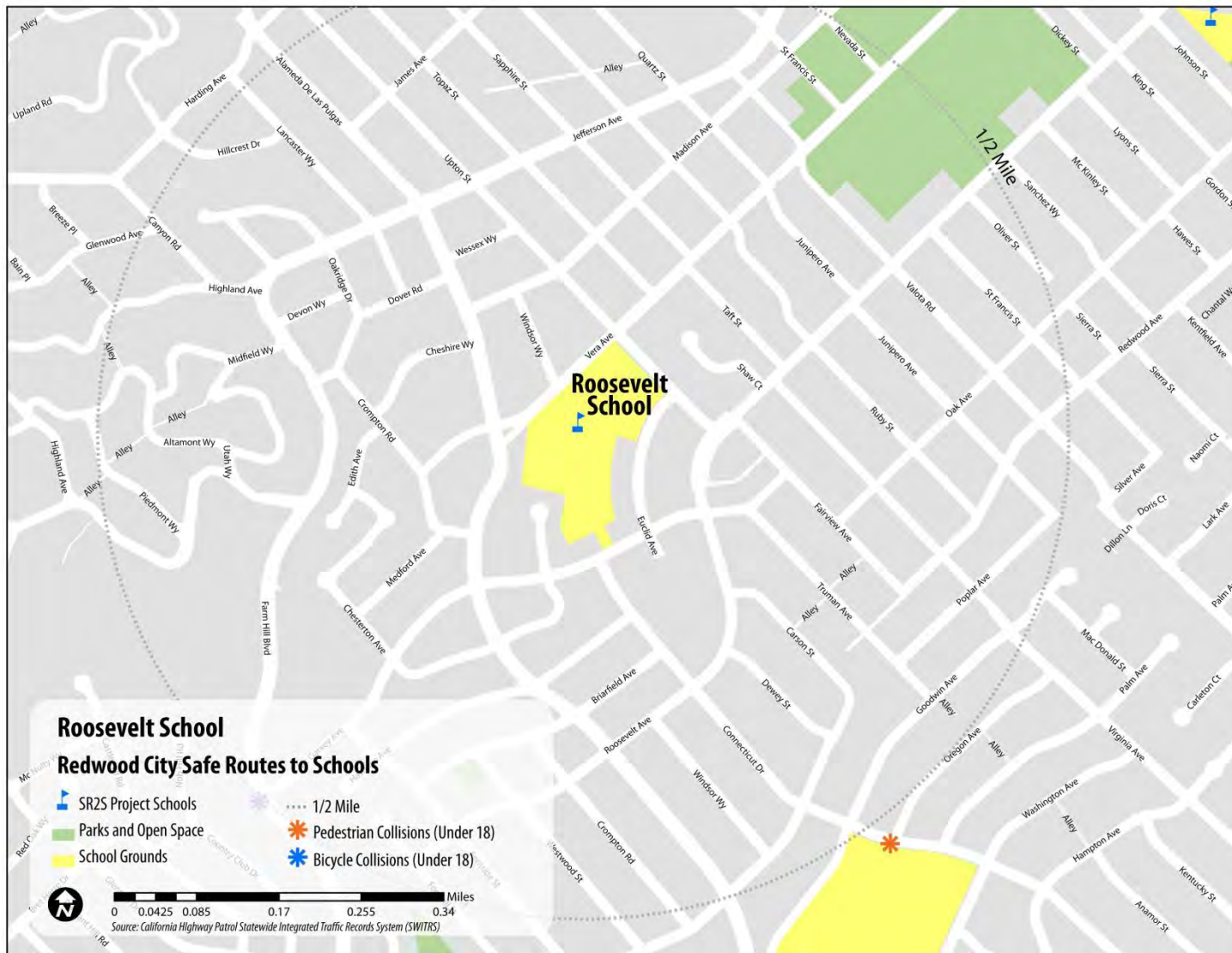


Figure 6-2: Roosevelt School Area Pedestrian and Bicycle Collisions, 2006-2011

6.2.3. Potential Engineering Improvements

Potential engineering recommendations are shown and mapped in **Figure 6-3: Roosevelt School Improvement Plan**. Improvement identification numbers reference numbers on the figure.

Vera Avenue at Alameda de Las Pulgas

The intersection of Alameda de Las Pulgas at Vera Avenue is a key access point for the Roosevelt School loading zone on Vera Avenue. Alameda de Las Pulgas has bike lanes and a raised median (north of Vera Avenue). The intersection is set on a hillside and has wide curb radii. There is a SamTrans bus stop immediately after the intersection on Alameda de Las Pulgas. There are white transverse crosswalks in all legs of the intersection despite being within 600 feet of the school grounds (cities may stripe crosswalks yellow only within 600 feet of a school, denoting a School Zone). Participants observed many drivers failing to come to a complete stop at the intersection.

Recommendations (ID #1)

- Restripe the white transverse crosswalks as yellow high-visibility.
- Consider curb extensions at all corners of the intersection to reduce curb radii. Build curb extensions into the parking lane space on Alameda de Las Pulgas, but ensure that curb extensions do not encroach upon the existing bike lanes. Accommodate the existing storm drains when designing curb extensions. Consider reduced curb extensions in the northeast and southwest corners to facilitate SamTrans bus operations at adjacent stops.
- If curb extensions are installed, consider striping additional red curb at SamTrans bus stops to provide a longer bus zone.

Vera Avenue at Windsor Way

Vera Avenue functions as the primary loading zone for Roosevelt School, with a section of white curb between Alameda de Las Pulgas and the school entrance. The street widens at the school entrance to accommodate perpendicular parking stalls. There is an uncontrolled high-visibility yellow crosswalk at Vera Avenue at Windsor Way, managed by a crossing guard. Immediately east of the crosswalk, the street narrows again to its original width. The curb is striped red between the crosswalk and where it narrows to the east. Parents identified drivers making U-turns to return to Alameda de Las Pulgas after dropping off students as a safety issue on this street.

Recommendations (ID #2)

- Consider constructing a curb extension on the southern end of the crosswalk to bring the curb even to the street width further to the east, reducing the crossing distance for pedestrians and increasing their visibility. Use striping and raised bollards in place of curb extensions if cost is prohibitive. Ensure curb extension still allows emergency vehicle access to school maintenance gate.
- Ensure all curb ramps are ADA compliant.

Upton Street

Upton Street runs along the eastern edge of the school grounds, by the playing fields. There are gates at the intersections of Upton Street at Vera Avenue and at Euclid Avenue. The intersection of Upton Street at Vera Avenue is stop controlled in all directions and has faded yellow transverse crosswalks in all legs. The

Roosevelt Elementary School

intersection of Upton Street at Euclid Avenue is stop controlled for Euclid Avenue only, with a high-visibility uncontrolled crosswalk in the western leg and a yellow transverse crosswalk in the southern leg.

Recommendations (ID #3)

- Upgrade all existing crosswalks at Upton Street at Vera Avenue to high-visibility yellow. Update Assembly A signage on Vera Avenue in advance of the crosswalk to the east.
- Ensure all curb ramps at crosswalks on Upton Street at Vera Avenue, Euclid Avenue, and Roosevelt Avenue are ADA compliant.

Euclid Avenue

A Redwood City Public library is located on Euclid Avenue, adjacent to school grounds. Bicycle parking is located on school grounds nearby the library. Many parents park in the shopping center parking lot across Euclid Avenue and cross the street mid-block, despite the lack of a crosswalk.

Recommendations (ID #4)

- Consider installing a mid-block high-visibility yellow crosswalk at Euclid Avenue, providing access to Roosevelt School and the public library. Install Assembly D & B signage in both directions. Install crosswalk only if there is adequate visibility.
- Stripe red curb on the east side of Euclid Avenue from the parking lot driveway to the crosswalk to improve pedestrian visibility.

Roosevelt School Downhill Parking Lot

There is an off-street parking lot for Roosevelt School, accessible via McGarvey Avenue. There is a sidewalk on the western side of the lot from the street up to a pedestrian pathway at the northern end of the parking lot. Parents expressed concern about cross the driveway entrance to reach the walking path and about reaching the walking path once parked in the parking lot. There are pavement markings at the parking lot exit directing drivers to turn right only, but they are faded.

Recommendations (ID #5)

- Consider constructing a walking path on the east side of the lot from McGarvey Avenue, reducing pedestrian conflicts with entering/exiting vehicles.
- Consider restricting the use of this parking lot to lower grade or kindergarten drop-off to reduce congestion in the parking lot/driveway.
- Refresh the pavement markings at the parking lot exit directing drivers to turn right on McGarvey Avenue.
- Install tactile dome strips at the driveway path across the sidewalk.

Euclid Avenue at McGarvey Avenue

At the intersection of McGarvey Avenue at Euclid Avenue is all-way stop controlled and there are crosswalks in all legs but the western one. This, however, is the leg of the intersection most used by families traveling to Roosevelt School.

Recommendations (ID #6)

- Consider striping a new crosswalk in the eastern leg of McGarvey Avenue at Euclid Avenue. Remove the railing at that leg of the intersection. Review history of railing installation before moving forward with removal.
- Ensure all curb ramps are ADA compliant.

Roosevelt Avenue at McGarvey Avenue

This intersection is stop-controlled only for traffic on McGarvey Avenue. There are white transverse crosswalks in the eastern and western legs of the intersection and white high-visibility crosswalks in the northern and southern legs of the intersection. There are “PED XING” pavement markings on Roosevelt in advance of the crosswalk in both directions, but no signage or other crossing treatments. Parents of younger students walking from the east regularly use this crossing to reach the school.

Recommendation (ID #7)

- Install advance yield pavement markings on Roosevelt Avenue. Consider additional advanced treatments if driver yield rate does not improve.

Scooter and Skateboard Storage

Multiple parents expressed the opinion that they would be more willing to let their child walk/bike to school if there were a safe location for them to store their skateboards or scooters once they arrived at school.

Recommendation (ID #8)

- Roosevelt School should provide secure storage space for scooters and skateboards. Consider either a storage room or a dedicated locker space.

Engineering Improvement Summary

Table 6-1 lists the recommended improvements to address circulation issues around Roosevelt School and Figure 6-3 presents an improvement plan of these recommendations. The project IDs in Table 6-1 correspond to those in Figure 6-3. The table shows the identified concerns, the proposed improvement, the agency likely to lead project implementation and the recommended priority level for implementation. The “lead agency” is determined by on whose property/right-of-way the proposed improvement is located. The priority level is based on the anticipated safety and circulation benefit, the feasibility of implementation, and the projected cost.

Table 6-1: Roosevelt School Recommended Improvements

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|--------------------------------------|--|--|-------------|----------------|
| 1 | Vera Avenue at Alameda de Las Pulgas | <ul style="list-style-type: none"> White crosswalks within school zone Wide curb radii Drivers failing to come to complete stop, especially when making right turns | <ul style="list-style-type: none"> Restripe crosswalks as high-visibility yellow. Consider constructing curb extensions at all corners of intersection into the parking lanes on Alameda de Las Pulgas. Do not encroach on bike lanes with curb extensions. Accommodate existing storm drains when designing curb extensions. Reduce size of curb extensions in northeast and southwest corners to accommodate adjacent SamTrans bus stops. If curb extensions are built, consider striping additional red curb north of the intersection on Alameda de Las Pulgas to accommodate a longer SamTrans bus stop. | City | Medium |
| 2 | Vera Avenue at Windsor Way | <ul style="list-style-type: none"> Crosswalk overly wide | <ul style="list-style-type: none"> Consider constructing a curb extension on south side of crosswalk, in line with landscaping strip to the east. Ensure all existing curb ramps are ADA compliant. | City | High |
| 3 | Upton Street | <ul style="list-style-type: none"> High-volume pedestrian intersection School Zone signage missing | <ul style="list-style-type: none"> Upgrade existing yellow transverse crosswalks to high-visibility. Ensure all existing curb ramps are ADA compliant. Update Assembly A School Zone sign on Vera Avenue east of the intersection. | City | Medium |
| 4 | Euclid Avenue | <ul style="list-style-type: none"> Families crossing mid-block on Euclid from shopping center parking lot | <ul style="list-style-type: none"> Consider installing a mid-block crosswalk. Install Assembly D & B signage along Euclid Avenue. Install crosswalk only if there is adequate visibility for oncoming drivers. Stripe red curb on east side of the street from crosswalk to parking lot driveway. | City | Medium |

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|---------------------------------------|--|---|--------------|----------------|
| 5 | Roosevelt School Downhill Parking Lot | <ul style="list-style-type: none"> Drivers behaving poorly at parking lot exit Pedestrians coming from the east must cross driveway to access walking path | <ul style="list-style-type: none"> Consider constructing a walking path on the east side of the parking lot and driveway, reducing pedestrian conflict at the driveway entrance/exit. Refresh pavement markings at the exit directing cars to only turn right. Install tactile dome strips on the sidewalk on either side of the driveway. | School, City | Low |
| 6 | Euclid Avenue at McGarvey Avenue | <ul style="list-style-type: none"> Families using western leg of intersection to cross and get to school. | <ul style="list-style-type: none"> Consider striping a new crosswalk in the western leg of the intersection. Consider removing the railing from the crosswalks directing pedestrians to the eastern crosswalk. Review history of railing installation before moving forward with removal. Ensure all curb ramps are ADA compliant. | City | Medium |
| 7 | Roosevelt Avenue at McGarvey Avenue | <ul style="list-style-type: none"> Parents of younger students coming from the east often cross at this uncontrolled crosswalk | <ul style="list-style-type: none"> Stripe advance yield pavement markings on Roosevelt Avenue. Consider additional crossing enhancements if driver yield rate is considered to be too low. | City | Medium |
| 8 | Scooter and skateboard storage | <ul style="list-style-type: none"> Parents would allow children to get to school by scooter if safe storage was available. | <ul style="list-style-type: none"> Create safe storage for skateboards and scooters, possibly as lockers. | School | Low |

6.3. Recommended Programs

The five “E’s” of Safe Routes to School planning includes:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation

The potential infrastructure improvements presented on the previous pages address the recommended engineering improvements. The other four “E’s” are related to programs. Programs will complement engineering improvements such as sidewalk and crosswalk improvements by giving students and parents the tools they need to safely and confidently get to school. All of the Five E’s work together to enhance the school commute. The following section presents recommended programs to support safer school access.

The recommended programs were developed based on review of existing programs and community identified need.

Student Traffic Safety Education Workshops

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help them understand basic traffic laws and safety rules. Example pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk. Typical bicycle education curriculum elements include helmet and bike fit, hand signals, and riding safely with traffic.

No educational workshops were held with students in the previous school year.

Recommendation: It is recommended Roosevelt host student traffic safety education workshops. While few families walk or bicycle to school, the Safe Routes to School program hopes into increase the number who do. Additionally, the skills taught in these lessons are valuable beyond getting to school. Nearly all students walk and bicycle. The education workshops should occur on an annual basis.

Parent Traffic Safety Education Workshops

Parent education programs are also an essential component of a Safe Routes to School effort by helping parents lead by good example. Parents are taught key traffic safety skills they can practice with their children anytime they walk or bicycle as a family. Example parent education curriculum elements include basic pedestrian safety skills such as “look left, right, left,” obeying to crossing guards, bicycle hand signals, and riding safely with traffic. The curriculum may also include safe driving behaviors, which is especially important in school zones.

No parent workshops were held in the previous school year.

Recommendation: It is recommended a parent traffic safety education workshop be held on an annual basis. The workshops should cover safe driving, walking, and bicycling behaviors.

Park-and-Walk

A Park-and-Walk program can reduce traffic congestion at the school and encouraging student physical activity.

Recommendation: It is recommended that the school develop a Park-and-Walk program with maps of suggested locations that are posted on the school website. The maps should be distributed in back to school packets and be available in the school office. School newsletters or related school news should remind parents of this program. A potential park-and-walk site is the Red Morton Community Park to the northeast of the school.

Walking School Bus

While a walking school bus program was implemented but discontinued due to loss of parent champions, this program can help with traffic congestion around the school, help develop healthy habits, and build community.

Recommendation: It is recommended Roosevelt reinstate a Walking School Bus program. The program may be organized through outreach including tabling, meet and greet sessions, and through school communications. Meet and greet sessions may bring parents together and instill a sense of comfort with parents leading the Walking School Bus.

Monthly Walk to School Day Events

Monthly Walk to School Day events help advertise walking to school and related programs such as Park-and-Walk.

Recommendation: It is recommended the school host monthly Walk to School Day events. Outreach should include notices in the school newsletter or related school news to remind parents of this monthly event. Outreach should include advertisement of the Suggested Routes to School maps a week before each Walk to School Day event.

SchoolPool – CarPool

Carpooling complements walking and biking modes by reducing vehicle congestion and increasing pedestrian and bicyclist safety at schools, and by providing a greener transportation alternative for families who live further away from school, as many Roosevelt families do. There is a high concentration of families living approximately one mile from school to the east near El Camino Real. Families in this area are ideal candidates for a carpool program.

Recommendation: It is recommended Roosevelt participate in an online carpooling tool, work with the parent community to promote informal off-line carpooling, and host a Car Pool to School day early in the school year. Outreach for the online tool and the event can include tabling during school arrival and dismissal and meet and greet sessions. Carpool outreach should also consider parents without internet access.

A Car Pool to School Day event toolkit is available through Redwood City 2020.

Crossing Guards

The effectiveness of a crossing guard can be the deciding factor in a parent feeling comfortable enough to let their child walk or bike to school. Parents at Roosevelt expressed a desire for uniform levels of training and effort between the two current crossing guards.

Recommendation: Provide standardized, district-wide crossing guard training according to best practices.

Trash Collection

Parents expressed concern about students bicycling to school on route where trash collection occurs in the morning.

Recommendation: The City should work with their waste management contractor to minimize trash collection during before-school and after-school hours on identified walking and biking routes to schools. The City should use the suggested walking route maps to help identify key routes and streets for consideration.



Roosevelt School Safe Routes to School Improvement Plan

- 1 Vera Avenue at Alameda de Las Pulgas**
 - Restripe the white transverse crosswalks as yellow high-visibility.
 - Consider curb extensions at all corners of the intersection to reduce curb radii. Build curb extensions into the parking lane space on Alameda de Las Pulgas, but ensure that curb extensions do not encroach upon the existing bike lanes. Accommodate the existing storm drains when designing curb extensions.
 - Consider reduced curb extensions in the northeast and southwest corners to facilitate SamTrans bus operations at adjacent stops.
 - If curb extensions are installed, consider striping additional red curb at SamTrans bus stops to provide a longer bus zone.
- 2 Vera Avenue at Windsor Way**
 - Consider constructing a curb extension on the southern end of the crosswalk to bring the curb even to the street width further to the east. Use striping and raised bollards in place of curb extensions if cost is prohibitive. Maintain vehicle access to maintenance gate at this location.
 - Ensure all curb ramps are ADA compliant.
- 3 Upton Street**
 - Upgrade all existing crosswalks at Vera Avenue to high-visibility yellow. Update Assembly A signage on Vera Avenue in advance of the crosswalk to the east.
 - Ensure all curb ramps at crosswalks are ADA compliant at Vera Avenue, Euclid Avenue, and Roosevelt Avenue.
- 4 Euclid Avenue**
 - Consider installing a mid-block high-visibility yellow crosswalk at Euclid Avenue, providing access to Roosevelt School and the public library. Install Assembly D & B signage in both directions. Install crosswalk only if there is adequate visibility.
 - Stripe red curb on east side of the street from parking lot driveway to the crosswalk.
- 5 Roosevelt School Downhill Parking Lot**
 - Consider constructing a pathway from the eastern side of the driveway and parking lot, reducing crossing conflicts with pedestrians at the driveway entrance/exit.
 - Consider restricting the use of this parking lot to lower grade or kindergarten drop-off to reduce congestion in the parking lot/driveway.
 - Refresh the pavement markings at the parking lot exit directing drivers to turn right on McGarvey Avenue.
 - Install tactile dome strips at the driveway path across the sidewalk.
- 6 Euclid Avenue at McGarvey Avenue**
 - Consider striping a new crosswalk in the eastern leg of McGarvey Avenue at Euclid Avenue. Remove the railing at that leg of the intersection. Review history of railing installation before moving forward with removal.
 - Ensure all curb ramps are ADA compliant.
- 7 Roosevelt Avenue at McGarvey Avenue**
 - Install advance yield pavement markings, consider additional treatments if yield rate too low.
 - Ensure all curb ramps are ADA compliant.
- 8 Scooter/Skateboard Storage**
 - Provide secure storage space for student scooters & skateboards.



Figure 6-3: Roosevelt School Improvement Plan

Roosevelt Elementary School

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7. Roy Cloud School Recommendations

7.1. School Information

| | |
|-------------|------------------------|
| Principal: | Gregory Land |
| Enrollment: | 809, K-8 |
| Arrival: | All Grades – 8:16 AM |
| Dismissal: | Kindergarten – 1:30 PM |
| | Grades 1-2 – 2:25 PM |
| | Grades 3-8 – 2:50 PM |



Roy Cloud School

7.1.1. Layout

Roy Cloud School is located in the hills of western Redwood City. The school is adjacent to unincorporated San Mateo County. The school only has frontage on Jefferson Avenue, fronted by single family homes on the other three sides. Farm Hill Boulevard, an east/west arterial, is located downhill to the east. Students access the school from:

- The main school entrance on Jefferson Avenue
- A pedestrian pathway from Emerald Hills Road
- A pedestrian pathway from Red Oak Way

The hilly nature of the surrounding community makes walking and biking challenging for students.

7.1.2. Loading Zones

The school has two official loading zones. One loading area is in a parking lot loop accessed from Jefferson Avenue. The other loading area is off of Red Oak Way in the school parking lot.

7.1.3. Crossing Guard Location

There are two crossing guards for Roy Cloud School. One is located at the intersection of Jefferson Avenue at Seminole Way and the other is located at the intersection of Emerald Hills Road at Red Oak Way.

7.1.4. Existing Programs

Roy Cloud School hosts a walking program, encouraging students and parents to walk to school. Students walking on Thursday or Friday are entered into a raffle (<http://www.rcsd.k12.ca.us/domain/877>). In March of 2013, the school established a Park & Walk program, recommending parents park on Bret Harte Drive. The school has a walking school bus program and participates in citywide walking and biking events. On International Walk to School Day, three hundred fourteen students at Roy Cloud participated, a twenty seven percent increase over a normal day.

Students at Roy Cloud Elementary received a single bicycle/pedestrian safety assembly in the past school year. There were no workshops for parents offered.

7.1.5. Planned Projects

Roy Cloud School is scheduled for upcoming improvements. These include the City installing a painted bulb-out and red curb at the intersection of Jefferson Avenue at Emerald Hills Road, improving school zone signage on Jefferson Avenue uphill from the school, and installing a crosswalk at the five-point intersection on Jefferson Avenue northwest of the school.

The County is currently considering improvement to Jefferson Avenue that would improve walking conditions between Lakeview Way and Emerald Hills Road. While Jefferson Avenue is not currently a suggested walking route to school, the district should reconsider the street as a key walking route once the County has made improvements. The district and City should work with the County to develop improvement plans that would best serve the safety and comfort of students walking to Roy Cloud School.

7.2. Issues and Recommendations

7.2.1. Feasibility of Walking, Biking, and Ridesharing to School

The National Center for Safe Routes to School predicts that the majority of students who live within 1.35 miles should be able to walk to and from school, while the majority of students within 2.6 miles should be able to bicycle.⁶ The hilly setting of Roy Cloud School, however, reduces the viability of walking or biking from such distances.

As shown in **Figure 7-1**, Roy Cloud School draws students evenly from the community around the school. Approximately 40% of students live within half a mile and more than three quarters live within a mile. While most of the students are evenly spread around the school in all directions, there is a concentration of students living to the northeast of the school over a mile away. Roy Cloud is an excellent candidate for ridesharing programs due to the longer distances families live from school, the topography surrounding the school, and the density of families who live near each other.

7.2.2. Collisions

Between 2006 and 2011, one collision involving youth under age 18 walking or biking was reported within a half-mile of Roy Cloud School, shown in **Figure 7-2**. This bicycle collision occurred near Farm Hill Boulevard and McGarvey Avenue on a Saturday just after 10:00pm.

⁶ This is based on the finding that people are generally willing to travel about 30 minutes each way, regardless of travel mode. Assuming a student walking speed of 2.7 miles per hour and a bicycling speed of 8 mph, a child can travel 1.35 miles by foot or 4 miles via bicycle in 30 minutes. However, accounting for stop light interruptions, hilly terrain, and other factors, the National Center recommends a student bicycling distance target of 2.6 miles. <http://www.saferoutesinfo.org/program-tools/what-distances-are-reasonable-expect-elementary-school-students-bike-school>

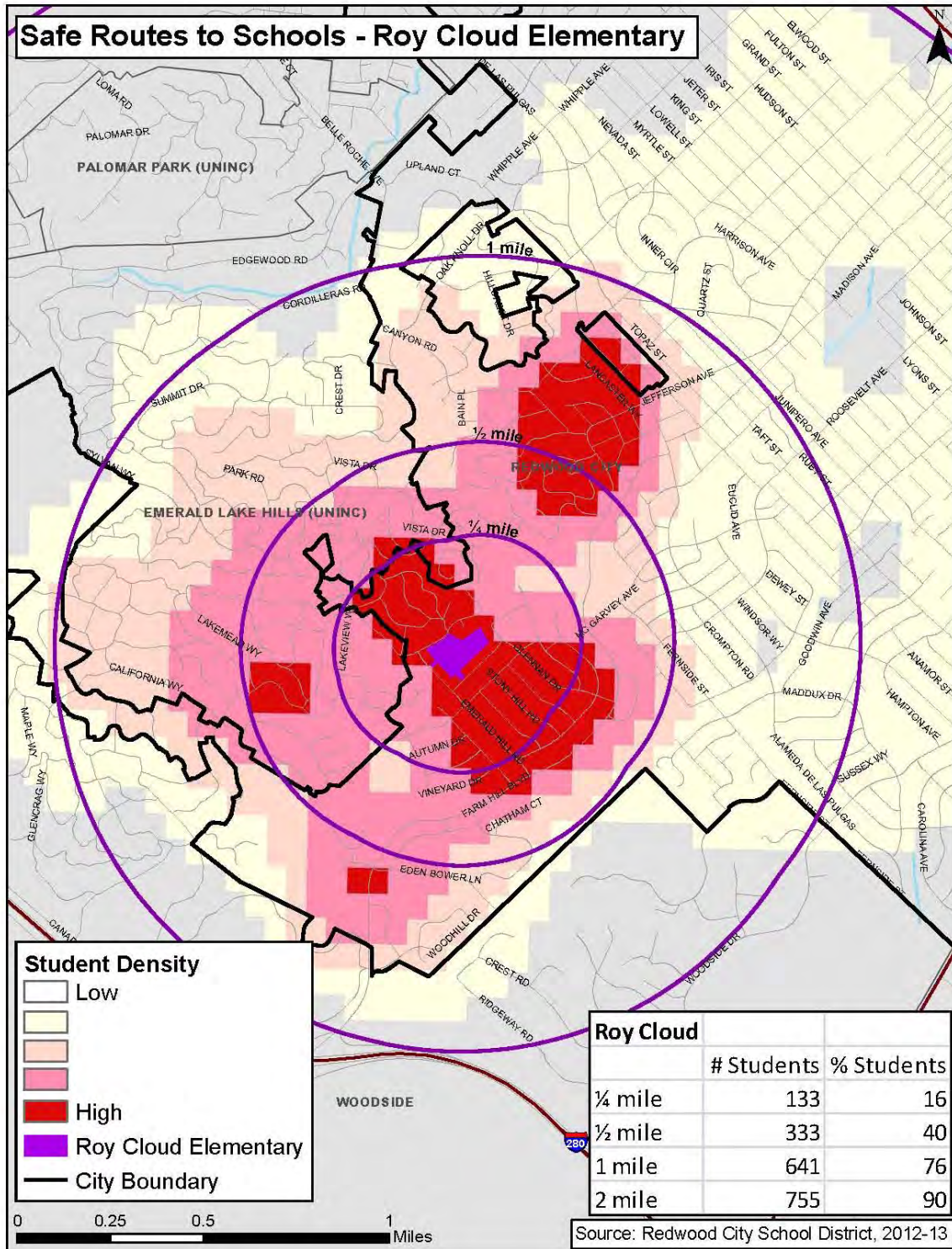


Figure 7-1: Roy Cloud School Enrollment Map

Roy Cloud School

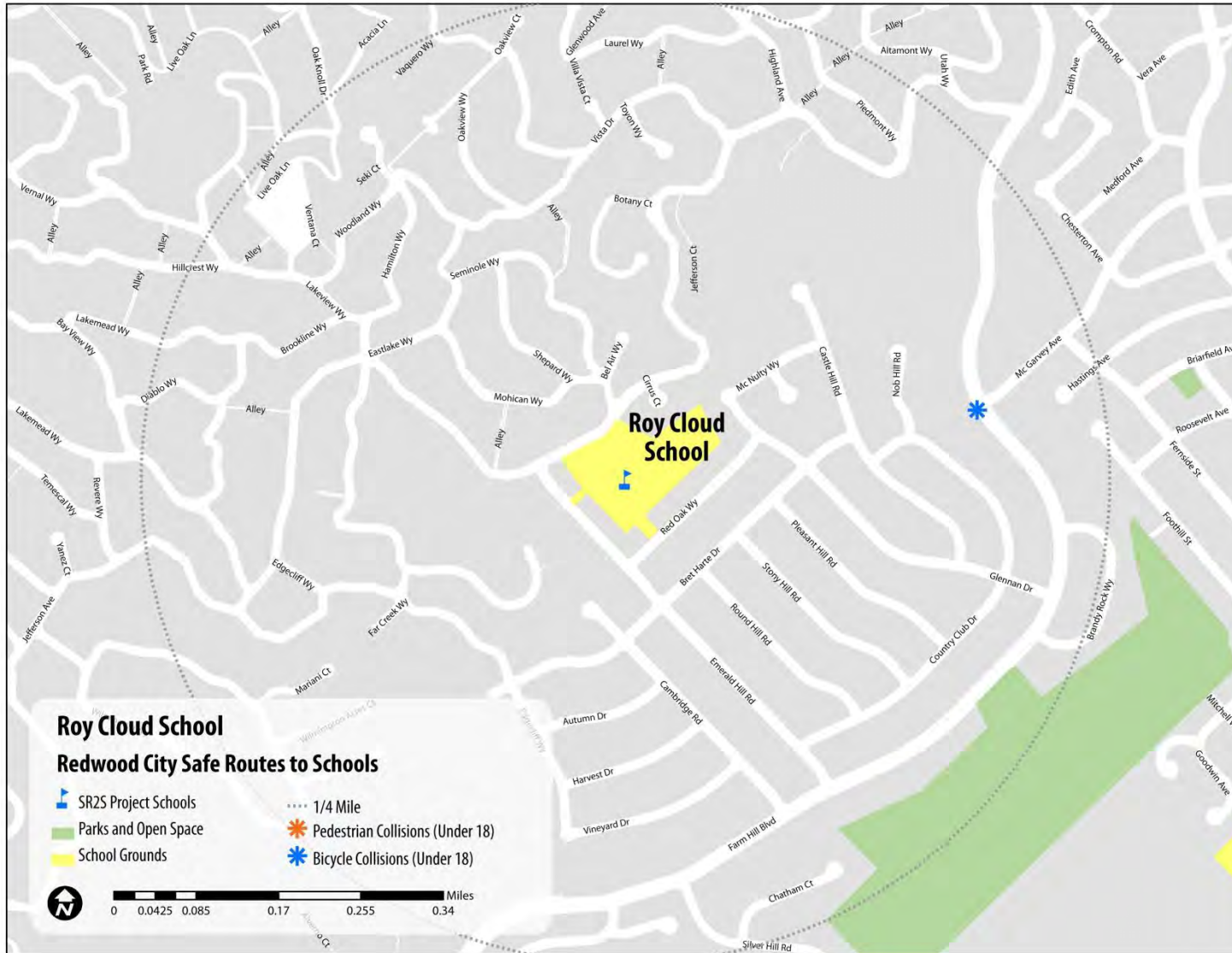


Figure 7-2: Roy Cloud Area Youth Involved Pedestrian and Bicycle Collisions, 2006-2011

7.2.3. Potential Engineering Improvements

Potential engineering recommendations are shown and mapped in Figure 7-3: Roy Cloud School Improvement Plan. Improvement identification numbers reference numbers on the figure.

Jefferson Avenue

Jefferson Avenue is the main access point for Roy Cloud School. Not only is a loading area located on Jefferson, but most families approaching from the north enter the school here. At the intersection of Jefferson Avenue at Seminole Way is an uncontrolled high-visibility yellow crosswalk managed by a crossing guard. Seminole Way meets Jefferson Avenue at an angle, and has a wide curb radii for drivers turning right, across the crosswalk, on to Jefferson. The nearby Citrus Court has no crosswalk at its intersection with Jefferson Avenue.

Recommendations (ID #1)

- Stripe a high-visibility yellow crosswalk across Citrus Court, moving the stop sign back from the intersection to accommodate the crosswalk.
- Consider constructing a curb extension in the northwest corner of Jefferson Avenue at Seminole Way to reduce pedestrian crossing distance, reduce curb radii, and provide more waiting space for pedestrians. This creates a more perpendicular intersection with Jefferson Avenue. Consider other low-cost alternatives such as pavement striping or raised bollards.
- Enforce “no parking” restrictions on Jefferson Avenue to the west during loading periods to provide additional on-street walking space for students. Work with the Sherriff’s Department for increased enforcement.

Jefferson Avenue Parking Loop

The parking loop off of Jefferson is the key loading zone for the school. The loop has a sidewalk on its west side from the street to the school grounds. Around the rest of the loop is a painted yellow buffer guiding the loop. There is no dedicated pedestrian space on the east side of the loop and participants observed families walking up the east side of the loop and slipping through a gap in the fence. Parents expressed interest in having the loading loop closed to vehicle traffic during morning drop-off to reduce the congestion of exiting drivers on Jefferson Avenue.

Recommendations (ID #2)

- Consider constructing a sidewalk on the east side of the parking loop from Jefferson Avenue to the schoolyard. Open a gate at the fence.
- Recruit parent and student volunteers to act as loading loop valets.
- Consider a pilot closure of the loading loop on a day with anticipated low driver volumes, such as International Walk to School Day. If this pilot closure is successful, consider closing the loading loop permanently.

Bicycle Parking

The principal expressed interest in creating a new bicycle Secure Parking Area (aka “SPA”), accessible from the pedestrian path leading to Emerald Hills Road. He suggested a bike cage.

Recommendations (ID #3)

- Consider installing covered, secure bicycle parking adjacent to the Emerald Hills Road pedestrian pathway.

Emerald Hills Road

At the intersection of Emerald Hills Road at Red Oak Way are yellow high-visibility crosswalks in the southern and eastern legs, with the southern crosswalk uncontrolled. The vegetation on the northeast corner is overgrown and limits visibility. The City recently installed a transverse yellow crosswalk in the eastern leg of the intersection of Emerald Hills Road at Bret Harte Drive. There is an uncontrolled high-visibility white crosswalk in the east leg of Emerald Hills Road at Country Club Drive. There are PED XING markings in advance on Country Club Drive, but no crossing signage. The crosswalks on Emerald Hills Road do not have ADA-compliant curb ramps.

Parents expressed strong concern over the speeds of downhill drivers on Emerald Hills Road. They also expressed interest in moving the crosswalk across Emerald Hills Road at Red Oak Way to the north side of the intersection; this proved infeasible due to the existence of a driveway on the west side of Emerald Hills Road where the new crosswalk would need to be located. Parents also asked that a new crosswalk be placed on Bret Harte Drive for students walking on the west side of Emerald Hills Road.

Recommendations East (ID #4)

- Restripe existing yellow transverse crosswalk at Bret Harte Drive as high visibility crosswalks.
- Stripe a new high-visibility yellow crosswalk in the western leg of the intersection of Emerald Hills Road at Bret Harte Drive, including new curb ramps.
- Install curb ramps at all crosswalks.
- Trim vegetation on the northeastern corner of Emerald Hills Road and Red Oak Way.
- Consider a traffic study on Emerald Hills Road with the purpose of implementing traffic calming where appropriate and feasible.
- Install pedestrian crossing signage at crosswalk across Country Club Drive.

Red Oak Way

There is a mid-block high-visibility yellow crosswalk across Red Oak Way where the school walkway meets the street. There are no curb ramps at either end and the crossing has no Assembly D signage.

Recommendations (ID #5)

- Construct curb ramps at both ends of the crosswalk.
- Install Assembly D sign for westbound traffic on Red Oak Way.

Bret Harte Drive

Parents identified Bret Harte Drive as a preferred location for remote drop-off and a possible location for a walking school bus stop.

Recommendation (ID #6)

- Designate Bret Harte Drive as a remote loading zone in school maps and promote the formation of a walking school bus that travels through this area.

Glennan Drive

Glennan Drive has yellow high-visibility crosswalks at Red Oak Way and white high-visibility crosswalks at Bret Harte Drive. Both intersections have pavement markings in advance of uncontrolled crossings, but no signage. Glennan Drive is the route used to reach Farm Hill Boulevard to the southeast. The intersections on Glennan Drive are missing curb ramps.

Recommendations (ID #7)

- Install Assembly B signage for all three crosswalks at Glennan Drive at Red Oak Way; install Assembly D signage for eastbound and northbound traffic.
- Install pedestrian crossing signage for crosswalks across Glennan Drive at Bret Harte Drive.
- Install curb ramps on Glennan Drive at Red Oak Way, Bret Harte Drive, Castle Hill Road, Country Club Drive and Farm Hill Boulevard.

Farm Hill Boulevard

Farm Hill Boulevard is a 4 lane roadway with street parking. There is no infrastructure for bicycling on this street and it can be a daunting street to cross for pedestrians. To the east, Farm Hill Boulevard becomes Jefferson Avenue.

The intersection of Emerald Hills Road at Farm Hill Boulevard was one of strong parent concern. The intersection is stop-controlled with a white transverse crosswalk in the eastern leg. A stop sign is placed in the center of the street on Farm Hill Boulevard in each direction, with chatter bars before and after to separate directions of traffic.

Recommendations (ID #8)

- Consider a 4-to-3 road diet project on Farm Hill Road, creating bike lanes and a center turn lane. This helps reduce driver speeds, creates on-street facilities for bicyclists, and improves crossings for pedestrians. A road diet on Farm Hill Boulevard could continue the road diet proposed for Jefferson Avenue at John Gill Elementary.
- In conjunction with the road diet concept for Farm Hill Boulevard, reconfigure the intersection at Emerald Hills Road. Replace existing crosswalks with high-visibility crosswalks and consider striping an additional crosswalk in the western leg of the intersection. Consider implementation of curb extensions, especially in the northeast and northwest corners of the intersection.

Engineering Improvement Summary

Table 7-1 lists the recommended improvements to address circulation issues around Roy Cloud School and Figure 7-3 presents an improvement plan of these recommendations. The project IDs in Table 7-1 correspond to those in Figure 7-3. The table shows the identified concerns, the proposed improvement, the agency likely to lead project implementation and the recommended priority level for implementation. The “lead agency” is determined by on whose property/right-of-way the proposed improvement is located. The priority level is based on the anticipated safety and circulation benefit, the feasibility of implementation, and the projected cost.

Table 7-1: Roy Cloud Recommended Improvements

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|-------------------------------|---|---|-------------|----------------|
| 1 | Jefferson Avenue | <ul style="list-style-type: none"> • Difficulty crossing Citrus Court • Wide radii on Seminole Way • Difficulty crossing Jefferson at Seminole • Drivers on Seminole encroaching on crosswalk • Little room for walking on Jefferson Avenue west of the school | <ul style="list-style-type: none"> • Stripe a yellow high-visibility crosswalk across Citrus Court, including moving the stop bar further back from the intersection. • Consider constructing a curb extension in the northwest corner of Seminole Way at Jefferson Avenue to create a perpendicular intersection and discourage direct vehicle travel from the parking lot exit to Seminole Way. Consider other low-cost alternatives such as pavement striping or raised bollards. • Enforce “no parking” restrictions on Jefferson Avenue to the west of school during loading periods to provide additional on-street walking space for students. Work with Sherriff’s Department for increased enforcement. | City | High |
| 2 | Jefferson Avenue Loading Loop | <ul style="list-style-type: none"> • Families walking up eastern side of loading loop to access school • Congestion in loading loop | <ul style="list-style-type: none"> • Consider constructing a separated pathway along the eastern edge of the loading loop, install a gate at the eastern end of the fence. • Recruit parent and student volunteers to act as loading valets. • Consider pilot closure of loading loop to study traffic impacts on Jefferson Avenue. | District | High |
| 3 | Bicycle Parking | <ul style="list-style-type: none"> • No easy bicycle parking access from west/south of school grounds | <ul style="list-style-type: none"> • Consider installing a covered, secure bicycle parking facility near the pedestrian path from Emerald Hills Road. | District | Medium |

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|------------------------------------|--|--|-------------|----------------|
| 4 | Emerald Hills Road | <ul style="list-style-type: none"> • Crossing points missing curb ramps • Visibility issues at crossings • Speeding on Emerald Hills Road | <ul style="list-style-type: none"> • Restripe existing yellow transverse crosswalk on Bret Harte Drive as high-visibility. • Install curb ramps at all crosswalks. • Trim vegetation on NE corner of Emerald Hills Rd and Red Oak Way. • Stripe new crosswalk at western leg of Emerald Hills Road at Bret Harte Drive. • Conduct traffic study to determine appropriate traffic calming measures for Emerald Hills Road. • Install pedestrian crossing signage at Country Club Drive. | City | Low |
| 5 | Red Oak Way at Pedestrian Walk Way | <ul style="list-style-type: none"> • Crosswalk missing curb ramps • Signage out of date/missing | <ul style="list-style-type: none"> • Install curb ramps at both ends of the existing crosswalk. • Install Assembly D sign for westbound traffic. | City | Medium |
| 6 | Bret Harte Drive | <ul style="list-style-type: none"> • Parents prefer this location for remote drop-off | <ul style="list-style-type: none"> • Encourage “park & walk” and remote drop off activities on Bret Harte Drive. Consider forming a walking school bus for this location. | | |
| 7 | Glennan Drive | <ul style="list-style-type: none"> • Crosswalk missing curb ramps • Signage missing for crosswalks at Red Oak Way & Bret Harte Drive | <ul style="list-style-type: none"> • Install Assembly B signage for all three crosswalks at Red Oak Way; install Assembly D signage for northbound and eastbound traffic. • Install pedestrian crossing signage for crosswalks across Glennan Drive at Bret Harte Drive. • Install curb ramps at Red Oak Way, Bret Harte Drive, Castle Hill Road, Country Club Drive, and Farm Hill Boulevard. | City | Low |

Roy Cloud School

| ID | Location | Issues Observed | Recommendations | Lead Agency | Priority Level |
|----|---------------------|--|---|-------------|----------------|
| 8 | Farm Hill Boulevard | <ul style="list-style-type: none"> • Street is difficult to cross as pedestrian • No on-street facilities for bicyclists • Crosswalk missing curb ramps • Intersection at Emerald Hills Road is problematic. | <ul style="list-style-type: none"> • Consider a 4-to-3 road diet project on Farm Hill Road, creating bike lanes and a center turn lane. This helps reduce driver speeds, creates on-street facilities for bicyclists, and improves crossings for pedestrians. A road diet on Farm Hill Boulevard could continue the road diet proposed for Jefferson Avenue at John Gill Elementary. • Replace existing crosswalk at Emerald Hills Road with high-visibility white; stripe additional crosswalk in western leg; consider curb extensions in two northern corners. | City | High |

7.3. Recommended Programs

The five “E’s” of Safe Routes to School planning includes:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation

The potential infrastructure improvements presented on the previous pages address the recommended engineering improvements. The other four “E’s” are related to programs. Programs will complement engineering improvements such as sidewalk and crosswalk improvements by giving students and parents the tools they need to safely and confidently get to school. All of the Five E’s work together to enhance the school commute. The following section presents recommended programs to support safer school access.

The recommended programs were developed based on review of existing programs and community identified need.

Student Traffic Safety Education Workshops

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help students understand basic traffic laws and safety rules. Example pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk. Typical bicycle education curriculum elements include helmet and bike fit, hand signals, and riding safely with traffic.

Roy Cloud School held one bicycle and pedestrian safety assembly for students in the previous school year.

Recommendation: Because many families park-and-walk and walk to campus and the high participation in the International Walk to School Day event, it is recommended the education curriculum program include a significant focus on pedestrian traffic safety. The education workshops should occur on an annual basis.

Parent Traffic Safety Education Workshops

Parent education programs are also an essential component of a Safe Routes to School effort by helping parents lead by good example. Parents are taught key traffic safety skills they can practice with their children anytime they walk or bicycle as a family. Example parent education curriculum elements include basic pedestrian safety skills such as “look left, right, left,” obeying to crossing guards, bicycle hand signals, and riding safely with traffic. The curriculum may also include safe driving behaviors, which is especially important in school zones. There were no parent workshops held in the previous school year.

Recommendation: It is recommended parent traffic safety education workshops be held on an annual basis. The workshops should cover safe driving, walking, and bicycling behaviors

Park-and-Walk

A Park-and-Walk program can reduce traffic congestion at the school and encouraging student physical activity. Such a program was implemented in March 2013.

Recommendation: It is recommended that the school continue to support the Park-and-Walk program and develop maps that are posted on the school website, especially promoting park-and-walk along Bret Harte

Drive. The maps should be distributed in back to school packets and be available in the school office. School newsletters or related school news should remind parents of this program.

Monthly Walk to School Day Events

Monthly Walk to School Day events help advertise walking to school and related programs such as Park-and-Walk.

Recommendation: It is recommended the school host monthly Walk to School Day events. The school can build on the high participation of International Walk to School Day. Outreach should include notices in the school newsletter or related school news to remind parents of this monthly event. Outreach should include advertisement of the Suggested Routes to School maps a week before each Walk to School Day event.

SchoolPool – CarPool

Carpooling complements walking and biking modes by reducing vehicle congestion and increasing pedestrian and bicyclist safety at schools, and by providing a greener transportation alternative for families who live further away from school, as many Roy Cloud families do. There is a high concentration of families living approximately one mile away east of Alameda De Las Pulgas. Families in this area are ideal candidates for a carpool program.

Recommendation: It is recommended Roy Cloud participate in an online carpooling tool, work with the parent community to promote informal off-line carpooling, and host a Car Pool to School day early in the school year. Outreach for the online tool and the event can include tabling during school arrival and dismissal and meet and greet sessions. A Car Pool to School Day event toolkit is available through Redwood City 2020. Carpool outreach should also consider parents without internet access.

Crossing Guards

The effectiveness of a crossing guard can be the deciding factor in a parent feeling comfortable enough to let their child walk or bike to school. Parents at Roy Cloud expressed a desire for uniform levels of training and effort between the two current crossing guards.

Recommendation: Provide standardized, district-wide crossing guard training according to best practices.

Trash Collection

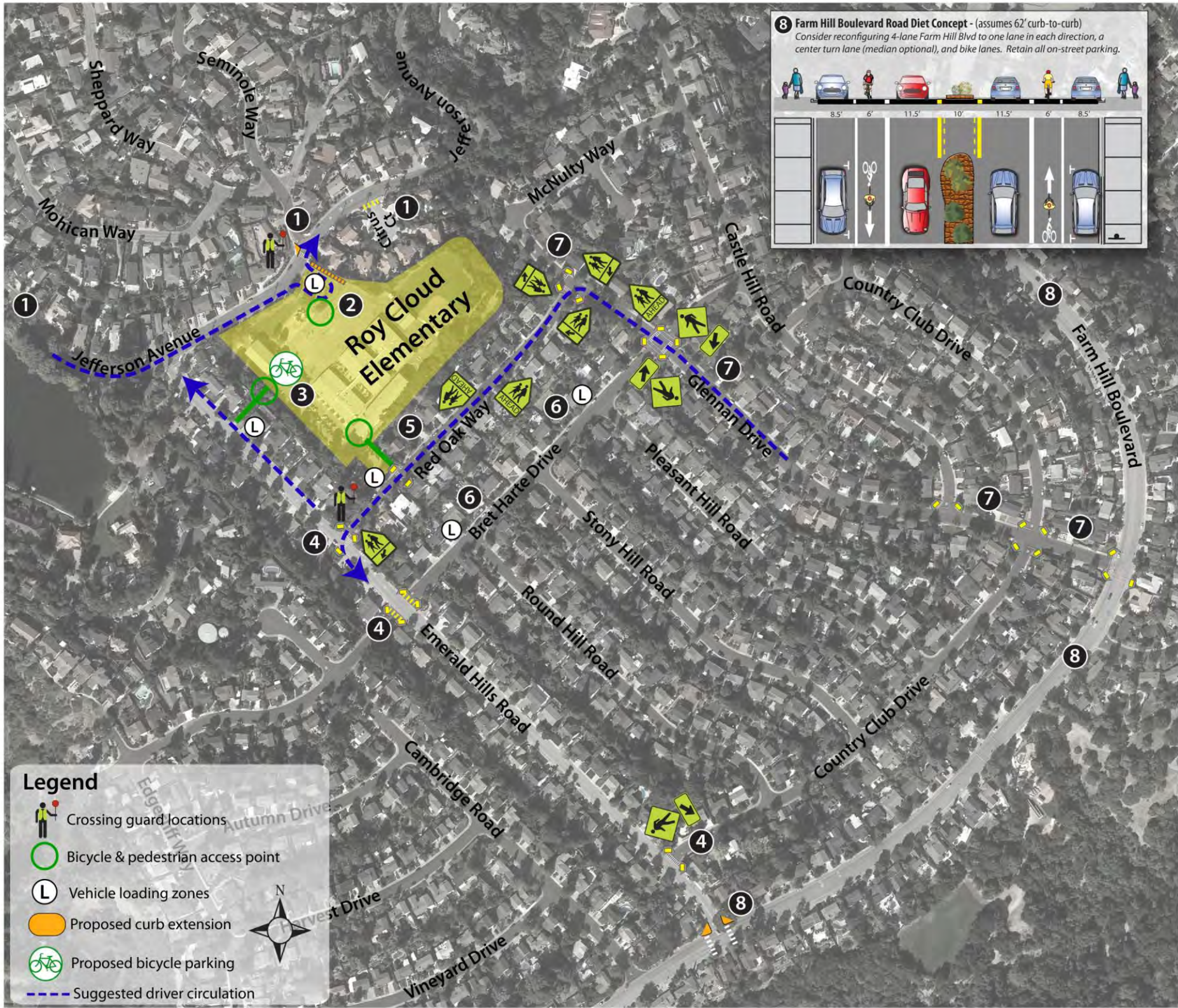
Parents expressed concern about students bicycling to school on route where trash collection occurs in the morning.

Recommendation: The City should work with their waste management contractor to minimize trash collection during before-school and after-school hours on identified walking and biking routes to schools. The City should use the suggested walking route maps to help identify key routes and streets for consideration.

Enforcement

Parents at Roy Cloud expressed a strong preference for additional enforcement on Emerald Hills Road and Jefferson Avenue.

Recommendation: Work with Sherriff's Department to identify key enforcement locations.



Roy Cloud Elementary School Improvement Plan

- 1 Jefferson Avenue**
 - Stripe a yellow high-visibility crosswalk across Citrus Court.
 - Consider constructing a curb extension in the northwest corner of Seminole Way at Jefferson Avenue to create a perpendicular intersection and discourage direct vehicle travel from the parking lot exit to Seminole Way. Consider other low-cost alternatives such as pavement striping or raised bollards.
 - Enforce "no parking" restrictions on Jefferson Avenue to the west during loading periods to provide additional on-street walking space for students. Work with the Sherriff's Department for increased enforcement.
- 2 Jefferson Avenue Loading Loop**
 - Consider constructing a separated pathway along the eastern edge of the loading loop, including a new gate at the fence.
 - Recruit parent and student volunteers to act as loading valets.
 - Consider a pilot closure of the loading loop to analyze the impact on traffic on Jefferson Avenue.
- 3 Bicycle Parking/Bike Cage**
 - Consider installing a covered, secure bicycle parking facility near the pedestrian path from Emerald Hills Road.
- 4 Emerald Hills Road**
 - Install curb ramps on Red Oak Way, Bret Harte Drive, and Country Club Drive.
 - Stripe a new yellow high-visibility crosswalk in the western leg of Emerald Hills Road at Bret Harte Drive, convert transverse yellow crosswalk in eastern leg to high-visibility.
 - Trim vegetation on northeast side of Emerald Hills Road at Bret Harte Drive to improve pedestrian visibility.
 - Consider traffic study of Emerald Hills Road with the purpose of implementing traffic calming where appropriate and feasible.
 - Install pedestrian crossing signage on Country Club Drive.
- 5 Red Oak Way at Pedestrian Path**
 - Install curb ramps at both ends of the existing crosswalk.
 - Install Assembly D sign in advance for westbound drivers.
- 6 Bret Harte Drive**
 - Encourage parents to use Bret Harte Drive as a "park & walk" location. Encourage groups of parents to form walking school buses that incorporate a drop-off zone on Bret Harte Drive.
- 7 Glennan Drive**
 - Install curb ramps at all corners from Red Oak Way to Farm Hill Boulevard.
 - Install Assembly D & B signage at Glennan Drive at Red Oak Way.
 - Install pedestrian crossing signage at Glennan Drive at Bret Harte Drive.
- 8 Farm Hill Boulevard**
 - Consider a 4-to-3 road diet project on Farm Hill Road, creating bike lanes and a center turn lane. A road diet on Farm Hill Boulevard could continue the road diet proposed for Jefferson Avenue at John Gill Elementary.
 - Reconfigure intersection at Emerald Hills Road, including a new crosswalk in the western leg. Consider implementation of curb extensions, especially in the northeast and northwest corners.



Figure 7-3: Roy Cloud School Improvement Plan

Roy Cloud School

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8. Citywide Collision Analysis

Between January 2006 and December 2011, there were 58 reported pedestrian collisions in San Mateo County involving youth under the age of 18. 40 percent of pedestrian collisions occurred in a marked crosswalk at an intersection. Slightly more (43 percent) occurred as the pedestrian crossed the street not using a marked crosswalk. Ten percent of all pedestrian collisions in this period were severe. Pedestrians sustained visible injuries in 52 percent of collisions.

In the same time period, there were 41 recorded collisions involving bicyclists. Automobile right of way was deemed the primary collision factor in 32 percent of crashes; riding on the wrong side of the road was the primary collision factor in 27 percent. Five percent of injuries reported were severe, while 42 percent of those reported were other visible injuries. The remaining 54 percent were the least severe category of injury – complaint of pain.

Of the 99 collisions involving bicyclists and pedestrians, 23 occurred between 7:15 and 8:30am. Twenty-five collisions occurred between 2:00pm and 5:00pm.

The months with the most bicycle and pedestrian crashes among youth under age 18 were November, September, October, and March. Weekdays accounted for 83 percent of all crashes. The vast majority of crashes (77 percent) occurred in the daylight; of the crashes occurring at dusk or at night, 16 percent occurred at night on streets with street lights.

Of all the primary roadways where vehicular crashes involving pedestrians and bicycles were reported, El Camino Real was the most common roadway with 12 percent of all crashes. Woodside Road and Hudson Street were the next most common streets, at 8 percent and 4 percent respectively.

Citywide Collision Analysis

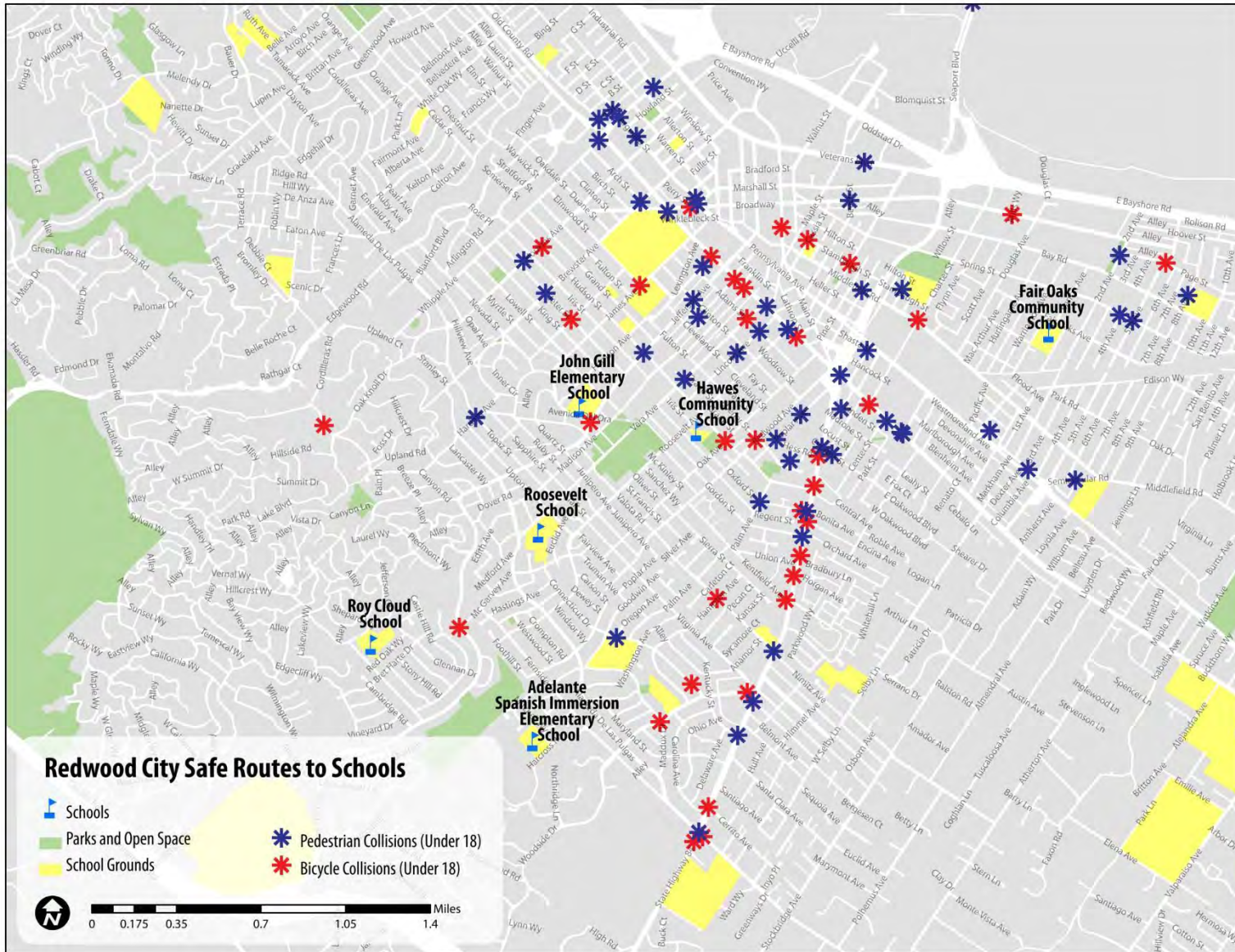


Figure 8-1: Citywide Youth Involved Pedestrian and Bicycle Collisions, 2006-2011

Appendix A - Example Engineering Devices

Design of the physical environment around schools are integral to a comprehensive Safe Routes to School Program that ensures walking, biking, and other “green” forms of travel are easy and safe. The engineering improvements presented in this report follow the standards set forth by the California Department of Transportation (Caltrans). Most of the proposed signage and striping improvements are relatively simple and cost effective to install when compared to more intensive engineering devices, such as curb extensions and paths.

In accordance with Caltrans and industry standard terms, “shall” “should” or “may” are used to denote when to install the example engineering devices. *Shall* is used when an improvement is required to be installed under pre-defined conditions. *May* is used when an improvement installation is optional under pre-defined conditions. *Should* is used when an improvement supports the effectiveness of required improvements.

A-1: Signage

School related signage warns motorists of a school zone or crosswalk and regulates their movements to ensure the safest conditions possible for pedestrians and bicyclists.

Warning Signs

Assembly A



May be installed up to 500 feet in advance of a school.

Assembly B



Shall be installed at an uncontrolled crosswalk (no stop sign).

Assembly D



Shall be installed 100 feet in advance of an uncontrolled crosswalk.

In-Pavement Yield



May be installed in an uncontrolled crosswalk

Regulatory Signs

No Turn



No Right and Left Turn signs are typically used to improve circulation and reduce queue lengths.

No U-Turn



No U-Turn signs are typically used to reduce conflicts with pedestrians and motorists.

Loading Zone



Loading zones designate a pick up/drop off location and may include a plaque allowing parking during off-loading times.

School Speed Limit



May be installed up to 500 feet in advance of a school and is installed with a time sensitive flashing beacon. Engineers determine the posted speed.

A-2: Striping

School related striping includes crosswalks and curb colors. Bicycle lane striping and markings can be also considered school related. Bicycle-related striping improvements are only recommended in this report where they align with the Hudson Street bike/ped grant submitted by the City. Thermoplastic is recommended for striping improvements.

Curb Colors

School Loading Zone curbs are white.

Freight/Bus Loading Zone curbs are yellow.

Accessible curbside parking curbs are blue.

No Parking Zone curbs are red.

Crosswalks

Crosswalks connect one corner of a street to the opposite side and do not have to be marked with paint or thermoplastic unless where no corner exists (mid-block crosswalk). In California, yellow crosswalks can be used on roadways where students frequently cross. Caltrans standard is for all crosswalks contiguous to schools to be yellow. Crosswalk may also be yellow if within 600 feet of a school or school grounds. White crosswalks are used in all other areas.

High Visibility Crosswalk



High visibility crosswalks have longitudinal and latitudinal lines.

Transverse Crosswalk



Transverse crosswalks have latitudinal lines.

Lighted Crosswalk



Pedestrian activated lights may be installed on a sign and/or in the pavement.

A-3: Curb Extensions

There are a range of devices that work to reduce motorist speeds. This report recommends curb extensions in many locations, most of which are skewed intersections (where streets do not intersect at 90 degree angles). Curb extensions are recommended where the radius of a corner could be increased to reduce the speed of turning vehicles, discourage U-turns, and/or reduce crosswalk distance.

Curb Extension



Curb extensions reduce the width of a roadway.