

SAN MATEO COUNTY SAFE ROUTES TO SCHOOLS JEFFERSON ELEMENTARY SCHOOL DISTRICT



FERNANDO RIVERA INTERMEDIATE SCHOOL WALK AND BIKE AUDIT FINAL REPORT JUNE 2016



San Mateo County
SAFE ROUTES TO SCHOOL

Healthy Kids • Green Communities • Safe Journeys

Prepared by

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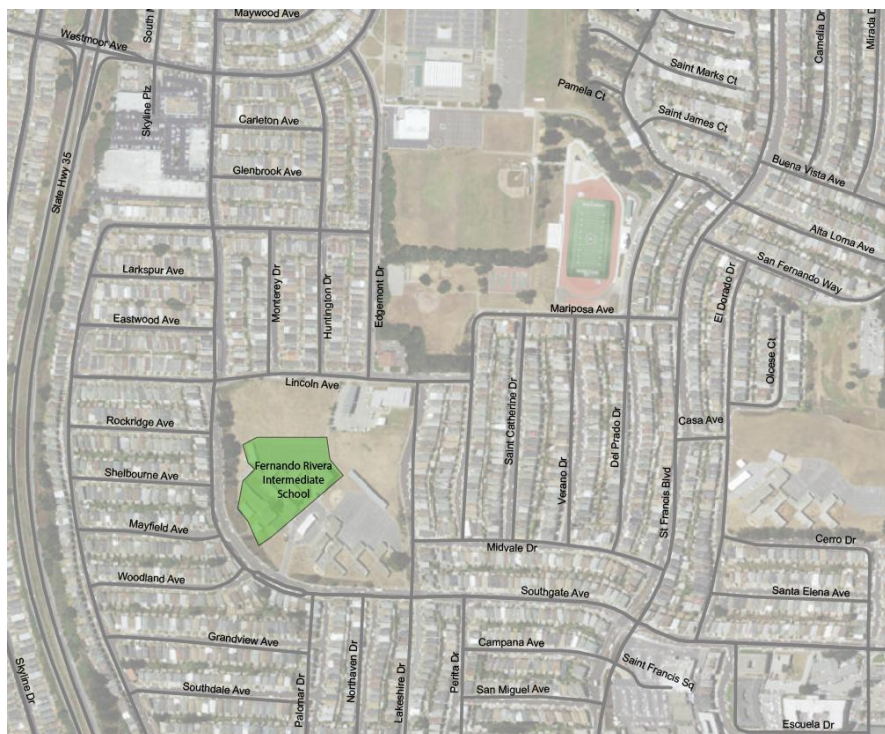
INTRODUCTION

The Jefferson Elementary School District (JESD) received a Safe Routes to School (SRTS) grant to complete Walking and Bicycling Audits at an intermediate school campus. Walking and Bicycling Audits are field visits to identify barriers or challenges to students using these modes of transportation to travel between home and school. Also known as assessments, audits generally include a tour of the school area where participants identify issues related to walking and biking, followed by a debriefing and brainstorming session to rank high-priority concerns and identify potential solutions. Walking and Bicycling Audits provide community stakeholders with the information needed to analyze the design and condition of the transportation network.

A Walking and Bicycling Audit was completed for Fernando Rivera Intermediate School on November 4, 2015. Staff and parents from Fernando Rivera Intermediate School, as well as staff from the City of Daly City partnered with the selected engineering consulting firm of Kimley-Horn to complete the field audit. This group constituted the site council for Fernando Rivera Intermediate School. Subsequent to the field audit, the site council met to discuss observations and concerns and brainstorm improvements. This report summarizes existing conditions and field observations from the walking and bicycling audits, and includes recommendations for the City and Jefferson Elementary School District to improve walking and bicycling conditions.

FERNANDO RIVERA INTERMEDIATE SCHOOL

Below is a map showing the Fernando Rivera Intermediate School and its surrounding area. There are currently 483 students for the 2015-2016 school year. The school serves students from sixth through eighth grade.



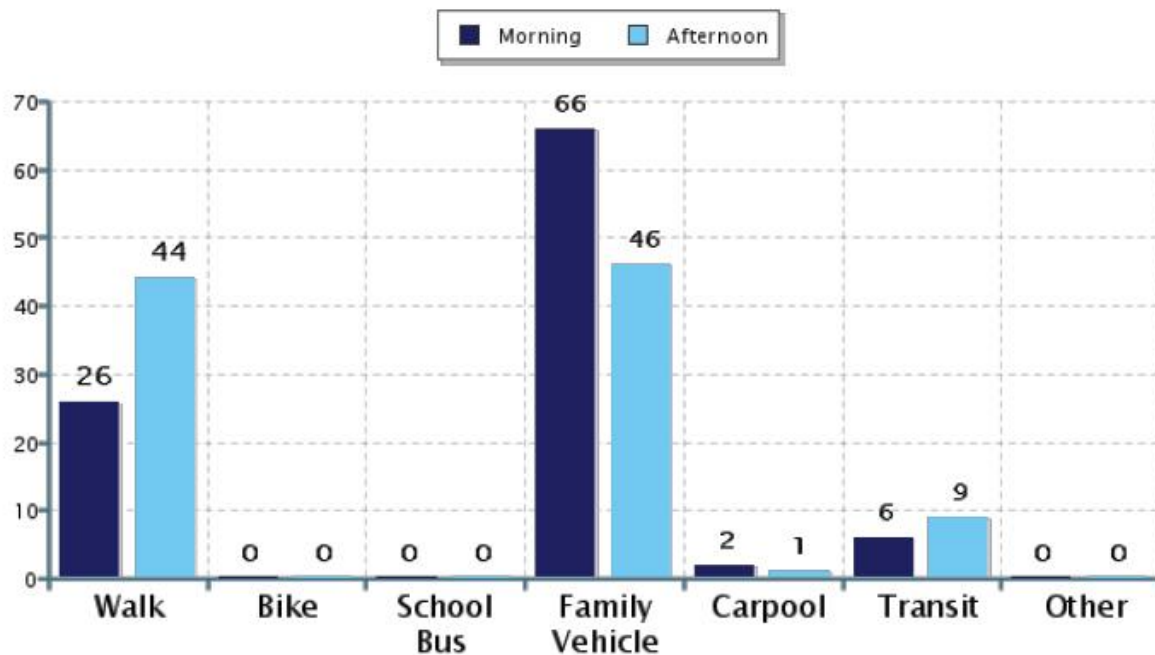
It should be noted that Thomas Edison Elementary School is located next to Fernando Rivera Intermediate School. The two schools share a driveway and a parking lot. The Jefferson Elementary School District offices are located on Lincoln Avenue, just west of Lakeshire Drive and are immediately adjacent to the school through the play fields.

SURVEY RESULTS

In the fall of 2012, an in-class travel survey was conducted for Fernando Rivera Intermediate School. The survey collected responses from 16 classrooms.

Based on survey responses, the main mode of transportation is by family vehicles, which accounts for 66 and 46 percent of the trips in the morning and afternoon, respectively. The second most common means of getting to school is walking at 26 and 44 percent during the morning and afternoon, respectively.

Modal Split for Morning and Afternoon School Trips



Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	863	26%	0.3%	0%	66%	2%	6%	0.3%
Afternoon	857	44%	0.4%	0%	46%	0.7%	9%	0.2%

Percentages may not total 100% due to rounding.

FIELD AUDIT

The field audit at Fernando Rivera Intermediate School focused on the following main areas of concern by the group:

Southgate Avenue (between Westmoor Avenue and Escuela Drive): This section of Southgate Avenue experienced high levels of pedestrian activity and high levels of parking activity by parents. Some observations during the field audit include:

- Along this segment there is on-street parking and bicycle lanes on both sides of Southgate Avenue. Double parking was observed along Southgate Avenue, especially at the following locations:
 - Staircase to the intermediate school located between Mayfield Avenue and Woodland Avenue
 - Multiple entrances to elementary school between Northaven Drive and Lakeshire Drive
- Access to the intermediate school is primarily along Southgate Avenue. Students can access the school campus at the following four (4) locations along Southgate Avenue:
 - Near the bus stop at Southgate Avenue and Lincoln Avenue
 - Gate near Rockridge Avenue
 - Staircase near Mayfield Avenue
 - School driveway between Woodland Avenue and Palomar Drive
- The school driveway is located off of Southgate Avenue, just south of Woodland Avenue. The driveway connects to the school parking lot for both Fernando Rivera Intermediate School and Thomas Edison Elementary School.
 - There is no Stop sign for southbound vehicles leaving from the school driveway.
 - The school driveway is signed as No Left Turn for vehicles exiting from the school driveway between 8:00-8:30 AM and 2:45 PM – 3:15 PM, however it was observed that some vehicles ignore the signage and make a left-turn out of the driveway.
- There is an all-way stop at the intersection of Southgate Avenue and Palomar Drive. It was observed that the stop sign on the east leg is blocked by parked cars and the crosswalk striping is faded. It was noted that there have been incidents at this intersection.
- There are student and adult crossing guards at the following crosswalks along Southgate Avenue:
 - North leg at Shelbourne Avenue (Adult crossing guard)
 - At School Driveway (Adult crossing guard, only during afternoon pick-up)
 - West leg at Palomar Drive (Adult crossing guard)
 - North and west leg at Lakeshire Drive (Student crossing guard)

Lakeshire Drive (between Lincoln Avenue and Southgate Avenue): This section of Lakeshire Drive experienced high levels of pedestrian activity and high levels of parking activity by parents. Some observations during the field audit include:

- Along this segment there is on-street parking on both sides of Lakeshire Drive. It was observed that Lakeshire Drive was very congested due to the large volumes of vehicles on Lakeshire Drive and many vehicles double parked along Lakeshire Drive.
- There is a short passenger loading zone for southbound traffic located at the intersection of Lakeshire Drive and Midvale Drive. The loading zone can hold up to two (2) cars and loading

activity is restricted to 8:00 AM – 9:00 AM and 2:00 PM – 3:00 PM. This loading zone should be extended north to accommodate more vehicles.

- Currently the intersection of Lakeshire Drive and Midvale Drive is a side-street stop controlled intersection with a stop sign on Midvale Drive. It was observed that vehicles do not yield to pedestrians trying to cross Lakeshire Drive.
- There are students that participate in cross-guarding activities. This was observed at the following locations along Lakeshire Drive:
 - Intersection of Lakeshire Drive and Southgate Avenue
 - Intersection of Lakeshire Drive and Midvale Drive

Lincoln Avenue (between Southgate Avenue and Lakeshire Drive): This section of Lincoln Avenue experienced moderate to high levels of pedestrian activity. Some observations during the field audit include:

- The school district offices are located off of Lincoln Drive, at the Edgemont Drive intersection. It was observed that parents sometimes use the district parking lot to access both schools, but mostly the intermediate school.
 - The district parking lot allows two way traffic. It is recommended that the current parking lot be reconfigured to be one-way throughout the lot to make operations in the lot operate more smoothly.
- Currently there is no sidewalk that connects the district offices to Fernando Rivera Intermediate School, however there is potential for a new pathway from the intermediate and elementary school to the district offices.
- There is a field south of Lincoln Avenue and west of the school district offices. There is potential to redevelop this field to accommodate more student loading areas as well as other facilities for the two schools.

Westmoor Avenue (between Mayfair Avenue and Southgate Avenue): This section of Westmoor Avenue experienced moderate levels of pedestrian activity. Some observations during the field audit include:

- The Skyline Plaza is a commercial plaza located south of Westmoor Avenue between Skyline Boulevard (SR-35) and Southgate Avenue. It was noted that many students walk through the plaza's parking lot and use the crosswalks at Westmoor Avenue and South Mayfair Avenue to access the residential areas north of Westmoor Avenue. There should be improvements to the lighting for the crosswalks crossing Westmoor Avenue at this intersection.

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













- Signage: Generally the school zone signage is well maintained, although it was observed that some of the school zone and school crossing signs do not comply with the current California MUTCD signage recommendation.
- Walking to campus: Observations as well as experience from the site council noted that a moderate volume of students walk to/from campus daily and this is the most highly used alternative transportation mode besides parents using personal vehicles. In addition, many students and parents were observed to park outside the school campus on adjoining roadways and walk into campus.
- Biking to campus: A very small number of students were observed riding bikes or scooters to/from school.

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

Fernando Rivera Intermediate School Safe Route to School Walk and Bike Audits



Legend

-  School Zone Sign
-  School Crossing Sign
-  Speed Limit Sign
-  All-Way Stop Intersection
-  Existing Curb Ramp
-  White Crosswalk
-  School Crosswalk
-  Bicycle Lane
-  Red Curb - No Parking
-  White Curb - Loading Zone
-  SLOW SCHOOL XING Pavement Marking
-  Crossing Guard



PROPOSED SAFE ROUTES TO SCHOOL ELEMENTS

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

Southgate Avenue (North to South):



- 1*. **Install Red Curb Striping:** Adding red curb striping will prevent cars from parking close to the intersection, thus increasing the visual recognition of pedestrians by turning vehicles. It is suggested that red curb striping be installed 15 feet from each of the corners at the following intersections along Southgate Avenue:

- Lincoln Avenue
- Shelbourne Avenue
- Palomar Drive
- Lakeshire Drive

(Estimated time frame: Short-term, Responsible Lead Agency: City)



2. **Install Stop Sign and Refresh No Left-turn Prohibition:** It is recommended that a stop sign be installed and refresh signage for left-turn restriction for vehicles exiting the school driveway. Installing a stop sign and refreshing the signage should help enforce the left-turn restriction at this location.

(Estimated time frame: Short-term, Responsible Lead Agency: JESD)



3. **Install Bicycle Rack:** Currently Thomas Edison Elementary School does not have any bicycle racks. It is recommended that a bicycle rack be installed on the elementary school campus.

(Estimated time frame: Short-term, Responsible Lead Agency: JESD)



- 4*. **Install Curb Extension and RRFB Crosswalks:** It is recommended that a curb extension and Rectangular Rapid Flashing Beacon (RRFB) crosswalk be installed on the south leg of the intersection of Southgate Avenue and Woodland Avenue. The construction of the curb extension and RRFB crosswalk will require new accessible ramps on the east side of Southgate Avenue.

(Estimated time frame: Medium-term, Responsible Lead Agency: City)



5. **Install Enhanced Crosswalks:** Enhanced crosswalk striping is the most visible crosswalk pattern for drivers. It is recommended that enhanced crosswalk striping replace existing crosswalks the intersection of Southgate Avenue and Palomar Drive.

(Estimated time frame: Short-term, Responsible Lead Agency: City)

*Need to be reviewed by City's Traffic Safety Committee and requires approval by City Council.



- 6. Relocate Stop Sign and/or Install Red Curb Striping:** Westbound drivers sometimes may not see the stop sign at Southgate Avenue and Palomar Drive due to parked cars blocking the sign. It is recommended that the stop sign be relocated and/or red curb be installed to make the stop sign visible for drivers. (Estimated time frame: Short-term, Responsible Lead Agency: City)

Lakeshire Drive (North to South):



- 7*. Extend Passenger Loading Zone:** It is recommended that the passenger loading zone on the west side of Lakeshire Drive be extended approximately 365 feet north to the elementary school northeast gates, accommodating approximately 14 additional vehicles. This extension of the loading zone will have the same time restriction as the existing loading zone. There should also be signage which indicates these parking restrictions. (Estimated time frame: Short-term, Responsible Lead Agency: City)



- 8*. Install Red Curb Striping:** It is suggested that red curb striping be installed 15 feet from each of the eastern corners at Lakeshire Drive and Midvale Drive. (Estimated time frame: Short-term, Responsible Lead Agency: City)

Lincoln Avenue (East to West):



- 9*. Install Red Curb Striping:** It is suggested that red curb striping be installed 15 feet from each of the corners at the following intersections along Southgate Avenue:
- Monterey Drive
 - Edgemont Drive
- (Estimated time frame: Short-term, Responsible Lead Agency: City)



- 10. Develop Formal Student Pick-up/Drop-off Procedure and Reconfigure District Parking lot:** Currently there are some parents that utilize the parking lot for student drop-off and pick-up. It is recommended that the school develop a formal procedure for student drop-off/pick-up activities in the District parking lot for heavy days of traffic.

It is also recommended that the District parking lot to be reconfigured to be one-way to increase operations in the lot. (Estimated time frame: Short-term, Responsible Lead Agency: JESD)



- 11. Construct new walking pathway:** It is recommended that a new walking pathway be installed to connect the District Offices with the two schools to the south. (Estimated time frame: Medium-term, Responsible Lead Agency: JESD)

*Need to be reviewed by City's Traffic Safety Committee and requires approval by City Council.

- 12*. Install White Curb Striping:** It is recommended that an additional passenger loading zone be installed on the south side of Lincoln Avenue approximately between Monterey Drive and Huntington Drive, accommodating approximately 6 vehicles. This passenger loading zone should have the same time restriction as the existing loading zone on Lakeshire Drive. There should also be signage which indicates these parking restrictions.



(Estimated time frame: Medium-term, Responsible Lead Agency: City)

- 13. Redevelop northern field:** It is recommended that the School District and the School look into redeveloping the field north of the intermediate school. Possible ideas for redevelopment include constructing a new student drop-off/pick-up area, new staff parking lot or new school facilities such as field track or soccer field. A combination of these potential uses would maximum the outcome for impact on school traffic while increasing school facilities.



(Estimated time frame: Long-term, Responsible Lead Agency: JESD)

Westmoor Avenue:

- 14. Signal Warrant:** It is recommended that a signal warrant be conducted for the intersection of Westmoor Avenue and South Mayfair Avenue. The signal warrant analysis should also consider coordination with the existing signals along Westmoor Avenue at SR-35 Ramps.



(Estimated time frame: Short-term, Responsible Lead Agency: City)

- 15*. Install RRFB crossing and removed crosswalk:** As an alternative recommendation to #12, an RRFB crossing should be installed on the west leg of Westmoor Avenue and Skyline Plaza to improve visibility for motorist. The east crosswalk should be removed to direct pedestrians to use the RRFB crossing.



(Estimated time frame: Medium-term, Responsible Lead Agency: City)

*Need to be reviewed by City's Traffic Safety Committee and requires approval by City Council.

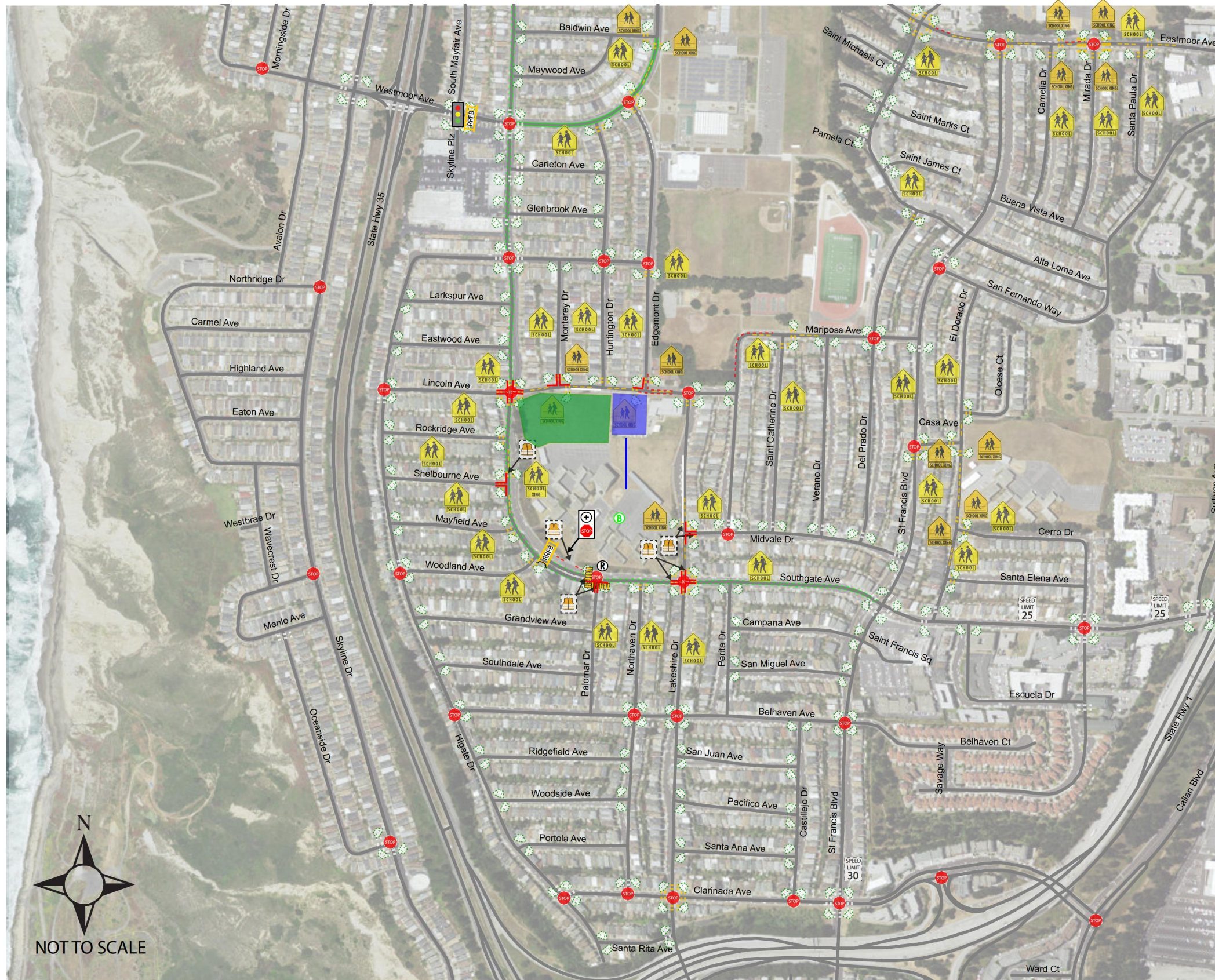
Overall School Zone Study Area:

16. Currently the bell schedule for Fernando Rivera Intermediate School and Thomas Edison Elementary school causes an overlap during drop-off and pick-up periods. It is recommended that the bell schedule for the schools change slightly to reduce the overlap in drop-off and pick-up periods and reduce traffic congestion surrounding the school.
17. Some of the school-related roadway signage is not up to date based on the current version of the California Manual on Uniform Traffic Control Devices (MUTCD). This most recent version includes updates to sign text and/or images, as well as standards for sign retro-reflectivity. It is recommended that future efforts for funding the elements of this plan also inventory the status of the current school signage and update all signs to the current standard. Specifically, many of the school zone and school crosswalk signs in the school area are based on previous sign standards and should be updated as other elements of the SRTS plan are implemented.

Vehicular Drop-off and Pickup Procedures:

18. Although the primary goal of the Walk and Bike Audit is to encourage additional walking and biking through safety improvements of physical roadway features, the general safety of school area was also observed. For Fernando Rivera Intermediate, there is a small on-site parking lot for student drop-off and pick-up. It is suggested that during the afternoon pick-up, two staff members work a call-out system for this area. Each staff would have a walkie-talkie where one staff member is stationed at the southern end (the beginning of the queue) and one staff member is stationed at the northern end (the end of the queue). The staff member on the southern end would ask entering vehicles which student(s) the vehicle is picking up and notify the staff member at the north end through the walkie-talkie. The staff member at the north end would call out and get the student ready to enter the vehicle once the vehicle reaches the beginning of the queue. This process should help improve the efficiency of the loading area.

Fernando Rivera Intermediate School Safe Route to School Walk and Bike Audits



NOT TO SCALE

Legend

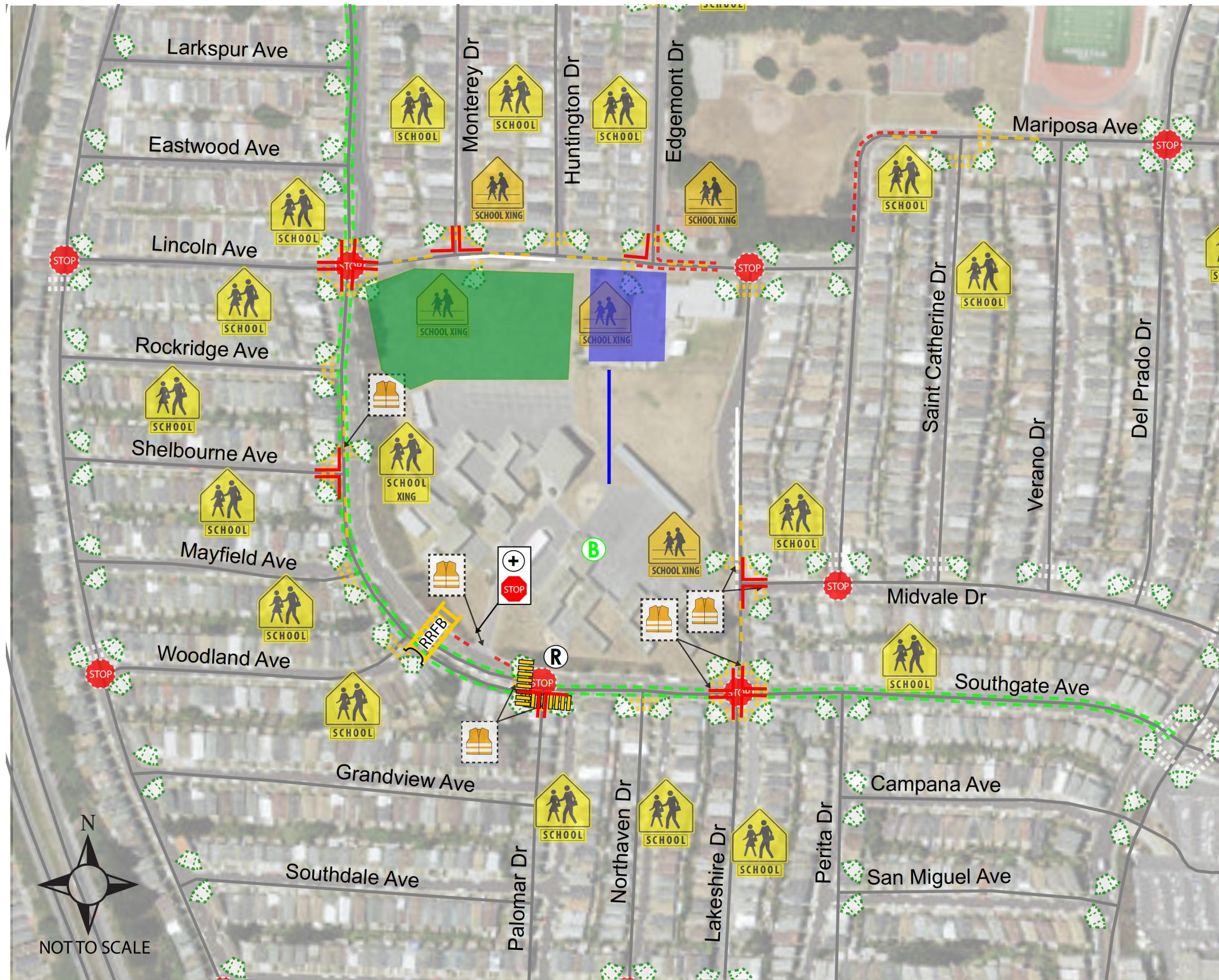
Existing

- School Zone Sign
- School Crossing Sign
- Speed Limit Sign
- All-Way Stop Intersection
- Existing Curb Ramp
- White Crosswalk
- School Crosswalk
- Bicycle Lane
- Red Curb - No Parking
- White Curb - Loading Zone
- SLOW SCHOOL XING Pavement Marking
- Crossing Guard

Proposed Improvements

- Install Stop Sign
- Curb Extension
- Enhanced School Crosswalk
- Enhanced School Crosswalk (with Rectangular Rapid Flashing Beacon)
- Install Walkway
- Red Curb - No Parking
- White Curb - Loading Zone
- Install Bike Racks
- Relocate Stop Sign
- Conduct Traffic Signal Warrant
- Reconfigure District Parking Lot
- Redevelop Field for combined athletic field, pick-up and drop-off, and parking.

Fernando Rivera Intermediate School Safe Route to School Walk and Bike Audits



Legend

Existing

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Proposed Improvements

- Install Stop Sign
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- Reconfigure District Parking Lot
- Redevelop Field for combined athletic field, pick-up and drop-off, and parking.



TYPICAL SAFE ROUTES TO SCHOOL SUMMARY

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

SRTS Element	Application in accordance with:	Image	Dimensions (W x H)	Typical purpose	Typical Cost Range**
SIGNS					
SCHOOL SPEED LIMIT	California MUTCD, Part 7, Section 7B.15 (School Speed Limit Assembly C (CA))		(24" x 8") + (18" x 24") + (24" x 10")	To indicate the speed limit where a reduce speed zone for a school area has been established	\$300 - \$500
SPEED LIMIT FEEDBACK	California MUTCD, Part 2, Sections 2B.13 (Vehicle Speed Feedback Sign)		(30" x 30")	To display to approaching drivers the speed at which they are traveling. Enhances driver awareness of their speed, especially when used in condition with speed limit sign (R2-1)	\$12,500 - \$17,500
NO PARKING ANYTIME	California MUTCD Part 2, Section 2B.46 (R26(CA))		(12" x 18")	To prevent parked or waiting vehicles from blocking pedestrians' views, and drivers' view of pedestrians	\$300 - \$500
NO STOPPING ANYTIME	California MUTCD Part 2, Section 2B.46 (R26(S)(CA))		(12" x 18")	To inform motorist of a no stopping zone at a specific location where red curb marking is not used.	\$300 - \$500
SCHOOL PASSENGER LOADING ONLY	California MUTCD, Part 2, Section 2B.46 (R25D(CA))		(12" x 18")	To inform motorist of curb restriction at location for loading or unloading passengers for the time as specified by local ordinance.	\$300 - \$500
PEDESTRIAN ELEMENTS					
SCHOOL CROSSING WARNING SIGN	California MUTCD, Part 7, Section 7B.08 (School Crossing Warning Assembly B (CA))		(30" x 30") + (24" x 8")	Installed at marked crosswalk, or as close to it as possible to show the location of the school crossing.	\$300 - \$500
PEDESTRIAN COUNTDOWN SIGNAL	California MUTCD, Part 4, Section 4E.07			To inform pedestrians of the number of seconds remaining in the pedestrian change interval.	\$1,500
RECTANGULAR RAPID FLASHING BEACON (RRFB)	Federal High Administration approval per California MUTCD, Section 1A.10, Approval No. IA-11-83-RRFB-California Statewide		Beacon (4" x 29") + Warning Signs	For use at uncontrolled pedestrian and school crosswalk locations.	\$50,000+
IN-ROADWAY LIGHTS	California MUTCD Part 4, Chapter 4L		~10" deep x ~7.5" Diameter	To warn road users that they are approaching a condition on or adjacent to the roadway that might not be readily apparent and might require the road user to slow down and/or come to a stop.	\$50,000+
CURB RAMP	Caltrans 2010 Standard Plan A88A and A88B		Varies	To make sidewalks accessible for those who need mobility or visual assistance.	\$3,000 - \$4,000
BICYCLE ELEMENTS					
BICYCLE LANE	California MUTCD, Part 9, Section 9C.04		Varies	Pavement marking designated that portion of the roadway for preferential use by bicyclists.	\$100-\$150 per bike and arrow
BICYCLE LANE SIGN	California MUTCD, Part 9, Section 9B.04 (R81(CA))		(12" x 8")	Installed at the beginning of each designated Bike Lane and along each Bike Lane at all major changes to regulated bicycle and motor vehicle traffic.	\$300 - \$500
NO PARKING BIKE LANE SIGN	California MUTCD, Part 9, Section 9B.10 (R7-9)		(12" x 18")	To restrict parking, standing, or stopping in a bicycle lane.	\$300 - \$500
BICYCLE + SHARE THE ROAD	California MUTCD, Part 9, Section 9B.18 (W11-1)		(30" x 30")	To warn motorist to watch for bicyclists traveling along the highway.	\$300 - \$500
ROADWAY IMPROVEMENTS					
CURB EXTENSIONS	City Jurisdiction		Varies	Improves safety for pedestrians and motorist at intersection. Increases visibility and reduces speed of turning vehicles.	Varies
RAISED PEDESTRIAN CROSSINGS	City Jurisdiction		Varies	Improves safety for pedestrians by increases visibility for drivers and reduces speed of vehicles.	Varies
SLOW SCHOOL XING PAVEMENT MARKINGS	California MUTCD, Part 7, Section 7C.03		N/A	Warning drivers in advance of all yellow school crosswalks.	\$400 per marketing set

**Some of these cost reflect only the furnish price of the item; cost to install is not included.

Fernando Rivera Intermediate School SRTS Safety Audit Site Council

School Staff, Faculty, Parents, and Students Participating

Dina Conti (Principal)
Riza Bell (Thomas Edison School Principal)
Hannah Lui
Jamie Nakunzi
Mike Santiago

Fernando Rivera Intermediate School

Dina Conti

City of Daly City

Shirley Chan

Off. Jason Craig

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