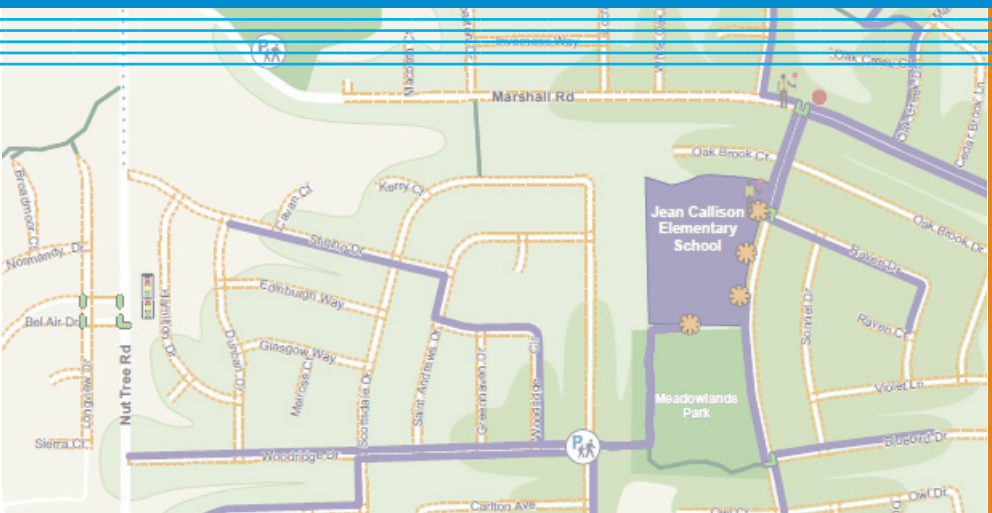
Solano Transportation Authority

safe routes to school

Plan Update

SRTS Safe Routes to School Program



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STA Solano Transportation Authority ...working for you!

alta PLANNING + DESIGN

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PART ONE
Countywide Planning

Executive Summary

The Solano County Safe Routes to School (SR2S) program is a multifaceted effort to increase the number of students who walk, bike, rideshare, or take transit to and from school. The benefits from increased use of these travel modes are myriad: it can improve air quality, reduce congestion around schools, reduce health risks associated with childhood obesity, improve safety around schools, teach students safety skills, improve students' focus in the classroom, and foster a closer sense of community among participants. Since 2007, the Solano County SR2S program has focused on educating students at special events, enforcing traffic laws in school zones, installing safety improvements, and encouraging families to sidestep traffic in favor of "walking & rolling" to school.

STA completed and adopted a SR2S Plan in 2008. This document is an update to that plan and refocuses the goals of the program while providing new and expanded material for prioritizing future program investments. This plan was formed over multiple rounds of input with stakeholders at the countywide and individual jurisdiction/school district levels.

The 2013 Plan Update includes evaluation of progress on the goals and objectives of the STA 2008 SR2S plan, school site walk audit evaluations for seventeen schools around the county, an introduction to new program materials (including new suggested route to school maps and route planning tools), and data results collected from both student and parent travel surveys.

The Plan seeks to create a balanced approach to Safe Routes to School, using all five "E's" of a Safe Routes to School program: Engineering, Enforcement, Encouragement, Education, and Evaluation. This plan also introduces a sixth "E" – Engagement – to further the goals of the program and impact on student families in Solano County. These six "E's" will inform the goals, strategies, and tactics of the STA SR2S program in future years to achieve desired changed in the travel habits of students, parents, and other travelers within school zones.

Using the 2013 STA SR2S Plan

The 2013 Solano County Safe Routes to School (SR2S) Plan Update ('the Plan') functions as a tool for decision makers involved in the Safe Routes to School program. The Plan is both an update of the 2008 STA SR2S Plan and a stand-alone document for guiding the program into the future.

The Plan provides an introduction to the Safe Routes to School Program and a review of accomplishments in previous years as measured against the 2008 STA SR2S Plan goals and objectives. The Plan then provides new goals for the STA SR2S program, informed by previous years' experiences and by the desire to expand the scope and effectiveness of the current program.

Within this document are both a countywide framework for the Safe Routes to School Program and local planning chapters for each municipality. The local planning chapters can be taken as stand-alone documents for use by city and school district staff.

The Plan also provides an engineering program chapter that highlights priority capital improvements recommended within the Plan, and documents the data collection, ranking, and plan review process. A funding chapter is also provided that lists the national, state, and regional sources of funding that can support the STA SR2S program activities.

Program Accomplishments

Administered by the Solano Transportation Authority (STA) – and in partnership with Solano County Public Health, air quality management districts, police departments, city governments, school districts, and dedicated parent volunteers – the program has successfully leveraged over $2 million to date to build a broad portfolio of activities aimed at improving school travel. These include:

- **Traffic Safety Assemblies & Bicycle Rodeos**. Class assemblies and skills training have reached over 50,000 kids since 2010 with training to ride and walk safely, with confidence, and for fun. Over 700 helmets have been properly fitted and distributed at these events.
- **Walk & Roll Encouragement Events**. Schools and neighbors celebrate International Walk and Bike to School days in the fall and spring, and are supported to hold similar events and contests throughout the year.
- **Safe Routes to School Capital Improvements**. After more than a dozen walk audits[1] were held at schools in 2007, local jurisdictions received funding to install 40 speed feedback radar signs and a number of major roadway safety projects. These upgrades ranged from sidewalk widening and new crosswalks at school entrances, to a new Class I shared use trail overcoming a major barrier, to substantial reconfigurations of intersections and corridors that improve pedestrian safety and support more walking and biking.

Program Expansion

Aided by recommendations from the 2008 STA SR2S Plan and years of experience working directly with schools, agency staff, parents and other stakeholders, the SR2S program is also expanding or preparing to expand several successful pilot efforts:

- **Traffic Safety Enforcement Partnership**. This pilot program involving the Fairfield and Suisun City Police Departments supports dedicated funding for officers to enforce traffic laws during bell times, and to develop (and administer) crossing guard training materials for use throughout the county. Funding for this program continues into 2013, and is under consideration for expansion to other jurisdictions.
- **Suggested Routes to School Mapping**. In 2009, a pilot methodology was developed and tested at 15 schools for identifying and mapping the "safest and most direct" walking/biking routes to school using Geographic Information Systems (GIS) software. Additional data collection and mapping for the remaining 67 eligible schools was completed in 2012, and has resulted in a variety of route planning and encouragement tools that will be utilized to promote the program over the next several years.
- **Walking School Bus Program**. Solano County Public Health initiated a pilot Walking School Bus program early in 2011 at four elementary schools. STA and Solano County Public Health subsequently were awarded a $500,000 federal grant to expand the program to all elementary schools by 2016. Lessons learned from the pilot effort, which helped organize a number of local "buses" through sustained outreach, will be included in an upcoming training manual that will help prepare new walking school bus coordinators and parent champions.

[1] See Appendix E for a more detailed description of walk audits.

These new and ongoing efforts constitute an exciting work program for the next several years, and are specifically designed to address barriers to walking and biking most often cited by parents. These concerns include "stranger danger," or the fear of kidnapping, and unsafe traffic conditions due to poor infrastructure and driver behavior. Despite these concerns, nearly 3 in 10 students travel to school on foot, bicycle, or another active transportation mode in 2012. A more detailed analysis of historic student hand tally data and results from a new parent survey (conducted between Fall 2011 and Fall 2012) are included in **Section 2.4** and **Appendix B**.

Moving Forward

The 2013 STA SR2S Plan Update identifies a number of opportunity areas to improve and expand the Safe Routes program, and lays out a revised planning framework to guide implementation. This framework includes the following four goals:

1. **Improve the health of Solano County children by focusing attention on and increasing active travel to school**
2. **Facilitate school travel routes are accommodating, safe, convenient, and 'complete' for all modes**
3. **Support sustainable communities by reducing school-related traffic congestion, air pollution, and vehicle miles traveled (VMT)**
4. **Develop and sustain a SR2S program for the long-term**

Accompanying each of these goals are targeted objectives, priority programs, and suggested benchmarks to guide program refinement and evaluation. Priority program recommendations include the following:

- **Emphasis on 'Engagement' as an additional "E" and focus area**. Recent website and social media upgrades support greater engagement opportunities for parents, opportunities for program feedback, and promotion of new materials. Together with other strategies to cultivate school and parent champions, these tools will be critical to the expansion of the walking school buses and sustainability of the program over time.
- **Development of a Local Infrastructure Program**. While successful in leveraging outside funding for programmatic activities, there is broad consensus among SR2S stakeholders that more efforts are needed to improve the physical environment around schools. The program is poised to take advantage of its recently expanded local travel plans and extensive school route data inventory to advance priority projects.
- **Continued Refinement & Expansion of Skills Training and Curricula**. Further development and maturation of the SR2S program should focus on expansion to middle and high schools as a natural progression of Safe Routes training/education from early childhood to adolescence. To the maximum extent possible, basic skills training should be integrated into routine school curriculum and new programs should be developed that encourage repeat visits to interested schools as well as a focus on parent and family-oriented education.

This framework both reflects and expands current program emphases while encouraging greater alignment with regional funding priorities and sources. Recommendations are based on analysis of parent surveys and priority school travel activities, experience from other Bay Area programs, and discussions with STA and Solano County Public Health staff, as well as the countywide Safe Routes to School Advisory Committee.

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Promotion of a "Walk & Roll" event at Orchard Elementary

1 Introduction

1.1 Why a Safe Routes to School Plan?

Safe Routes to School (SR2S) refers to a variety of multi-disciplinary programs aimed at promoting walking and bicycling to school. Students are encouraged to walk or bike more often through improving traffic safety around schools, through physical improvements to the built environment, through educating students and parents about safe habits and the benefits of walking and biking, through encouragement programs such as contests or programmed incentives, and through working with local police departments to enforce safe behavior around school grounds. Safe Routes to School programs typically involve partnerships among municipalities, school districts, community and parent volunteers, and law enforcement agencies.

A successfully implemented Safe Routes to School program can serve as the nexus of improvements to: traffic & congestion, air quality, reduced childhood obesity rates, improved learning environments, and improved safety around schools. Consider the following:

- The number of students walking and biking to school has significantly dropped within the space of one generation, from nearly half of all students in 1969 to fewer than 15% in 2009. While families living further away from schools due to urban development patterns play a role in this change, there has also been a large shift in behavior of those who can walk to school. In 1969, 88% of students living within a mile of school walked or biked; today, in 2009, only 38% of students living within a mile of school walk or bike[2].
- All those students who used to walk to school are mostly being driven to school by their parents. Congestion around schools in the morning can account for up to 25% of all traffic volume during morning rush hour. The more parents drive to school, the more traffic there is around school, the more parent concern there is over traffic and pedestrian safety. Promoting walking and biking to school breaks this self-perpetuating cycle, reducing the number of parents driving to school, which reduces congestion and traffic, which lowers safety concerns about students walking and biking around school grounds.
- While the number of students walking and biking to school has dropped sharply since 1969, the rate of childhood obesity has spiked fourfold over the same period. Solano County is especially hard-hit: 23% of children 5-19 are overweight; nearly a third of all 5th, 7th, and 9th graders are overweight[3], and; nearly 78% of students in Solano County get less than the minimum

[2] http://guide.saferoutesinfo.org/introduction/the_decline_of_walking_and_bicycling.cfm
[3] http://www.co.solano.ca.us/bosagenda/MG47003/AS47010/AS47012/AI48681/DO48709/DO_48709.pdf

recommended amount of exercise. Walking or biking to school provides daily opportunities for students to get the exercise they need.

- Vehicle emissions are a significant contributor to childhood asthma rates. In Solano County, 14% of county residents are reported to suffer from asthma symptoms – the highest rate in the state[4]. By encouraging walking and biking to school, and reducing the number of vehicles around school grounds, Safe Routes to School can improve air quality for students near schools.
- Walking and biking to school in the mornings can also provide an educational boost. Students who exercise on their way to school in the morning arrive more awake, alert, and ready to learn.

1.2 The "E's" of Safe Routes to School

Comprehensive Safe Routes to School programs include a wide range of elements and strategies. The varying program elements are typically organized into the five "E's" of a Safe Routes to School Plan: Engineering, Education, Encouragement, Enforcement, and Evaluation. For the 2013 Solano Transportation Authority's Safe Routes to School Plan Update (STA SR2S Plan Update, or 'the Plan'), a sixth "E" of Engagement has also been includes to emphasize the importance of communication with school parents and student-focused themes relevant for all grade levels to further the goals of the program. Each of these "E's" is described in further detail below.

Engineering

Engineering is the most concrete of all the E's. It consists of identifying and implementing safety improvements and addressing egress/ingress issues in the built environment around school grounds. This can include things as simple as new signage, curb striping, crosswalks, or bike lanes. It can also include more expensive and ambitious treatments such as curb extensions, new traffic signals, and multi-use pathways. Each treatment is meant to improve the safety of pedestrians, bicyclists, and drivers near school grounds and improve connectivity with adjacent neighborhoods. Engineering may also include providing expert input on issues such as school siting and enhancing neighborhood connectivity with new development.

Education

Education programs teach students about how to walk and bike safely in their communities, about the benefits of walking and biking to school, and educate drivers how to interact safely with student bicyclists and pedestrians. Educational programming requires cooperation between principals, schools districts, teaching staff, PTA/PTO groups, and parents. Educational programs often coincide with Encouragement programs.

Encouragement

Encouragement activities are typically geared towards students and parents who live close enough to walk or bike to school, but don't, as well as to families that otherwise find ways to reduce chauffeured car trips to school. These take the form of special events such as Walk to School Day, clubs, or contests which help develop a culture of walking and biking to and from school, and can cultivate healthy habits for life.

[4] http://www.co.solano.ca.us/depts/ph/hpe/programs/asthma_education.asp

Encouragement initiatives also include more broad-based work with all of the Safe Routes to School partners to incorporate SR2S in plans, policies, and initiatives.

Enforcement

These are strategies to reinforce safe behavior from pedestrians, bicyclists, drivers, students, and parents around school grounds. While some enforcement strategies rely upon law enforcement, there are other strategies utilized by schools to improve safety without the use of a police officer.

Evaluation

Evaluation of Safe Routes to School programs is important to understanding what works and what doesn't for each community. Evaluation tools typically take the form of in-class hand tallies and parent surveys.

Engagement (New)

Engagement strategies are highlighted to help open up lines of communication and involvement among all stakeholders for the benefit of an improved Safe Routes to School program. Key stakeholders to engage include parents, as well as older students for programmatic efforts that attempt to reach middle and high school students.

1.3 How We Created the Plan

The 2013 STA Safe Routes to School Plan Update process included multiple rounds of stakeholder input from each of Solano County's seven cities and eight individual school districts. The update involved a number of inter-related tasks that mutually informed the progression and development of recommendations contained within this document.

SR2S Countywide Advisory Committee and Local Community Task Forces

The Consultant team worked with STA staff to engage and solicit input from the Countywide SR2S Advisory Committee and local community SR2S task forces for all jurisdictions in Solano County, as well as the Travis Unified School District. Advisory Committee membership includes representatives from STA, Solano County Public Health, the County Office of Education, Yolo-Solano Air District, and staff from local school districts, police departments, and public works agencies along with an elected representative from the Countywide Bicycle Advisory Committee and Pedestrian Advisory Committee (BAC/PAC). Community Task Forces met three times to provide feedback on draft suggested route maps and local walk audits, and provide leadership for successfully marketing the new suggested route maps.

Suggested Routes to School Mapping Project

Staff from Alta Planning + Design, in collaboration with Brian Fulfrost & Associates, developed maps for suggested walking and biking routes to school for every participating school in the county's seven school districts. These maps utilized process for determining the most preferable walking route to school based on a wide variety of safety factors. Staff also developed an online tool for parents to view the suggested route maps and provide direct feedback on possible improvements. This tool will allow the suggested route maps to achieve maximum utility by harnessing the local knowledge of concerned residents and stay perpetually updated if and when street conditions change.

Walk Audits

In collaboration with the STA Steering Committee and the Community Task Forces, seventeen schools throughout Solano County were selected for walk audits. Walk audits consisted of staff, task force members, and concerned parents observing conditions and activity around school grounds during pick-up periods in the afternoon. Participants met afterward to brainstorm transportation-based solutions. Walk audits also provided a deeper level of insight and information for the mapping element of the program, allowing staff to experience first-hand the conditions for pedestrians and bicyclists around school grounds.

Results from these new walk audits, and carried over recommendations from the 2008 SR2S Plan, form the basis of the new Local Plans provided in **Chapters 6-13**.

Student Travel Tallies and Parent Survey

The Solano County Safe Routes to School program surveyed students and parents in each school district to determine the baseline mode split and to identify key opportunities to promote walking, bicycling, carpooling, and transit use at each of the seventeen schools. Student hand tallies were conducted in classes, where teachers asked students to raise their hands if they used a particular mode to get to or from school. An online parent survey was made available in multiple languages and promoted for over a year, with additional opportunities for hard copy surveys to be sent home with students.

Priority Projects & Programs

The report's programmatic and engineering recommendations are based on input gathered in meetings with the steering committee and community task forces, at school walk audits, as well as information from the student hand tallies, parent surveys, and enrollment maps. This report identifies a series of programmatic recommendations based on the "5 E's" of the Safe Routes to School system (and on a sixth "E" Engagement), as well as a list of prioritized engineering projects for schools where walk audits were conducted.

1.4 Report Contents

The Solano County Safe Routes to School Plan Update revisits the priorities of the previous 2008 STA SR2S Plan and recommends an augmented and expanded approach to developing the County's SR2S programmatic elements and infrastructural improvements. This report provides recommendations that are both countywide and for the eight cities/school districts [Benicia Unified, Dixon Unified, Fairfield-Suisun Unified School District (FSUSD), River Delta Unified (Rio Vista), Travis Unified, Vacaville Unified, and Vallejo City Unified] in Solano County.

Chapter 2 – Program Overview

Included in this chapter is a summary of the Safe Routes to School program core activities, organization, participation by individual schools, and an assessment of existing school travel information (2008-2011 student hand tally and 2011-2012 parent survey data).

Chapter 3 – Recommended Planning Framework

This Chapter reviews and revises the goals, objectives, and programmatic recommendations from the 2008 STA SR2S plan Also provided in this chapter are existing/recommended SR2S projects and programs throughout the County and their cost estimates.

Chapter 4 – SR2S Engineering Supplement

This Chapter documents the key elements that informed the 2013 Plan Update and Suggested Routes to School Mapping Project. These include a review of existing county and local plans, bicycle/pedestrian crashes, pedestrian school route suitability analysis, school walk audits performed, and capital project prioritization methodology. The chapter also includes examples of best practices for SR2S infrastructure projects and recommended priority projects in the 2013 STA SR2S Plan Update.

Chapter 5 – Funding Sources

This Chapter provides an overview of federal, state, regional, and local funding sources for various elements of the STA SR2S program.

Chapters 6-13 – Local Planning

These chapters, one for each jurisdiction as well as Travis Unified School District, provide localized review and recommendations of Safe Routes to School activities. These chapters also include school travel plans for the seventeen schools where walk audits were held, as well as prioritized projects for each school visited.

Appendices

Appendix A – School Route Pedestrian Suitability Maps by Jurisdiction

Appendix B – Parent Survey Data Reports

Appendix C – Geographic Information Systems (GIS) Route Mapping Documentation

Appendix D – Safe Routes to School Website Blogging Content

Appendix E – Walk Audit Overview Memorandum

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2 Program Overview

The Solano Transportation Authority (STA) Safe Routes to School program traces its roots to the Solano County Travel Safety Plan, originally developed in 1998 to identify safety deficiencies and funding opportunities. In 2005, a Safe Routes to School program was recommended as Phase II of the Solano County Travel Safety Plan Update to address a rising youth obesity issues across the county. STA subsequently secured funding to develop a Safe Routes to School (SR2S) strategic plan.

The program began in 2007 with the establishment of countywide and local task forces and the participation by over a dozen schools in the 2008 SR2S Plan development process. Solano Public Health came on as a partner organization in the 2008/2009 school year. By the 2009/2010 school year, the program's core activities were reaching 8,700 students at 16 schools. Since fall 2010, the STA Safe Routes to School program has expanded programming, planning, and technical assistance to reach over 40 schools throughout the County, with direct involvement from over 40,000 students.

Below is a summary of ongoing programs and special grants, program planning and oversight, individual school participation, and school travel survey information.

2.1 Capital Program Components

The majority of Safe Routes to school activity in Solano County over the last decade has come in the form of infrastructure improvements and capital projects. STA has implemented their own capital programs, assisted cities in the implementation of school-oriented capital programs, and facilitated the combination of funding streams for implementing SR2S projects.

Pre-2008 SR2S Plan

Prior to the 2008 STA SR2S Plan, Solano County had won six infrastructure grants through the California Safe Routes to School funding cycles. These grants focused primarily on sidewalk construction, improvements to existing crossings, and radar speed feedback signage. The grants awarded are shown below in Table 2-1.

Table 2-1: Solano County SR2S Infrastructure Grants

Funding Cycle	Agency	School Name	Description
2001/2002	Vacaville	Eugene Padan Elementary	Construct curb, gutter, sidewalk
2001/2002	Benicia	Robert Semple Elementary	Construct sidewalk and curb ramp; install crosswalk, pavement markings and traffic signs
2001/2002	Solano County	Benjamin Franklin Middle School	Construct curb, gutter, sidewalks, and curb ramps
2002/2003	Solano County	Benjamin Franklin Middle School	Construct curb, gutter, sidewalks, and curb ramps
2002/2003	Vacaville	15 Elementary schools, 3 Middle schools, 3 High schools, 1 Charter school	Install active school zone radar signs and other school crossing signs
2004/2005	Fairfield	E Ruth Sheldon Elementary and T.C. McDaniels School	Construct sidewalk improvements, curb cuts, and crossing improvements

Post-2008 SR2S Plan

The 2008 STA SR2S Plan, which was informed by more than a dozen walk audits, provided STA with a roadmap for future infrastructure improvements at schools around the county. Following the plan's adoption, STA leveraged air quality management district (AQMD) funding to provide 40 radar speed feedback signs for schools around the county. STA also provided support on a number of infrastructure projects and upgrades around the county.

Below is a brief summary of some of the most impactful projects implemented between 2008 and 2012. Detailed descriptions of all recently completed SR2S infrastructure projects are contained within each individual city's local planning chapter.

Benicia – Benicia High

The City of Benicia repaved and reconfigured Military West where it runs alongside the high school. The street had a "road diet" implemented, going from four lanes of traffic to two with a center left-turn lane and the addition of bike lanes. The City also installed curb extensions at key intersections, closed sidewalk gaps, improved left-turn pockets, installed street furniture and upgraded bus stops adjacent to the school.

Dixon – Anderson Elementary

The City of Dixon constructed a sidewalk extension along the front of Linford Anderson Elementary on the northern side of the intersection of East C Street and North 4th Street. The curb extension included ADA accessible curb ramps and a nearby curb was striped white for loading.

Fairfield – Vanden High

Engineering plans for the construction of Vanden High School were endorsed by the 2008 STA SR2S Plan. These improvements included a traffic median at the intersection of Peabody Road at Markeley Lane, a traffic signal at Peabody Road at Dobe Lane, radar speed feedback signage, and improvements to the student parking lot.

Suisun City – Dan O. Root II Elementary

Suisun City striped new crosswalks at two intersections nearby the school and a STOP sign was installed at the exit from the school parking lot.

Vacaville – Will C. Wood High

The City of Vacaville made improvements along the northern side of Marshall Road, coinciding with a reconfiguration of the school parking lot. This included widening the sidewalk from the parking lot eastward to Peabody Road, the construction of a pedestrian island at the intersection of Marshall Road at Peabody Road, bike lanes striped on Marshall Road, and ADA-compliant access to the adjacent football field.

Vallejo – Stefan Manor Elementary

The City of Vallejo constructed a sidewalk extension on Cedar Street beside the school's entrance, relocated a bus loading zone, and striped the curb around the school entrance for loading. The City also installed a speed feedback sign on Georgia Street nearby a crosswalk.

2.2 Non-Infrastructure Program Components

There are four primary SR2S non-infrastructure program activities administered by Solano County Public Health with oversight and support from two STA Safe Routes to School coordinators: traffic assemblies, bicycle rodeos, Walk & Roll events, and a pilot Walking School Bus program. All schools within Solano County's seven school districts are eligible to participate in these programs on a first-come, first-served basis.

Traffic Safety Assemblies

Traffic Safety Assemblies are specially scheduled in-school events that educate students about how to walk and ride to school safely. Meant to effectively reach large numbers of students throughout the County, assemblies often include interactive segments to keep young children engaged and can be customized to target specific grade levels. Presentations last approximately 45-60 minutes and stress the health benefits of active transportation in addition to the focus on travel safety risks and good habits.

Bicycle Rodeos

Bicycle Rodeos are fun, outdoor training courses that teach kids bike riding and safety skills, including proper helmet fitting, hand signals, bicycle safety checks, and understanding basic rules of the road. They provide active learning opportunities outside the classroom, and with real-world equipment. (STA owns 20 bicycles that are transported in a trailer branded with the SR2S logo.) At most rodeos, free bicycle helmets are offered to students who need them; in 2010/2011, over 700 helmets were distributed by Solano County Public Health.

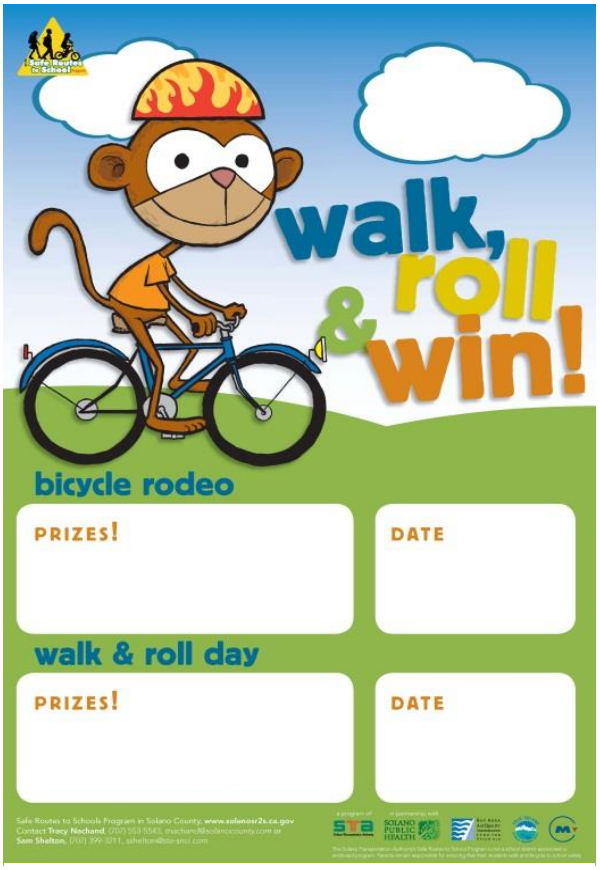
STA bike rodeos are scheduled for individual schools, normally after school in the parking lot or nearby playfield, and typically last between 1-2 hours. A handful of parent volunteers are needed to run a successful bicycle rodeo.

A student having fun at a Solano Safe Routes to School bicycle rodeo, event, in Vallejo.

Image: Robinson Kuntz/Daily Republic

Walk & Roll Encouragement Events

While assemblies and bicycle rodeos focus on direct education of students, STA "Walk & Roll" encouragement events work to spark broader engagement of school communities by emphasizing the fun of walking and biking with family, friends, and neighbors. The two most popular events are Walk to School Day in October, and Bike to School Day/Week in May – both annual dates that are organized and supported by the National Center for Safe Routes to School. In 2011, more than 2,000 students from ten schools participated in October's International Walk to School Week, while elected officials from four cities and over 3,000 students from 14 schools participated in the 2012 Walk to School Day.



The Solano SR2S program provides logistical and material support to schools - including posters, prizes, and fliers – that want to participate in annual or one-time encouragement events

Pilot walking school bus efforts at several schools, including B. Gale Wilson, will help inform a major rollout of walking school buses over the coming years at dozens of elementary schools in Solano County

In addition to these annual events, the STA program works with individual schools to implement one-time contests and ongoing incentives to walk and bike throughout the school year. Key to this effort is the recruitment of volunteers and collaboration with school Parent Teacher Associations (PTA's), school site councils, and other "champions" committed to fostering

Pilot Walking School Bus

Solano Public Health staff assisted STA to launch a pilot walking school bus (WSB) program in the 2011/2012 school year at Edwin Markham Elementary school in Vacaville. The program was expanded in the 2011/12 and 2012/13 school years with three more pilots at Anna Kyle Elementary, B. Gale Wilson Elementary and E Ruth Sheldon Elementary in Fairfield.

A walking school bus is an organized group of students walking together to school, with adult supervision, usually from a school parent. The walking "buses" start and stop at specific places along a designated route, and encourage safety in numbers rather than children and families walking alone. Such a program directly addresses parent safety and convenience concerns that lead many to routinely drive despite close proximity to school. Walking school buses are also not just available to those who live within walking distance of school. Parents can also drive part way to school and have their child(ren) join the WSB at a "park and walk" location along the route.

Walking School Bus Program

In the fall of 2011, STA secured $500,000 in federal grant funding to grow the existing pilot walking school bus program to a countywide walking school bus program at 56 elementary schools over three years. The walking school bus program will focus on education, training, and support for staff and parent volunteers, and will be led by new walking school bus coordinators hired by STA. 'Lessons learned' from the pilot Walking School Bus effort will also be applied to this program. They include the understanding that WSB's work best when supported by parents and school-based parent

groups, thus work is underway to encourage the PTA/PTOs at individual schools to adopt a WSB subcommittee for encouraging and formalizing participation among existing and future parents.

Website & Outreach

STA has established a Solano County SR2S website (www.solanosr2s.ca.gov) to help distribute program information to parents and other interested community members. The website also provides a portal to local and regional SR2S resources and in 2012 was revised to incorporate social media (Facebook), blogging, and interactive comment tools as part of the SR2S Plan Update process. As described in Chapter 4, aggressive promotion and development of online resources is recommended to help directly engage and inform parents as well as older students and local media.

In 2012, STA developed program banners in both English and Spanish to provide a visible presence on school property and to promote the new program website and integrated social media

Other methods to promote the program have included the STA SR2S "At a Glance" brochure, which provides a summary of program offerings and contact information and is distributed among school/ city administrators to encourage participation.

Technical Assistance & Grant Funding

Partnerships are critical to a successful Safe Routes program, but require significant staff time to establish buy-in, prepare agreements, and coordinate implementation. As the County's Congestion Management Agency (CMA), STA has been the leader in forming partnerships and grant packages to provide local jurisdictions with direct financial support and technical guidance to advance school travel priorities and leverage outside funding opportunities. The latter is a particularly important function of the Safe Routes program, since cities may not have the staff to prepare detailed grant applications and can wind up competing against one another if not strategically coordinated. The most recent effort in Dixon to help secure funding for the West B Street railway underpass, which is both a school travel and non-motorized countywide priority, is one such example of STA assistance.

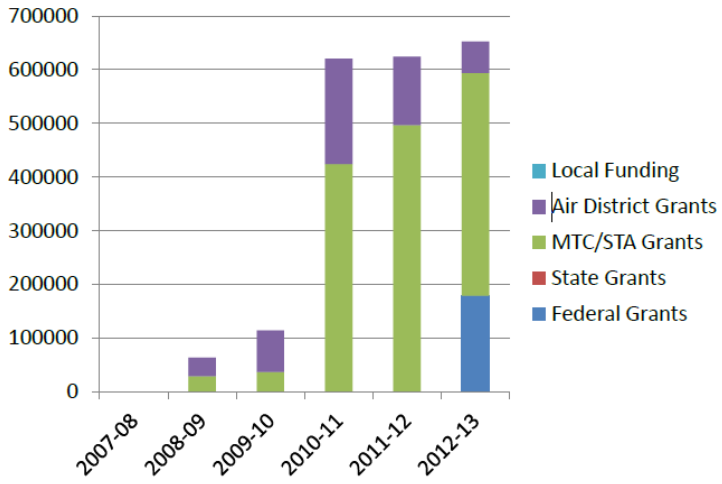


Figure 2-1: SR2S Operating Budget by Grant Source

Below are short descriptions of major SR2S grants, awarded to and/or by STA, that support and expand the core Safe Routes to School programming.

Speed Feedback Signs and Trailers

As one of the first major steps to implement recommendations from the 2008 SR2S Plan, STA directed over $400,000 in Bay Area Air Quality Management District (BAAQMD) and Yolo-Solano Air Quality Management District (YSAQMD) funding for the installation of 30 speed feedback radar signs throughout six cities. Additional speed feedback trailers are available for cities on a rotating basis to help target enforcement "hot spots" and promote awareness of speeding in school areas.

Fairfield-Suisun City Police Enforcement Grant

In the fall of 2011, the police departments for the cities of Fairfield and Suisun City won a joint application for an STA SR2S grant emphasizing education and enforcement around schools. Under the terms of the $100,000 grant, the City of Fairfield dedicated a full-time officer to monitor and facilitate safe travel around school campuses, and the City of Suisun City will continue funding a School Safety Traffic Officer (SSTO). As a direct outcome of the increased police enforcement, 47 citations and 63 warnings were issued to traffic violators in school zones, while countless others improved their driving habits and were exposed to the Safe Routes program.

In addition to police enforcement, the grant helped enhance staffing for traffic safety assemblies and develop a new crossing guard training manual/DVD that will be distributed to schools throughout Solano County and supported by in-person workshops.

Suggested Walking and Biking Routes to School Maps

In 2012, STA developed suggested routes to school maps for 85 schools throughout the county, both in print brochure and online map formats.

Suggested routes to school maps that highlight safe walking and biking pathways are an important component of any Safe Routes to School program. They help orient and support student families new to a school or neighborhood by supplying information about sidewalks, trails, crossing guard locations and other roadway features that affect travel mode choice and route selection. Good maps also encourage parents and students to walk and bike by providing safety tips, travel time information, reminders of the health and environmental benefits of active transportation, and links or references to other Safe Routes to School resources. Often distributed to students at the beginning of the school year, suggested route maps can be the first exposure parents and students have to the Safe Routes to School program.

In 2009, STA funded a pilot project to develop suggested routes to school maps using Geographic Information Systems (GIS) software for over a dozen schools in the county. Data on roadway safety features was collected and assessed to identify and promote the safest and most direct routes to school. By standardizing route identification through a data-driven process, the goal of the pilot was to develop a tool for expanding route maps to all schools within the program and facilitating routine map updates as conditions change over time.

The year following the pilot project, STA was awarded a SR2S "Creative Grant" by the Metropolitan Transportation Commission (MTC) to revise the mapping methodology and develop/promote maps for all 85 or so participating schools in the county. Along with hard copy map brochures and a GIS mapping manual for future revisions, the grant has helped develop a Google Maps-based web tool and training series that will be integrated with and support the Walking School Bus program (discussed below). The mapping project was also the primary impetus for updating STA's Safe Routes to School Plan and program website, and has resulted in a comprehensive database of sidewalk and roadway conditions within at least 0.6 miles – or about a 20-minute walk – around every school.

Both the creative mapping grant and an overall increase in direct SR2S support (as documented in **Figure 2-1**: SR2S Operating Budget by Grant Source) are part of MTC's Climate Action Initiative, which aims to reduce greenhouse gas emissions and vehicle miles travelled through a variety of strategic programs. More details on the suggested route to school map development process are provided in **Section 4.2**. Citywide maps documenting priority school routes and pedestrian suitability assessments are provided in **Appendix A**. Suggested route map brochures are available for distribution to every school and printing from the program website.

2.3 Planning & Oversight

STA and the cities of Solano County have made a large amount of progress on the recommendations and projects contained in the 2008 STA SR2S Plan. Since 2008, STA has secured over $2.6 million in funding for priority programs and projects, and has overseen implementation of Safe Routes projects at seven schools around Solano County. In all, 22 schools identified in the 2008 STA SR2S Plan have implemented at least one of the recommended infrastructure projects. Details of implemented projects are presented in Part Two of this report at the beginning of each local planning chapter (**Chapters 6-13**).

STA has committed to sustaining the Safe Routes to School program by funding a full-time Safe Routes to School coordinator, with additional staff and coordination support from the Solano Napa Commuter Information (SNCI) program.

Countywide SR2S Advisory Committee

In order to guide development of the 2008 SR2S Plan, STA established the framework and recruited individuals for a Countywide Steering Committee. Composition of the committee membership consists of the following:

- Two (2) Public Works Directors
- Two (2) Police Chiefs
- Two (2) School District Superintendents or Representatives
- Two (2) Bicycle & Pedestrian Advocates
- One (1) Air Quality District Representative

- One (1) County Public Health Department Representative

This committee, currently referred to as the countywide SR2S Advisory Committee, has continued to meet on a quarterly basis to review and recommend projects and priorities to STA staff and the STA Board for approval. Three presentations to this body, and a fourth meeting with a mapping sub-committee, were conducted as part of the 2012 Plan Update and Mapping Project development process.

Local Community Task Forces

Each of the seven jurisdictions has established a Safe Routes to School Task Force to oversee prioritization and implementation of SR2S activities at the local level. In some cases, these task forces are extensions of existing committees or groups that focus on school-related transportation issues. In other cases, they were re-instituted as part of the 2013 Plan development process. The chapters for each city/school district in **Part Two** of this report include a list of task force membership.

Local task forces convened three formal meetings during the Plan development process in 2011/2012: once to select priority schools and issues, a second to review initial improvement concepts, and a third to confirm and prioritize projects and develop a plan for local approval by city councils and school districts. Most task force members also attended and helped conduct walk audits at each identified school.

Individual School Participation

Table 2-2 illustrates the levels of participation from every school eligible to participate in Solano County. The programs included in the summary are: in-class hand tallies, Traffic Safety Assemblies, Bike Rodeos, and Walk & Roll to School Days. STA also loans out radar speed trailers to schools when requested. STA has also launched a walking school bus pilot program prior to obligation of grant funding. Lastly, schools that have participated in a walk audit in either the 2008 or 2013 Plan development process have been identified.

Table 2-2: Solano County SR2S Participation by School

Schools	Walking and Biking Mode Share (%)							Safety Assemblies 2010-2012 (#)	Bicycle Rodeo Attendance 2010-2012	Walk & Roll to School Participation 2010-2012	Walking School Bus interest identified?	Walk Audit Performed? (2008 or 2012)
	Oct '07	May '08	May '09	Oct '10	May '11	Oct '11	May '12#					
Benicia Unified												
Benicia High												Y
Benicia Middle		17	15	19	19							Y
Mary Farmar Elem.								2	147*	135*	Yes	Y
Matthew Turner Elem.					10	13	12	1	52	260	Yes	Y
Joe Henderson Elem.				13	18	19	16	1	142*	527	Yes	Y
Robert Semple Elem.								1	55*	250	Yes	Y
St Dominic's Catholic School								1				Y
Dixon Unified												
Anderson Elem.	27		22	27				1	116	469	Yes	Y
CA Jacobs Intermediate												Y
Dixon High												
Gretchen Higgins Elem.			20				20					
Maine Prairie High							29					
Tremont Elem.												Y
Fairfield/Suisun City Unified (Fairfield)												
Anna Kyle Elem.	60	60	28	53	48		53				Yes	Y
Armijo High	18	22										
B. Gale Wilson									131		Yes	Y
Cordelia Hills Elem.			29	21	16		27	1*	65*	185*		
David Weir Elem.								2	45*	358*		
E. Ruth Sheldon Elem.	39		37		35	37		1	25*	125*	Yes	
Fairfield High		21										
Fairview Elem.							30					
Garcia Learning Center School												
Gordon Elem.				38	35		46	1	*	*	Yes	
Grange Middle				37	36	48	41					
Green Valley												

Schools	Walking and Biking Mode Share (%) Oct '07	May '08	May '09	Oct '10	May '11	Oct '11	May '12#	Safety Assemblies 2010-2012 (#)	Bicycle Rodeo Attendance 2010-2012	Walk & Roll to School Participation 2010-2012	Walking School Bus interest identified?	Walk Audit Performed? (2008 or 2012)
Middle												
K.I. Jones Elem.											Yes	
Laurel Creek Elem.	17	18										
Mundy Elem.												
Oakbrook Elem.								1		*		
Rolling Hills Elem					10			1		*	Yes	Y
Rodriguez High		6										
Sam Yeto Continuation High												
Suisun Valley Elem.												
Tolenas Elem												Y
Fairfield/Suisun City Unified (Suisun City)												
Crescent Elem.		7		7	5	8	6	1*	67*	64*		Y
Crystal Middle		26	19	19	33	25	24				Yes	Y
Dan O. Root Elem.	31	35	34	21	18	24		1*	22*	248*		
Suisun Elem.		34				34			122	78		Y
River Delta Unified (Rio Vista)												
D.H. White Elem.		10			12	11		1				Y
Rio Vista High												
River Delta High/Elem												
Riverview Middle School					26	30						Y
Travis Unified												
Center Elem.					3		1				Yes	Y
Golden West Middle												
Scandia Elem.			34				44					
Travis Elem.			5	2		26	6					
Vanden High		10										
Cambridge Elem.	28	32	36	35	29	36	38	1	209	732		
Foxboro Elem.	27	30	35	31	27	32	28			300		
Vacaville Unified												
Alamo Elem.	17			22			24	1				
Browns Valley				18	13	19		1	*	250	Yes	Y

Schools	Walking and Biking Mode Share (%) Oct '07	May '08	May '09	Oct '10	May '11	Oct '11	May '12#	Safety Assemblies 2010-2012 (#)	Bicycle Rodeo Attendance 2010-2012	Walk & Roll to School Participation 2010-2012	Walking School Bus interest identified?	Walk Audit Performed? (2008 or 2012)
Elem.												
Buckingham High			6	3	5	5						
Callison Elem.				40	35		29	1	102	428	Yes	Y
Cooper Elem.		26	24	24	22		22	1		291		
Country High												
Fairmont Elem.			25	28	22	37		1	85	306		
Hemlock Elem.	19		20		17			1		276		
Jepson Middle		26	14	21	20	25						
Edwin Markham Elem.			28		33		31	2	193*	544	Yes	
Orchard Elem.				17	11	18	16	1		*	Yes	
Padan Elem.			26		28	33		1	67	205		
Sierra Vista Elem. (closed)				31				1				
Vaca Pena Middle												
Vacaville High												Y
Will C. Wood High			23									
Vallejo City Unified												
Beverly Hills Elem.			17	25		29	26					
Cave Elem. (now Language Academy)			15				0	1				
Cooper Elem.								1		*	Yes	Y
Dan Mini Elem.	31		24	34		32		1	245	442	Yes	
Federal Terrace Elem.								1	2*			
Franklin Middle		24			24			1	76	467*		
Glen Cove Elem.							9	1		38		
Highland Elem.							14					
Hogan Middle												
Jesse Bethel High												
Lincoln Elem.												
Loma Vista Elem.			18	20		22		1				
Mare Island Elem.												
Patterson Elem.												
Pennycook Elem.				20		21			*	*	Yes	

Schools	Walking and Biking Mode Share (%)							Safety Assemblies 2010-2012 (#)	Bicycle Rodeo Attendance 2010-2012	Walk & Roll to School Participation 2010-2012	Walking School Bus interest identified?	Walk Audit Performed? (2008 or 2012)
	Oct '07	May '08	May '09	Oct '10	May '11	Oct '11	May '12#					
Peoples High												
Solano Middle												
Steffan Manor Elem.				25				1				
Vallejo Charter												
Vallejo High												
Wardlaw Elem.			7									Y
Widenmann Elem.				25			26					

(*) Additional participation may have taken place, but information is not available

(#) Spring 2012 hand tallies included three schools (Cave Language Academy, Travis Education Center, and Sullivan Middle School) that are either closed or not traditionally part of the SR2S program

2.4 School Travel Information

Since the development of the first Solano County Safe Routes to School Plan, schools throughout the county have been recording the travel habits of students. Each school year, teachers at participating schools conduct a "hand tally" during multiple days in October and/or May, asking students to raise hands according to how they got to and from school that day. Responses are averaged to form a snapshot of the typical mode share for that school. Starting in 2011, the program also began conducting a parent survey to corroborate student travel activities and obtain feedback on specific program elements and related questions from parents.

Student hand tally data aggregated at the program-level is summarized below in **Figure 2-2**, as are results from the first parent survey. Hand tally results for individual schools is provided in **Table 2-2**: Solano County SR2S Participation by School and **Figure 2-3**, while a more detailed report for parent survey responses at the program-level and for individual schools is provided in **Appendix B**. Since 2008, all travel information data has been limited to elementary and middle schools only.

Hand Tallies

Hand tally data for Solano County is available from the fall of 2008 through the spring of 2012[5]. Of the approximate 110 schools in Solano County, 28 participated in in-class hand tallies during the spring of 2012, the most schools to have ever participated in hand tallies since the program's inception. Overall, each semester's hand tally results represent between 45,000 to 70,000 trips taken at 22 to 28 schools.

[5] Although summarized in Table 4.1, detailed information concerning the hand tally results from fall 2007 are not available and have been excluded from the year-over-year comparison.

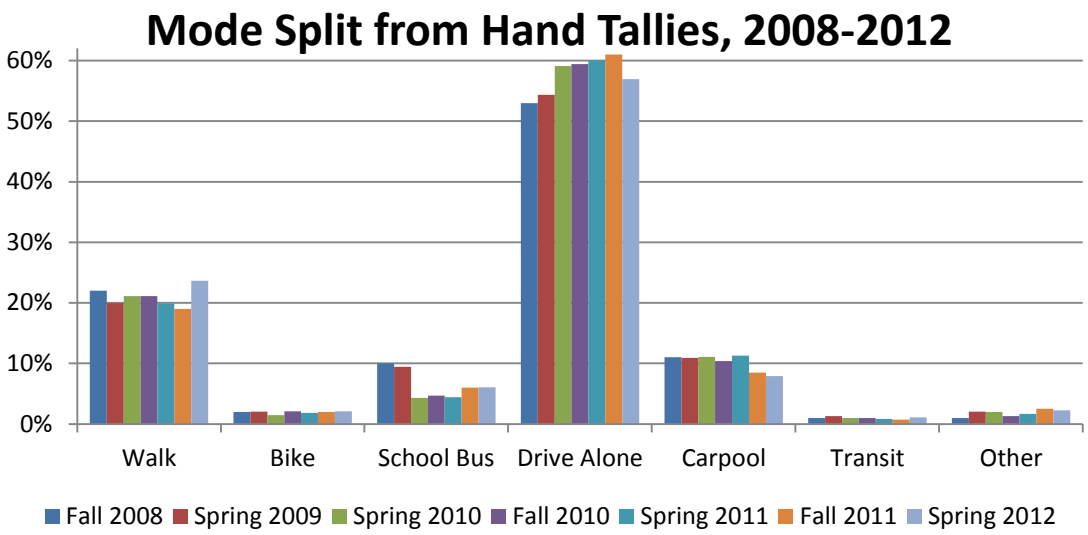
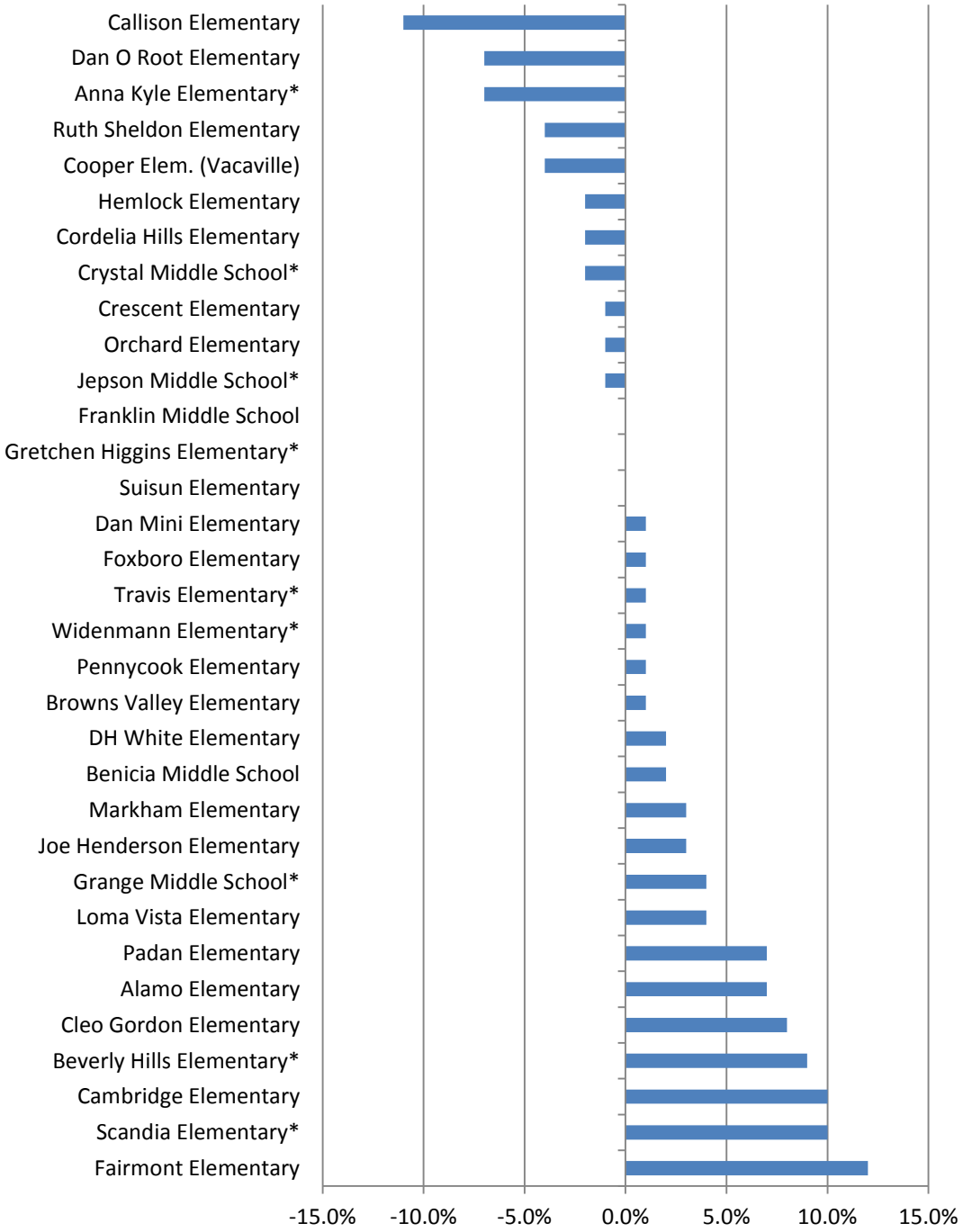


Figure 2-2: Mode Split for Solano County Students, 2008-2011

The data reveals that about one in five students walks to school, with this rate decreasing slightly until the spring of 2012 when walking reached its peak share of trips at 24%. Driving alone comprises the majority of school travel and increased significantly from 2008-2011, jumping from 53% to 61% of all trips. This increase appears to coincide with the significant reduction in school bus ridership in the spring of 2010, when school bus service was cut in several school districts. This trend reversed in the spring of 2012 when driving alone dropped to 57%, apparently a result of shifts to walking. Carpooling rates have remained steady at approximately 10% of school trips, although a drop is noticeable with the two most recent hand tally results. Bicycling, transit, and "other" travel modes (scooters and skateboards) are much less common forms of travel, although together comprise about 5% of all school-related trips.

The rise in driving to school from 2008 to 2011 could be attributable to a number of factors. Firstly, hand tallies participation varies among schools by semester. Due to the great geographical diversity of Solano County's cities, the participation of more auto-oriented schools in hand tallies can skew results even when trends remain the same. Second, the pressing budgetary concerns of Solano County school districts have led to school consolidations and yellow bus service cuts that place children further from school without additional transportation support. These actions were likely a major factor in changes noticeable between 2009 and 2010. Lastly, housing growth at the outer edges of cities may have been a factor in lengthening school trips and increasing driving rates to school. Some combination of these factors appears to have influenced increases in school-related driving between 2008 and 2011, which is particularly significant considering there was increased unemployment rates in Solano County and regional/national data that showed an overall drop in driving rates over the same period.

Despite the factors that point to increased driving up until very recently, the hand tallies for the spring of 2012 suggest progress is being made to get students and parents walking to school more often. STA has begun to implement more robust programming and promote the concept of walking school buses, and the increase in student walking trips may be the fruits of these labors. These gains, however, should not be considered a definitive shift until further data is collected and assessed in the next few semesters.



* These schools did not participate in SR2S program activities between survey periods

Figure 2-3: Change in Walk/Bike Hand Tally Mode Share – Individual Schools

Parent Surveys

Between the fall of 2011 and fall of 2012, STA solicited participation in a countywide online parent survey as part of the plan update and suggested route to school map process. On three separate occasions during this period, bi-lingual fliers promoting the survey were distributed to all schools in the program. Additional promotion of and links to the survey were included on the program website. Approximately 800 parents responded to the parent survey, representing information for over 1,300 students in the County. Ninety-eight (98) of the surveys were completed in Spanish.

The parent survey provides an opportunity to gather more fine-grained data than can be found in the hand tallies. Parents were asked not only about how students traveled to and from school, but also their level of Safe Routes to School awareness and participation, receptiveness to SR2S messaging, and the concerns that may be keeping them from allowing their child(ren) to walk or bike to school. A summary of highlights from the parent survey is provided below. The full data report is provided in **Appendix B**.

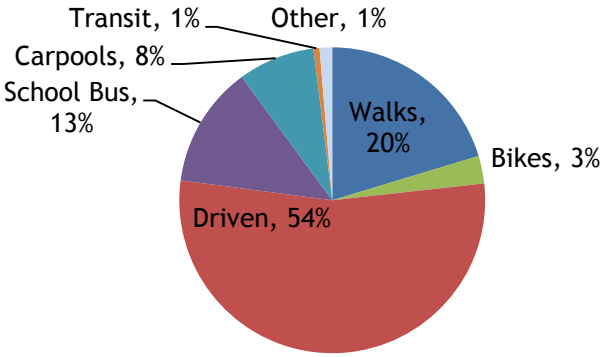


Figure 2-4: Mode Split for Students, spring 2012, parent survey

Figure 2-4: Mode Split for Students, spring 2012, parent survey shows the average mode split reported from the parent surveys. According to the responses, walking, biking, and other non-motorized travel (including skateboards and scooters) make up a quarter of all school trips taken by students, while being driven (or driving alone) represents over half of all trips to and from school. These results generally mirror that of the most recent hand tally from spring 2012, except that slightly lower walking rates and substantially higher rates of school bus patronage were recorded in the parent surveys. This difference is likely attributable to especially strong responses from student parents at Travis Elementary and Golden West Middle schools in the Travis Unified School District, where almost half of students are bussed and walking rates are lower than the County average.

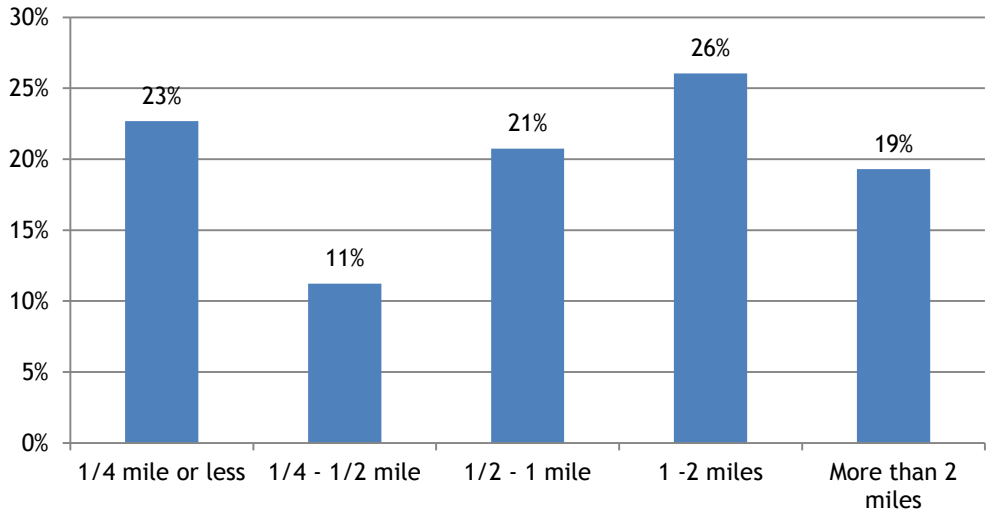


Figure 2-5: Approximate Distance from Home to School (for each child)

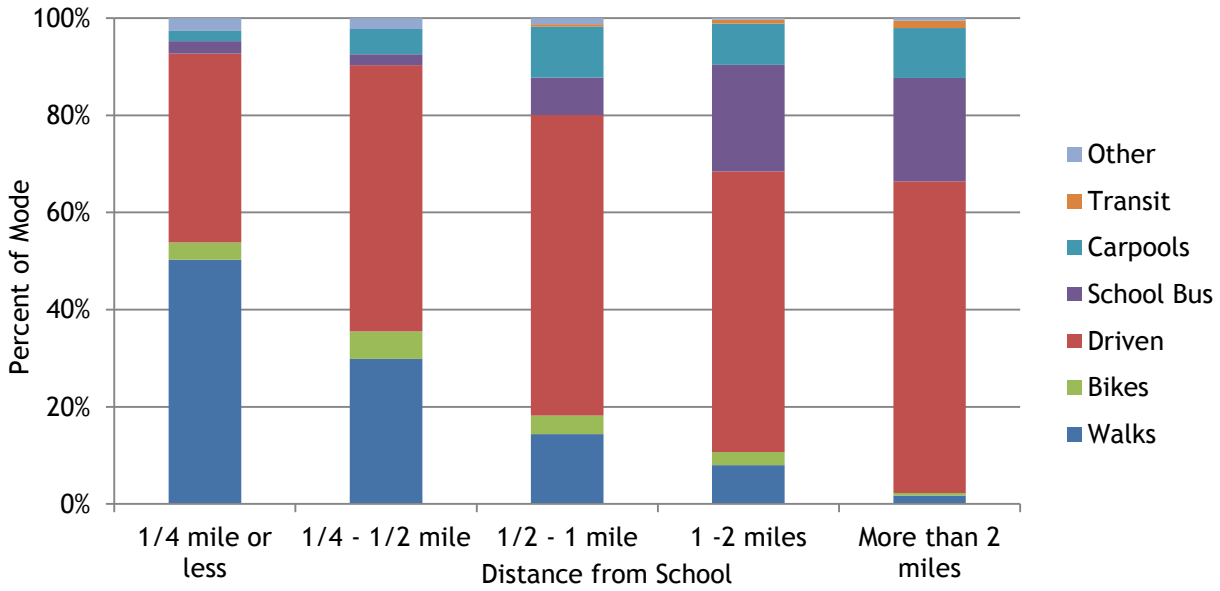


Figure 2-6: Percent Mode Split by Distance from School

Figure 2-5 and Figure 2-6 provide a snapshot of travel activity by distance from school. The data shows that approximately half of children walk when living within a quarter-mile of school, a rate that drops to 14% when trips are between a half-mile and one mile. Almost 40% of children are driven to school despite living within close walking distance, and 55% are driven with slightly longer trips up to a half-mile.

These numbers, however, reflect only a minority of all trips: two-thirds of all students have commutes longer than a half-mile, and almost half have trips over one mile in length. At these trip distances driving alone rates are significant, but remain comparable to shorter distances due to increased carpooling and bus ridership. 11% of students living between 1-2 miles from school were also reported by their parent to walk or bike. In total, 63% of all school-related miles travelled occur with drive alone/chauffeured trips, while just 5% are conducted by walking, biking, or on scooters/skateboards.

Figure 2-7 documents parent concerns that limit walking and biking to school. The most prevalent concern is 'stranger danger' or the fear that a child will be abducted or otherwise threatened by a stranger along their route. Three of the next four most cited concerns relate to traffic: speeding traffic, too much traffic, and unsafe intersections. Inclement weather and a lack of adult supervision were also noted as concerns from a majority of respondents. These responses seem to justify the program's current focus to organize walking school buses and identify safe walking routes, although indicate driver behavior and the physical environment at intersections remain key barriers.

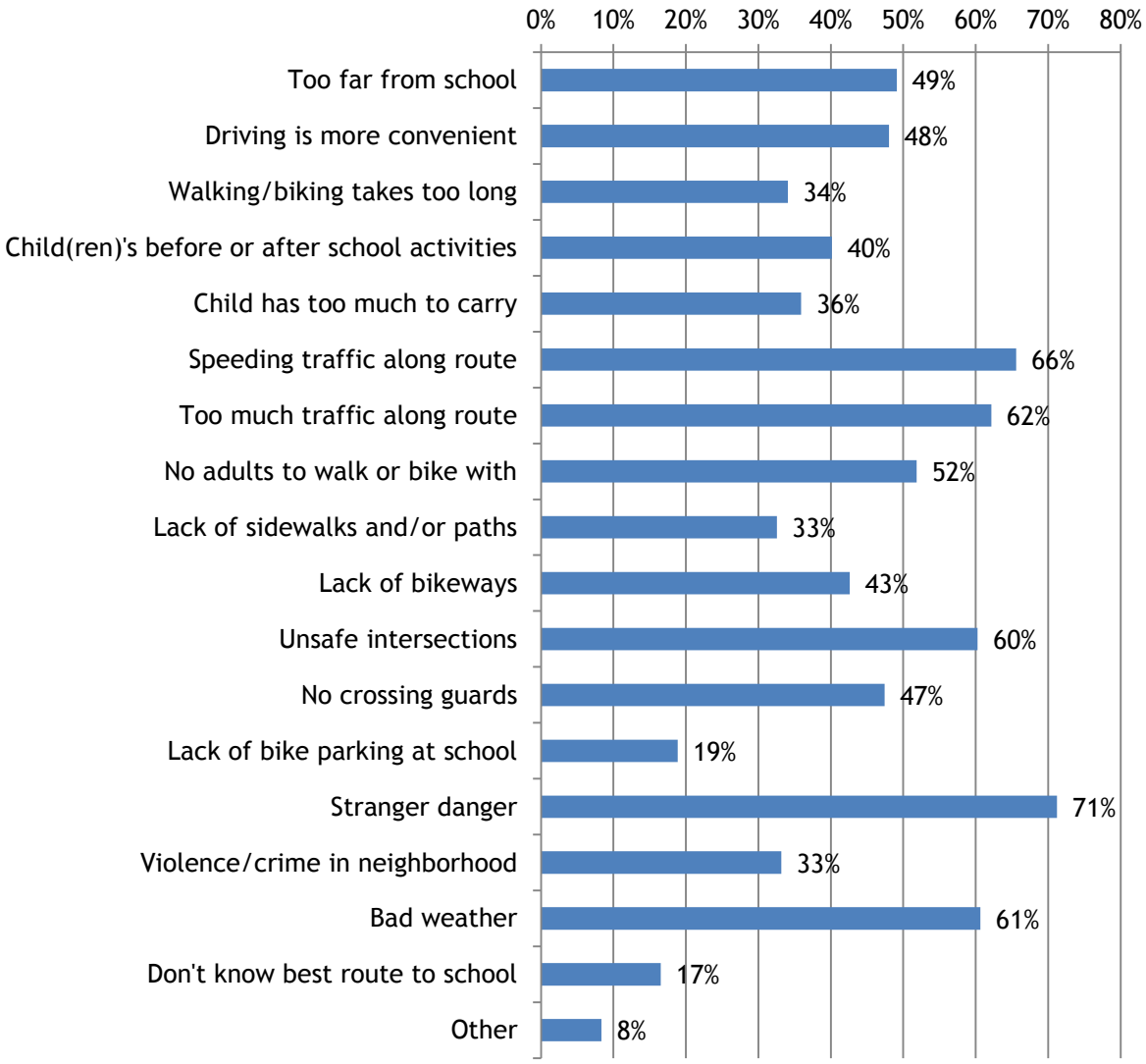


Figure 2-7: Parent concerns that limit walking/biking

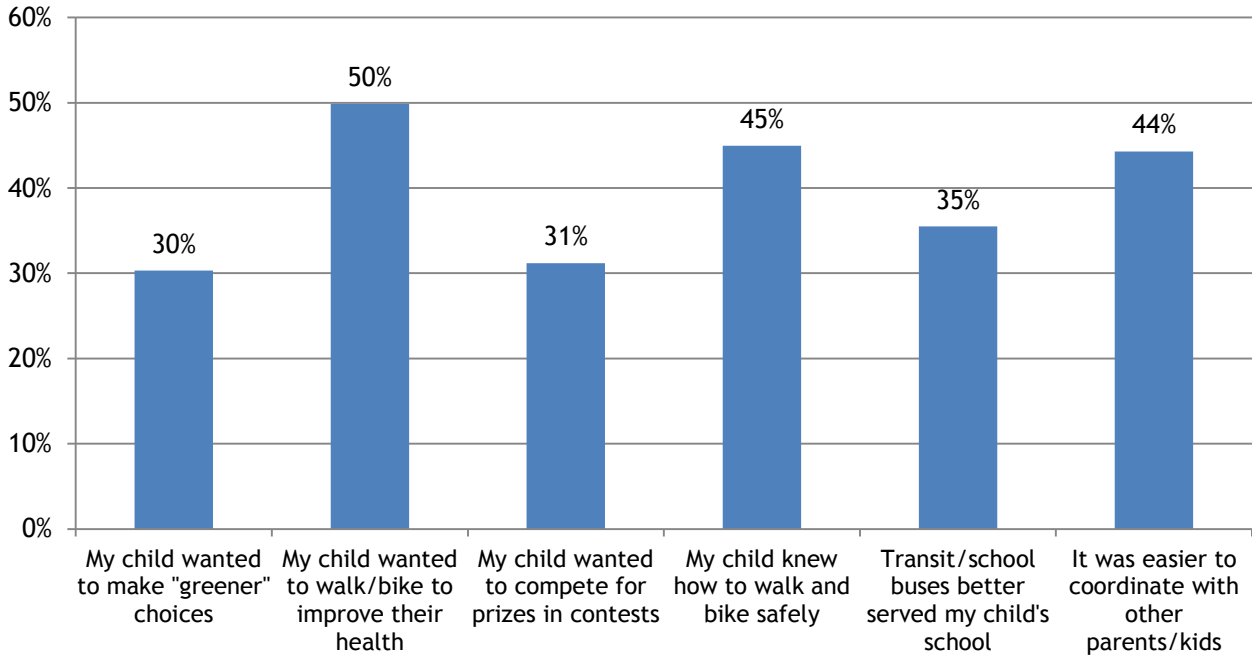


Figure 2-8: Factors that may influence parents to drive their children to school less often

Figure 2-8 highlights what factors might convince parents to drive their child(ren) less often to school. The most popular answer among respondents was if their child wanted to walk or bicycle to improve their health. In a separate but similar question, a large majority of parents characterized walking/biking to school as important for their child's health – indicating this factor may be an important message to send to parents to influence their (and their child's) travel habits. Child safety education and ease of coordination with other parents also ranked high as potential factors to drive less, while the least influential related to environmental concerns.

Summary Analysis

On average, between 20-24% of students in Kindergarten through 8th grade in Solano County currently walk to school. This rate is higher than the national average of 13%[6] and ranks near the middle of Bay Area counties behind Alameda, Marin and San Francisco but ahead of San Mateo and Napa.[7] At the same time, more than half of children living in easy walking distance to school are driven, while nearly one-third of parents would not let their child walk to school alone at any age due primarily to personal security and traffic safety concerns (and despite knowing the potential benefits to their children's health). Significant rates of carpooling and yellow bus service help keep drive alone rates down, especially for school trips over one mile in length. Overall miles travelled to school by bicycle, skateboard and scooter remain low, but account for 7-8% of school trips under a half-mile.

[6] 2009 data: http://www.saferoutesinfo.org/sites/default/files/resources/NHTS_school_travel_report_2011_0.pdf
[7] Bay Area county comparison based on preliminary analysis of parent survey reporting, 2011-2012.

3 Recommended Planning Framework

3.1 Plan Goals

Prior to the adoption of the 2008 STA Safe Routes to School Plan, the STA board adopted a framework of Goals, Policy Actions, and Measurable Objectives to strive for in the planning process.

2008 Plan Goals

- Goal 1A: Increase healthy and safe alternatives to driving alone/chauffeured trips to schools.
- Goal 1B: Reduce the number of driving alone/chauffeured trips and the number of student vs. vehicle accidents along routes to schools.
- Goal 2: Maximize interagency cooperation in all SR2S efforts.

The 2013 STA SR2S Plan Update provides a revised set of goals that build upon and refine those established in the 2008 STA SR2S Plan. These goals will help shore up the gains made over the last five years while putting in place a framework to grow the scale, scope, effectiveness, and sustainability of the SR2S program.

2013 Plan Goals

- Goal 1: Improve the health of Solano County children by focusing attention on and increasing active travel to school.
- Goal 2: Facilitate school travel routes that are accommodating, safe, convenient, and "complete" for all modes.
- Goal 3: Support sustainable communities by reducing school-related traffic congestion, air pollution, and vehicle miles traveled (VMT).
- Goal 4: Develop and sustain a SR2S program for the long-term.

3.2 2008 Plan Assessment

Three policy actions from the 2008 Plan formalized the strategic focus on Education, Encouragement, Enforcement, and Engineering; and led to the establishment of the Countywide Steering Committee and local task forces. In an attempt to further guide the program and support the 'E' of Evaluation, the Plan also identifies a number of objectives within the following topic areas: safety and security, health and air quality, traffic congestion, and the planning process. **Table 3–1** lists the key objectives and provides an update and comment on their current status.

Table 3-1: Review of 2008 Plan Objectives

2008 Plan Objective	Status/Comment
1. Decrease speed of vehicles along routes to school	Status: Aggregate Data Not Available Between 2008 and 2010, STA helped fund 40 speed feedback signs on school routes to help remind drivers to obey speed limits. Comprehensive data to assess the impact of this and other actions on vehicle speeds, however, is not available.
2. Decrease severe accidents involving children along routes to school	Status: Undetermined, Insufficient Data STA's enhanced enforcement grant has helped increase police presence along school routes in two communities, while safety assemblies and bicycle rodeos annually improve safety skills and supply bicycle helmets to hundreds of students. Crash data available during the development of this Plan includes the period 2005-2010. This timeframe does not allow for a reliable comparison of "pre" and "post" program conditions, and thus has not been assessed. Measurement of this objective is recommended for a future revision to this Plan, although it should be noted that the *rate* of severe crashes – as opposed to the overall number – may be important to consider if significantly more children or walking and biking to school.
3. Increase the number of children walking and biking to school	Status: Mixed Results, Further Study Recommended As measured by the student hand tally results, walking and biking activity slightly declined between 2008 and 2011, which was likely a factor of significant bus service cuts and school consolidation in several communities. The most recent tally data from spring 2012, however, shows a peak walking rate of 24% (compared to the 2008 baseline of 22%) and a slight increase in biking (from 2% to 3%). It is difficult to characterize this as an "increase" in walk/bike activity, however, until corroborated in future surveys.
4. Decrease the number of drive alone/chauffeured trips to school	Status: Mixed Results, Further Study Recommended Drive alone mode share as a percentage of trips increased between 2008 and 2011, although showed significant decline in the spring of 2012. Bus service cuts and school consolidation may have led to the prior increases, which were unusual for a recession and was not consistent with national trends that showed reduced vehicle miles travelled. More tally counts are needed to confirm whether or not the recent decline in driving is a sustained trend.

5. Increase the fitness level of students as measured by the California Fitness Test (CFT)	Status: Not Currently Being Met A comparison of the 2007/08 and 2010/11 CFT results for Solano County shows a general decline in student fitness at all grade levels (Grades 5, 7, and 9). In 2010/2011, between 54% and 57.5% of students were in the Healthy Fitness Zone (HFZ) for aerobic capacity as established by the testing methodology. Between 50% and 54% were in the HFZ for body composition. These numbers are lower than they were in 2007/2008, where aerobic capacity HFZ rates were 63%, 60.5%, and 50.7% (for Grades 5, 7, and 9 respectively), while body composition HFZ rates were 68-69% for all grades. At this time, it is unreasonable to expect changes in countywide CFT levels as a direct result of SR2S program activities, which are limited. As the Solano County program continues to expand, however, it may be relevant to observe CFT results for schools and/or students with high participation rates over time. (Note: A select review of CFT results for schools historically active in the program through 2012 did not show differences from the overall downward trend of student HFZ rates.)
6. Reach emission reduction goals (to be established by the Bay Area and Yolo-Solano Air Quality Management Districts) by measuring the reduction of vehicle miles traveled as a result of SR2S projects and programs.	Status: Multi-Year Evaluation in Progress As part of its Climate Action Initiatives Program, the Metropolitan Transportation Commission (MTC) is currently in the process of evaluating the effectiveness of SR2S projects and programs throughout the Bay Area – including those in Solano County - in reducing vehicle miles traveled (VMT). VMT calculations will be based on a "post" program implementation parent survey to be conducted in 2013/2014, and comparison with the "baseline" parent survey results described elsewhere throughout this Plan.
7. Hold quarterly Steering Committees with status reports from SR2S Community Task Forces. Produce quarterly reports for the STA Board.	Status: Meeting Target Objective The Countywide Advisory Committee – formerly the Steering Committee – has continued to meet on a quarterly basis to discuss and confirm program priorities and report out to the STA Board.

3.3 2013 Plan Goals, Policies, Objectives, Benchmarks

As described in **Table 3–1**, overall progress on the 2008 list of objectives is difficult to assess: in some cases the data is premature, in other cases it is insufficient to be reviewed at the countywide scale. At the same time, the goals could be slightly updated and expanded to better characterize the vision and reach of the current program.

What follows is a recommended planning framework to guide and evaluate the STA SR2S program in the years to come. While nearly all 2008 Plan objectives are maintained, in some cases alternative measures or

'benchmarks' have been identified to more easily assess conditions and impacts within the program's direct sphere of influence.

Goal 1: Improve the health of Solano County children by focusing attention on and increasing active travel to school

Objectives

- Objective 1A: Increase the rate of students walking, biking, and taking other active forms of travel to school
- Objective 1B: Annually increase the number of children exposed to Safe Routes to School education and encouragement activities
- Objective 1C: Continually improve the quality and variety of education and encouragement activities of the Solano SR2S Program

Recommended Policies & Programs

- Provide a variety and natural progression of bicycle safety curriculum by introducing on-street skills training for middle school and elementary students with previous SR2S skills training
- Implement a walking school bus program for all elementary schools in the County, and encourage 'bicycle trains' and bike clubs for older students
- Emphasize the health, environmental, educational, and social benefits of walking and bicycling to school through activities, contests, and incentives
- Form a coordinated media strategy, utilizing outreach, the program website, social media, and paid media of multiple formats
- Incorporate Safe Routes to Schools into school district wellness policies
- Support school districts to adopt and implement a bicycle helmet policy

Benchmarks:

- Mode share as recorded in student hand tallies and parent surveys (with a focus on those living within ½ mile of school)
- Students reached through bike rodeos, traffic safety assemblies, and other education activities
- Helmets and encouragement materials distributed and/or bicycles repaired
- Greater media exposure as measured through website traffic, Facebook followers, and number of articles or radio spots
- Annual publication/noticing of bike helmet policies in back to school student information packets

Goal 2: Facilitate school travel routes that are accommodating, safe, convenient, and 'complete' for all modes

Objectives

- Objective 2A: Limit traffic speeds and volumes along key routes to school
- Objective 2B: Reduce the frequency and severity of collisions near schools
- Objective 2C: Increase funding for walking, bicycling and transit investments near schools
- Objective 2D: Implement high priority capital projects from this Plan

- Objective 2E: Incorporate Safe Routes to School policies, priorities, and design guidance into future city general plan updates, specific plans, and other neighborhood planning efforts
- Objective 2F: Eliminate or reduce the impact of physical barriers and gaps that impede convenient and safe walking and bicycling to existing and new (planned) schools

Recommended Policies and Programs

- Prioritize physical improvements along suggested walking and bicycle routes to school. Consider formal adoption of a Safe Routes to School Priority Network and establishing best practice design guidelines for these facilities
- Develop a county school-based infrastructure program with dedicated funding for each jurisdiction
- Support creative strategies to ensure targeted school enforcement during commute periods, including the potential for continued STA enforcement grant funding and increased coordination with the California Highway Patrol (CHP) for school communities along state routes (e.g., SR 12)
- Ensure consistent and high-quality training of crossing guards throughout the county utilizing the manual/training video developed in 2012
- Carefully consider pedestrian, bicycle, and transit access and facilities in the siting and design of new and renovated schools; discourage school siting along high speed arterial streets
- Monitor and comment on (as necessary) the compatibility of new developments with non-motorized school travel demand and safety
- Assist schools in providing adequate, secure and conveniently located bicycle parking, skate board and scooter storage facilities to support increased active travel

Benchmarks:

- Number and severity of pedestrian/bicycle-related crashes within ½ mile of schools
- Percent of parent respondents citing traffic speeds, volumes, and intersection safety as a barrier to more walking and biking
- Grant funding and priority projects completed along suggested routes to school
- Percentage of active crossing guards who have completed training
- Number of city general plan updates incorporating Safe Routes to Schools

Goal 3: Support sustainable communities by reducing school-related traffic congestion, air pollution, and vehicle miles traveled (VMT)

Objectives

- Objective 3A: Convert drive alone and chauffeured trips to other modes, including carpooling and transit
- Objective 3B: Educate and engage parents on safe, healthy alternatives to driving their children to school, especially for those children that live within a quarter to one half mile from schools

Recommended Policies and Programs

- Expand bicycle skills training to include a focus on family-oriented riding and parent traffic skills
- Provide suggested routes to school maps for parents and promote the use of remote drop-off or "park & walk" areas

- Promote & enhance a localized SchoolPool[8] program for parents to arrange carpooling
- Discourage vehicle idling at schools
- Recruit/train parent and student volunteers as school safety officers and valet loading assistants
- Market existing and planned youth bus passes and integrate transit tours into school-based education events
- Work to limit school enrollment changes and policies that lengthen school commute trips
- Research current status of joint use of school facilities agreements and encourage development of joint use facility agreements where feasible

Benchmarks:

- Number of students/student families carpooling and taking transit to school (as measured by hand tallies)
- Local air quality around local schools during drop–off and pick-up times
- Vehicle and/or non-motorized counts at screenline locations during school drop off/pick up periods
- Emission reductions associated with overall VMT compared to past years parents survey data
- Number of joint use facility agreements in place

Goal 4: Develop and sustain a SR2S program for the long-term

Objectives

- Objective 4A: Maintain a countywide Advisory Committee that meets and reports to the STA Board quarterly, and support local SR2S Task Forces to meet on a regular basis
- Objective 4B: Identify and train a network of parent and school champions, including students, to help lead local SR2S implementation and increase program capacity
- Objective 4C: Broaden the range of SR2S events offered for schools that regularly participate in SR2S programming; expand program eligibility to new schools, including private schools
- Objective 4D: Seek and secure outside grant funding for SR2S programs and activities, and leverage local funding for school area improvements

Recommended Policies and Programs

- Increase the capacity of the STA Safe Routes to School program by developing stand-alone SR2S tools and conducting trainings to bring in school leadership, parent groups, and school champions as partners in walking and biking events.
- Organize regular SR2S "Summits" for interested students and champions to meet, exchange ideas, and foster collaboration. Consider providing mini-scholarships for such students to attend similar regional or national events
- Conduct hand tallies every semester and parent surveys every 1-2 years to be able to track progress and respond to feedback. Consider dropping non-responsive schools from program if consistently non-responsive to survey/tally requests

[8] SchoolPool is a ridematching service supported by the Metropolitan Transportation Commission (MTC). Solano County's SchoolPool tool is located online at: https://www.schoolpool.511.org/?client=solano

- Maintain a high level of functionality and parental activity on the STA SR2S website and related social media
- Seek adoption by Parent Teacher Associations or Organizations (PTA/PTO) of a walking school bus subcommittee to encourage and sustain walking school bus program participation over time

Benchmarks:

- Frequency and regularity of countywide SR2S Advisory Committee and Community Task Force meetings
- Number of schools (or percent of participating schools) with regular hand tally participation and high parent survey response rates
- Number of SR2S training events and participants, schools with identified parent/student champions
- PTA/PTO's with adopted walking school bus subcommittees and/or similarly formalized Safe Routes to School representation.

3.4 SR2S Non-Infrastructure Programs

This section summarizes the non-infrastructure program elements recommended in this Plan, and their estimated costs. Discussion of these elements is organized according to the individual "E's" of the Safe Routes to School Program. Due to the different nature and extent of supporting material, engineering recommendations are summarized separately in the following chapter (Chapter 4) and detailed under each local jurisdiction's chapter in Part Two of this report.

In order to develop general cost estimates for the non-infrastructure programmatic actions listed below, this report assumes a 'reasonable' rate of school participation/exposure and level of effort from existing SR2S staff (which varies by program). These assumptions are documented in the narrative discussion of each "E" below, and may change based on future funding availability, program priorities, and other considerations that are difficult to anticipate at this time. Unless otherwise noted, cost estimates are based on experience with the current program or similar programs in other Bay Area communities.

Table 3-2: Countywide SR2S Non-Infrastucture Program Estimated Costs (Annual)

"E"	2012 Program	Costs
Education	Distribute suggested routes to school map brochures for parents at participating schools, and promote use/awareness of the online web mapping tool. Develop maps for new participating schools, and/or revise existing maps as necessary when conditions change.	$20,000
	Work with school districts to incorporate safe routes curriculum into health, science, and math lessons at all grade levels. Utilize existing partner resources and class modules whenever possible to ensure STAR compatibility and school district buy-in. (Note: Ongoing annual costs could be substantially lower once initial materials and coordination are completed)	$60,000
	Continue and expand Bike Rodeos and Traffic Safety Assemblies	$80,000
	Expand the range of bicycle education programs to include on-street skills training for middle school and advanced elementary students, as well as adult and family-oriented bicycle rodeos.	$65,000

"E"	2012 Program	Costs
	Subtotal	$225,000
Enforcement	Facilitate cooperation between school districts and local police to provide enforcement; explore alternative measures when possible, including involvement from the California Highway Patrol (CHP) if relevant	$200,000
	Involve multi-jurisdictional police department task force in school enforcement	
	Distribute crossing guard training manual and develop tracking mechanism to ensure training compliance	Funded through STA Public Safety Grant
	Continue Student Safety Patrols at current schools and encourage the expansion of the program	$45,000
	Subtotal	$245,000
Encouragement	Support Walk & Roll to School events, and encourage local organization and responsibility among the leadership and parent groups of individual schools	$25,000
	Support/develop student and parent champions by organizing regular 'SR2S Summits' and coordinating with "student councils" and other school-based organizations	$20,000
	Work with school districts to successfully organize contests and secure adequate resources for incentive prizes	$20,000
	Work with schools to organize and implement bike trains at middle schools and high schools	$50,000
	Implement walking school bus with grant won by STA. Provide support for schools that want to start a new walking school bus.	Funded through Cycle 3 SRTS Grant
	Market existing and planned youth bus passes.	$15,000
	Promote and enhance the localized SchoolPool program for parents to arrange carpooling	$20,000
	Subtotal	$150,000
Evaluation	Conduct hand tallies every semester and parent surveys every 1-2 years	$15,000
Engagement	Form and implement a coordinated engagement strategy, utilizing outreach, the program website, social media, and paid media of multiple formats	$30,000
	Total of Estimated Costs	**$665,000**

Education

Education programs can include customized/integrated Safe Routes to School curriculum for students, basic safety courses like traffic safety assemblies, more advanced programs such as in-street skills training, and the promotion of suggested routes to school maps and other informational resources. The ideal educational component of a SR2S program includes all of these elements to provide variety, progression, and reinforcement of learning opportunities for all grade levels – both in the classroom and after school. The STA SR2S coordinator(s) should work with the Countywide Advisory Committee, County Department of

Education, Solano County Public Health, MTC Spare the Air Youth, and local school districts to explore options for curriculum integration and to test/ advance concepts not currently included in the Solano SR2S program.

As a potential next step, STA may consider expanding traffic safety assembly themes and formats to entice repeat appearances at interested schools[9], new on-street bicycle skills training for older middle school and advanced elementary school students, and/or a pilot curriculum project for a selected school district or subject area. These offerings would help enrich and institutionalize the Safe Routes to School program as part of the overall student learning experience in Solano County. Beyond the focus of educating students, STA should also consider developing family-oriented bicycle rodeos or school travel workshops to support/train parents interested in accompanying their child(ren) to school.

Education recommendations are estimated at approximately $225,000 for one year of programmatic implementation. Costs for curriculum include staff time needed for research/development and coordination with school district representatives, pilot testing and training for new modules/materials, and a reserve for printing costs. Estimates for bicycle rodeos and traffic safety assemblies assume participation from 60% of Solano County schools. Estimates for advanced programming are based upon assumed participation of 25% of Solano County schools and approximately five parent/family events. Estimates for suggested routes to school maps are based on projected costs for printing and distribution, with a small amount of staff time for data collection and Geographic Information System (GIS) mapping for new/refined maps.

Enforcement

While directed law enforcement can be a strong booster for a Safe Routes program, many of the police departments in Solano County are currently wrestling with difficult budget shortfalls. As such, the SR2S program has experimented with sponsoring school-focused enforcement (with the recent STA Public Safety Grants in Fairfield and Suisun City), and could look to expand such a program elsewhere in the county. Recommended non-law enforcement strategies include the expansion of student safety patrols/valets, which are currently active at individual schools on an ad hoc basis and help reduce drop off/pick up congestion in addition to promoting safety. Another strategy is continued emphasis on crossing guard placement and training, which is now supported by both a training manual and instructional DVD developed by the Suisun City Police Department as part of the STA Public Safety Grant.

An estimated $245,000 would be needed for all of these enforcement programs for one year. The enhanced law enforcement estimate comes from supplying a .35 FTE Traffic Safety Officer in 6 Solano County cities, at a cost of $33,000 per officer. The Safety Patrol estimate is based on the cost of materials and training at middle schools and elementary schools across Solano County, while crossing guard training is anticipated to be funded under the current safety grant and/or provided by local agencies.

Encouragement

Encouragement programs are essential to building up a culture of walking, biking, and ridesharing at participating schools. Managed by the STA SR2S coordinators with contracted assistance from Solano County Public Health, the most popular encouragement program to date consists of organizing and

[9] Experience in other Bay Area programs strongly suggests that repetition of Safe Routes programming, as opposed to one-time events and contests, is critical to impacting mode share at participating schools.

supporting "Walk & Roll" events that take place throughout the year. When these events can also be timed in May and October to coincide with the International Walk to School and Bike to School days, they provide great visibility for the program and high levels of participation from school parents and families. Other important encouragement activities include logistical and financial support for contests and SR2S incentives, promotion of carpooling to school (SchoolPool), and outreach/training for development of walking school buses.

As the SR2S program expands to more schools and/or is more intensely promoted at existing schools, a key strategy for maintaining a sustainable program is to cultivate a sense of responsibility and technical competence for executing encouragement events among individual school and parent 'champions.' By seeking to delegate ownership of the annual Walk & Roll events at certain schools, STA can focus on designing complementary contests and/or targeting sustained encouragement campaigns at schools with the most promise for travel mode shift. The program can also request that PTA/PTO's of individual schools designate a walking school bus or Safe Routes to School subcommittee to foster peer-to-peer encouragement and ongoing participation, STA and Solano Public Health staff can provide these PTA/PTO's representatives with special training sessions to develop parent volunteers' skills and confidence for sponsoring successful encouragement events, and can organize regular Safe Routes to School "Summits" for additional training and networking opportunities. Recognizing that there is perpetual turnover of parents and volunteers at school sites as children are promoted to higher grade levels and new schools, there is an on-going need for training and provision of technical assistance.

An estimated $150,000 would be required for annual implementation of the encouragement program recommendations (excluding the Walking School Bus program, which is currently funded through the 2014/15 school year). The estimates for Walk & Roll to School Day events include continued organizational leadership on behalf of STA, with the expectation that over time the focus could expand to alternative campaigns as school champions are more regularly involved with annual events. Costs are for staff time spent in support of the program, as well as supplies for the events.

The estimate for organizing student contests and helping secure incentives is partially based on the "This is How We Roll" Video Contest recently conducted by Alameda SR2S in the spring of 2012, and assumes that only a very small portion of the program budget is used to purchase incentives. The projected cost for an annual SR2S "Summit" assumes facility rental, staff time and incidentals, although these costs could vary greatly and may be offset with in-kind donations or small attendance fees. The estimates for the bike train are based upon required staff time to organize and run bike train events for 10 middle schools and high schools.

The estimates for bus youth passes are solely for marketing of the program, and not for costs incurred by each transit agency. Vacaville's City Coach provides free rides for youth during the month of August and provides a discounted youth pass during the summer and during the school year. Soltrans, serving Vallejo and Benicia, gives away free student passes at back-to-school events and sells discounted monthly youth passes. FAST, serving Fairfield and Suisun City, launched a youth pass program in the fall of 2012.

The estimates for the School Pool program are based upon anticipated staff requirements to work more closely with approximately 10 schools to set up local School Pools. The Schoolpool.511.org website already allows parents of students to make carpooling arrangements online, and includes slight customization for the Solano program. As part of this recommendation, STA could work with schools or school districts to promote

Schoolpool.511.org on school websites and through school activities (such as back to school night), or by utilizing PTA's to organize local ridesharing through email list-serves.

Due to the great variety of programming options, issues, and intensities at which they occur, these estimated costs may need adjustment depending upon the priority opportunities identified for the Solano SR2S program.

Evaluation

Conducting thorough evaluation is important to understanding which projects work, which don't, and where to provide further support. The estimated costs for evaluation include hand tallies and parent surveys in 35 schools, and the staff time associated with distribution, collection, and analysis of data. Additional analysis of local school travel issues, particularly the impacts of new projects, is strongly encouraged but assumed to be funded by local jurisdictions and/or school districts.

Engagement

Online Mapping Tool (Existing)

To facilitate public use of and input on suggested routes to school maps, STA has created a Google Maps-based online tool for the public. This mapping tool, linked through the updated STA SR2S website, allows parents to view and download suggested routes to school maps, find walking school bus routes, draw/suggest alternative routes their children use to get to school, point out issue areas and hazards, and provide additional comments and suggestions. In tapping into the collective knowledge of Solano County's parents, this feedback can be used to further refine the suggested routes to school maps over time, organize new walking school buses, and to provide feedback to local jurisdictions for addressing potential safety issues within school zones.

Traditional and Social Media Strategy

A concerted media strategy for the SR2S program (both traditional formats and web-based social media) will help raise the profile of the SR2S program within Solano County, both among parents and the general public. By driving parents and others to the program website, courting media coverage of SR2S events, and occasionally paying to run education campaign "spots" on local radio and in print, the program will help foster interaction with, and familiarity of, various elements of the Safe Routes to School program. These efforts will not only give the public a chance to feel directly involved with the programs being implemented, but will develop a sense of community between the supporters of the Safe Routes to School program.

Successful online exposure requires regularly added content, while the utilization of mapping tools and promotion of social media need regular maintenance and content moderation. A traditional media strategy requires sustained communication with local media contacts, development of press releases, coordination of media events, and funding for paid advertising. The estimated cost for these activities is $30,000.

Policy Implementation at the Local Level

An effort to truly develop and integrate Safe Routes to School recommendations into city and school district plans and policies requires an engagement strategy at the local SR2S task force level. Consistent with the policies and programs outlined in section 4.3, it is recommended that STA staff and the Countywide Advisory Committee work to engage and potentially expand local task force efforts to formalize SR2S recommendations from this Plan. Potential efforts may include: 1) expanding work with school districts and

individual schools to adopt and implement bicycle helmet policies in alignment with California Vehicle Code 21212; 2) continuing and expanding efforts to develop a WSB subcommittee within individual school PTA/PTO's to sustain program participation; 3) providing comment on proposals regarding school siting, speed limits, and access issues to current and planned schools; 4) working with schools to incorporate Safe Routes to School principles and policies within the school district wellness policies; 5) working to incorporate Safe Routes to Schools into City General Plan updates; and 6) working with school partners to explore joint use of school facilities and develop joint use facility agreements were feasible.

4 SR2S Engineering Program

This chapter provides summary and background context for the final "E" of the Safe Routes to School program: Engineering. As distinct from the non-infrastructure elements, engineering recommendations are by their nature more physically tangible and location-specific, and often more expensive in terms of dollar per student affected. Below is an outline of the project development process for the 2013 STA SR2S Plan Update, as well as review of total project costs and guidelines for implementation. Project specific details are included in the local planning chapters in Part 2 of this report.

4.1 Complete Streets

Widespread consensus has emerged over the past decade that the historic development of our nation's roadway infrastructure – largely catered to the convenience of automobiles – has left an 'incomplete' network for other travel modes, including walking and bicycling. The lack of appropriate facilities for non-motorized users is particularly acute for more vulnerable populations such as seniors and school-age children.

The concept of "Complete Streets" is to address and remove these inefficiencies in future roadway projects by giving equal consideration to all modes throughout the project life cycle, from facility programming and planning to roadway design and maintenance. While not every street may be appropriate for specific facilities, such as bicycle lanes, in practice this policy will result in greater connectivity of the sidewalk network, reduced vehicle travel speeds around schools, increased funding for share use trails and other non-motorized improvements.

As of 2013, Complete Streets policies are the official standard by which all transportation funding, planning, and engineering decisions are made throughout California and within the Bay Area. Caltrans Directive 64 mandates Complete Streets considerations on a statewide level, while MTC has developed a requirement for Bay Area cities to adopt local Complete Streets policies as a prerequisite for One Bay Area Grant (OBAG) funding eligibility. The 2013 STA SR2S Plan Update includes a planning framework and list of projects that represent and advance the concept of Complete Streets for school routes and zones. As such, funding and implementation of priority projects will expressly contribute to the goal of implementing Complete Streets for every city in Solano County. The recommended improvements at select schools in this plan can also inform similar, appropriate treatments at other schools in conjunction with planned roadway improvements. As Solano's cities update their General Plans, it is recommended that they include Safe Routes to Schools policies and make integral links between SR2S and their cities' Complete Streets policies.

4.2 Suggested Routes to School Mapping Project

As a separate but complementary activity to the 2013 STA SR2S Plan Update, the Alta consultant team, led by Brian Fulfrost & Associates, revised and expanded the Geographic Information Systems (GIS) methodology from the 2009 pilot suggested route maps project to create an automated mapping system for nearly every school in the seven school districts of Solano County. A summary of this data-driven process, which helped inform infrastructure recommendations in this Plan, is provided below.

Mapping Inventory and Route Suitability

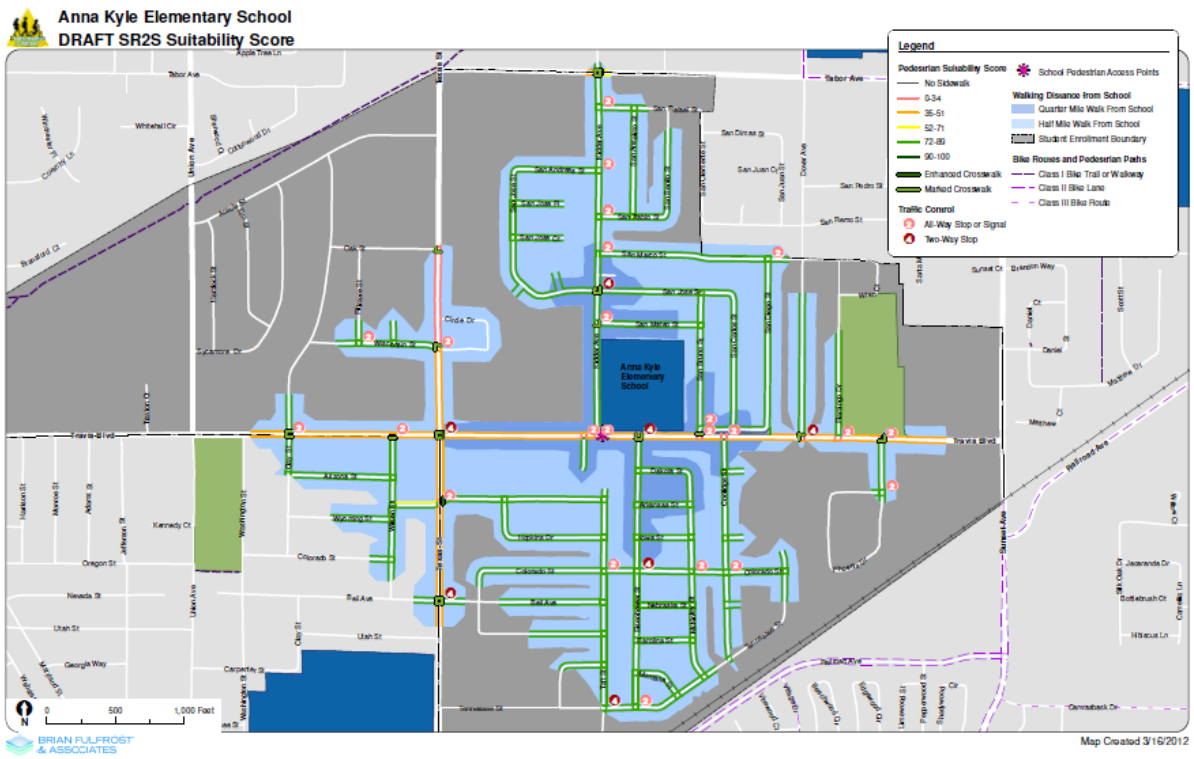
The SR2S mapping system is based on a detailed inventory of walking conditions on streets generally within a 20-minute walking radius – or 'walkshed' – of each school (which is approximately 3,600 feet at an assumed walking speed of 2.8 ft/s). Several middle and high schools have additional data collected for up to a one mile radius to account for potentially higher demand for longer walking and biking trips. This documentation process included both "virtual audits", using computer mapping programs such as Google Earth, and field audits where staff collected and stored data directly in the field using handheld GPS-enabled devices.

The route conditions collected for the mapping system at each school included the following:

- Presence/absence of sidewalks
- Sidewalk condition
- Sidewalk obstructions
- Presence/absence of curbside parking or landscape strip (for pedestrian 'buffer' from traffic)
- Roadway type (major arterial, minor/local road)
- Number of roadway lanes
- Presence/absence of center median
- Presence of bicycle infrastructure
- Traffic signals
- Stop controls (2/4 way)
- Crossing guard locations
- Presence/absence of crosswalks
- Type of crosswalks (enhanced high-visibility, 'standard' transverse)
- Presence/absence of curb ramps
- Type of curb ramp (single, bi-directional)

These criteria were compiled and ranked to produce a general pedestrian suitability score for each sidewalk and intersection segment within the school walkshed. The results of each school walkshed were then run through a weighted logarithm to identify the combination of "safest" and "most direct" routes to school. The routing system also considered the density of students living within walking distance of the school, starting walking and biking routes in locations that would benefit the greatest number of students. Draft suggested routes to school maps were reviewed by STA SR2S staff, the STA Advisory Committee, and local SR2S Task Forces in 2012, and at the time of this Plan's development are being promoted to schools and parents.

The physical data collected through the mapping process provides an extensive resource for engineers and planners to help identify potential Safe Routes to School capital improvements. The pedestrian suitability scores are also a valuable tool for prioritization (as described below in **Section 4.6**) and should help document need in an objective fashion to support outside grant funding requests. Citywide maps documenting areas of low pedestrian suitability are provided in **Appendix A**. In future years as new capital projects are built, STA will also be able to update the maps and re-run the routing analysis in GIS. Moving forward, it will thus be important to update these data files as conditions change within each school's walkshed.

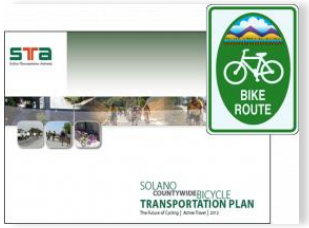


Example draft pedestrian suitability map that informed identification of suggested routes to school. Citywide maps highlighting low pedestrian suitability (in addition to suggested routes and collisions) are provided in Appendix A.

4.3 Relevant Planning Documents

A wide range of planning documents was reviewed to inform the 2013 STA SR2S Plan, as well as to encourage consistency with other planning priorities and leverage upcoming projects for maximum results. Below is a summary of the primary documents reviewed, details of which are highlighted where relevant in the individual local planning chapters in Part Two of the Plan (Chapters 6-13).

Solano Countywide 2012 Bicycle Transportation Plan



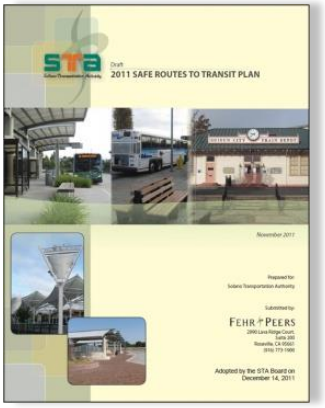
The Solano Countywide 2012 Bicycle Transportation Plan provides targeted infrastructure recommendations for bicycle improvements throughout the County. Many of the cities in Solano County do not have their own bicycle master plan, with the countywide bicycle transportation plan providing their only long-range guidance for bicycling improvements. The plan provides the cities of Solano County with eligibility when applying for grant funding from state and federal levels.

Solano Countywide 2004 Pedestrian Plan

The Solano Countywide 2004 Pedestrian Plan provides the cities of Solano County with detailed project lists for pedestrian-priority areas. The plan identifies areas of high pedestrian activity and provides design guidelines for implementing pedestrian-friendly areas throughout the County.

Solano 2004 Transportation for Livable Communities Plan

The Solano 2004 Transportation for Livable Communities Plan provides the county with a framework to achieve more integrated transportation and land-use decisions. Centered on promotion of "smart growth" development patterns, the plan identifies existing and future planning projects that will incentivize and promote development in the transit-rich urban cores of Solano County.



STA 2011 Safe Routes to Transit Plan

The STA 2011 Safe Routes to Transit Plan identifies select sites within Solano County that can serve as key transportation hubs for commuters using bus and rail transit options. The plan identifies barriers to commuters accessing these transit centers via foot or bicycle, and provides programmatic and infrastructural recommendations to improving multi-modal access to key transit centers.

SR 12 2011 Corridor Study (I-80 to I-5)

The SR 12 2011 Corridor Study examines possible improvements to the State Route 12 corridor through Solano County that will accommodate the expected increase in vehicle volume on the roadway over the next 20 years. Specifically, the SR 12 Corridor Study calls for significant expansion of the highway between the cities of Suisun City and Rio Vista. The Corridor Study also makes allowances for accommodating bicycle travel on State Route 12.

Jepson Parkway Concept Plan, 2000

The Jepson Parkway Concept Plan envisions a dedicated transit-way that will tie together the cities of Vacaville, Fairfield, and Suisun City. The transitway will provide an alternative to the congested Interstate 80, and will provide the opportunity to develop multi-modal transit centers to serve areas of all three cities that are currently far from their relatively transit-rich downtowns.

SR 12 2010 East Rio Vista Bridge Relocation Study

The State Route (SR) 12 bridge at Rio Vista is viewed as one of the "choke points" in future vehicle volume needs on the highway. The SR 12 2010 East Rio Vista Bridge Relocation Study examined possible new

alignments for the bridge and right-of-way through the City of Rio Vista. Significantly, multiple alignments proposed routing State Route 12 around Rio Vista, which is currently bisected by the highway.

Solano Rail Crossing Inventory and Improvement Plan, 2011

The Solano Rail Crossing Inventory and Improvement Plan documents all rail crossings that exist in Solano County and examines the safety risk that each crossing presents. The plan provides prioritized recommendations for improving the safety of these crossings and improving the efficiency of the key rail corridors in Solano County. Recommendations include significant grade separation projects for both vehicle crossings and pedestrian/bicyclist crossings of the rail right-of-way.

East Fairfield Community-Based Transportation Plan, 2012

The East Fairfield Community Based Transportation Plan is currently pending adoption by STA. This plan examines the transportation needs for low-income, senior, and other transit-dependent populations in East Fairfield. The plan identifies the cu rrent barriers to transit access and suggests a range of programmatic and infrastructural improvements which can provide better access to employment, services, and other activities essential to daily life.

4.4 Bicycle & Pedestrian Collisions

As part of the Suggested Routes to School mapping process, staff developed maps detailing the documented bicycle and pedestrian collisions for the cities of Vacaville, Vallejo, Fairfield, Suisun City, Benicia, Dixon, and Rio Vista. These maps display all pedestrian and bicyclist collisions with vehicles reported by the Statewide Integrated Traffic Records System (SWITRS)[10] between the years 2005 and 2010 as well as school locations within each city. Maps with bicycle/pedestrian collision locations and totals from 2005-2010 are provided at the beginning of each local planning section in **Part Two**; the same information is also provided on the pedestrian suitability maps documented in **Appendix A**.

The study of collision locations provides two uses. First, the maps informed priority locations for infrastructure improvements, helping extract the largest safety benefit from use of limited SR2S funding. Secondly, the proximity to crash locations was a factor in prioritizing identified projects and assessing potential outside grant funding competiveness. Below is a summary analysis of non-motorized collisions in Solano County, which do not include assessments of severity, crash type, party at fault, or other detailed measures.

The areas with the highest concentration of bicycle/pedestrian crashes in the County for bicyclists and pedestrians are in Fairfield and Vallejo. Fairfield has a significant cluster of incidents in the eastern/central portion of the city along Texas Street and Travis Boulevard. The approach to the Rancho Solano residential development in western Fairfield also had a high number of collisions, as did the Sunset Avenue corridor in

[10] SWITRS is maintained by the California Highway Patrol. Although it is widely believed that many pedestrian and bicycle crashes go unreported, this database is the standard by which crashes are documented and assessed by transportation planning, law enforcement, and other agencies in California.

Suisun City. Vallejo saw a large number of collisions in its historic downtown and along Springs Road in eastern Vallejo. The City of Benicia had their collisions primarily grouped around the historic downtown area. Vacaville had a fairly spread-out pattern of collisions primarily along arterial roadways, with overall totals less than cities of comparable size. Dixon had relatively few collisions, with almost all coming on the arterial roadways of 1st Street, A Street, and Pitt School Road. Rio Vista also had very few collisions reported, the majority of which are grouped along State Route 12.

4.5 2011/2012 Walk Audits

Based on priorities identified by the Local SR2S Community Task Forces, seventeen schools throughout the county were selected for walk audits as part of the 2013 Plan Update and Suggested Routes to School Mapping project. The locations and dates of these walk audits are summarized in **Table 4–1**.

A walk audit is an assessment of travel issues and behaviors developed by observing a school pick up or drop-off period. These walk audits helped "ground truth" data collected as part of the suggested routes to school mapping process, and provided insight into the specific barriers to walking and biking at each school. More detail of the walk audit process itself is provided in this section below, and to a greater extent in **Appendix E**.

The majority of capital improvement recommendations in this Plan are the result of the walk audits listed below. Additional projects were either carried over from the 2008 Plan, identified specifically by the Local Community Task Force, or through assessment of the suggested route to school pedestrian suitability data. These recommendations are organized according to individual schools and local plans in **Chapters 6-13**.

Table 4-1: Summary of STA Walk Audits Completed in 2011/2012

School District	City	School	Walk Audit Date
Benicia Unified School District	Benicia	Benicia Middle	March 23, 2012
		Matthew Turner Elementary	April 23, 2012
		Robert Semple Elementary	March 21, 2012
Dixon Unified School District	Dixon	C.A. Jacobs Intermediate	February 28, 2012
		Tremont Elementary	April 19, 2012
Fairfield/Suisun City Unified School District	Fairfield	B Gale Wilson Elementary	January 31, 2012
	Suisun City	Crescent Elementary	January 18, 2012
	Suisun City	Crystal Elementary	March 28, 2012
	Fairfield	Rolling Hills Elementary	February 10, 2012
	Unincorporated County	Tolenas Elementary	March 27, 2012
River Delta Unified School District	Rio Vista	DH White Elementary	November 14, 2011
Travis Unified School District	Unincorporated County	Center Elementary	February 7, 2012
Vacaville Unified School District	Vacaville	Browns Valley Elementary	February 27, 2012
		Callison Elementary	March 19, 2012
		Vacaville High	April 18, 2012
Vallejo City Unified School District	Vallejo	Johnston Cooper Elementary	May 21, 2012
		Joseph Wardlaw Elementary	November 14, 2012

For the walk audits listed in **Table 4–1**, the assessment team typically included Alta Planning + Design staff; the school principal; staff from the Solano Transportation Authority and Solano Public Health; representatives from the corresponding school district and law enforcement agency; members of the local Community Task Force; and for several schools, concerned parents. Audits were conducted at each school during the afternoon pick-up period, with advance notice/invitations given to area residents via a mailer. Each visit began with a discussion of current challenge areas and the types of issues to focus on for the walk audit. The team then observed student and parent travel activities during the release period, and reviewed the immediate school zone area for quality of sidewalks, curb ramps, signage, and other engineering elements and patterns of activity. After the release period was over, audit participants returned to discuss and document their findings on a large scale school area map. Based on observations and input provided by school staff, Community Task Force members and others, the project team developed recommendations which are presented for each school in a narrative and graphical format in the local planning chapters.

4.6 Project Prioritization

The majority of recommended engineering projects were determined through observations and analysis of conditions at the sites of walk audits from the fall of 2011 through the spring of 2012. The list of recommended engineering projects was then complemented by additional projects identified by the individual Community Task Forces and those projects deemed relevant to carry forward from the 2008 Plan.

All of the engineering projects were subjected to a scoring matrix that could provide both citywide and countywide prioritization ranking. A wide range of criteria were used to rank projects, with the results presented to each community's Task Force. Each Community Task Force provided feedback on the content and order of project rankings as well as Task Force approval. The ranking criteria are:

School Walk Score/Mode Share – Schools with high rates of walking and biking, or neighborhoods that ranked as walkable and bikable places, received a higher ranking. The rationale for this metric is that neighborhoods with great potential for walking and biking may reap the greatest benefit from infrastructure that improved safety for pedestrians and bicyclists. The Walk Score for each school was determined from the website www.walkscore.com, while the mode share was drawn from SR2S hand tallies, where available.

Grant Competitive – Schools that profile as competitive for SR2S grants received a high ranking in this criterion. One contributing factor was the rate of students eligible for the Free & Reduced Lunch Program, with the state SR2S program providing preference to schools with at least 75% of student qualifying.

Proximity to Crashes – Identified projects in proximity to bicyclist and pedestrian collisions with vehicles received a higher ranking. All pedestrian and bicyclist collisions from 2005-2010, as shown in the introduction to each Local Planning section, were used to determine crash proximity.

On Suggested Routes – Projects located on routes identified in the Suggested Routes to School mapping project receive a higher priority because it is assumed that improvements to these streets would serve the most students and have the greatest likelihood of encouraging mode shift away from driving alone.

Project in Other Plans or Serves Multiple Modes – Projects that are identified in other planning documents, such as the Countywide Bicycle Transportation Plan, receive a higher ranking because they are more competitive in grant proposals and have documented support. Projects with the potential to provide benefits to multiple modes of travel also get a high ranking in this criterion.

Achieves Gap Closure – Projects that close gaps for active forms of transportation (such as bike lanes or sidewalk construction), receive a high ranking in this criterion.

Benefit/Cost – Projects in this criterion that provide a high anticipated safety improvement versus their projected costs receive a high ranking.

School/City Support – During Community Task Force meetings to review the priority project lists, members provided feedback on which projects they felt were most essential.

These criteria were combined to provide an "overall priority" ranking. Each identified project was also assigned a "Lead Agency", who would be responsible for project implementation: projects on school grounds are typically led by the school district, while projects in the public right-of-way are generally led by each city. Some projects require additional cooperation with Caltrans and other stakeholders.

4.7 Capital Project Summary

Engineering recommendations are covered in greater detail in the individual jurisdiction chapters in Part Two of this Plan. **Table 4-2** below summarizes the projected cost for all projects identified, the projected cost for priority projects, the estimated total of outside grant funding that might be awarded to each jurisdiction over the next five years, and the estimated remaining contribution that would be required by both the cities and the county to fully implement all priority projects.

Table 4-2: Countywide Safe Routes to School Capital Projects – Funding Totals

	All Projects Identified	Total Priority Projects	Outside Grant Funding (Reasonable Anticipated, 5 years)	Priority Projects Gap (Estimated)
Benicia	$740,500	$424,000	$250,000	$174,000
Dixon	$180,200	$176,000	$50,000	$126,000
Fairfield	$1,854,300	$1,440,000	$500,000	$940,000
Rio Vista	$393,700	$250,000	$250,000	$0
Suisun City	$1,212,500	$875,000	$400,000	$475,000
Travis	Projects included with Fairfield and Vacaville Local Plans			
Vacaville	$1,056,500	$906,300	$25,000	$881,300
Vallejo	$1,540,000	$1,267,000	$525,000	$742,000
Program Sub Total	$6,977,700	$5,338,300	$2,000,000	$3,338,300

In summary, Safe Routes to School planning activities have identified nearly $7 million in capital project needs, with over 75% of this total considered a 'high' or 'medium/high' priority by the local SR2S Community Task Forces. In seeking to fund these projects, STA should consider setting a target goal of $2 million in outside grant funding over the next five years, and programming additional funds as available to help fill the remaining projected gap. To assist with these targets, the STA may support local jurisdictions with technical and coordination grant assistance (to ensure high priority projects are represented and do not unnecessarily

compete with one other) and should consider establishing a local SR2S engineering fund utilizing One Bay Area Grant (OBAG) or other regional funds targeted toward congestion reduction and improved land use/transportation integration.

4.8 Guidelines for Future Projects

In addition to the priority projects identified in the local planning chapters of the 2013 STA SR2S Plan Update, all jurisdictions within Solano County should make every attempt to meet the letter and spirit of complete streets guidelines in all future roadway projects and improvements. What follows is a list of principals to which future projects should cleave in order to meet complete streets guidelines, as well as a sample of recommended projects from this Plan that particularly exemplifies a Complete Streets philosophy.

Design Principles

Reduced Curb Radii

Reducing the radius of the curb line at intersections can have a number of benefits to pedestrians. By extending the sidewalk to reduce the radius of the curb at an intersection, the crossing distance is reduced for pedestrians. A reduction in curb radii also compels drivers to take turns at a slower speed than an intersection with wide curb radii. Designing a street for slower speeds will improve the pedestrian experience and will improve driver sightlines of pedestrians in the roadway. If lack of funding or other problems exist (e.g. drainage issues or lack of sidewalks), roadway hatch markings can sometimes be used as an interim measure to help slow vehicle turns and increase waiting space for pedestrians.

Smaller curb radii – especially for constrained areas – can also help yield sufficient space for the construction of bi-directional curb ramps and/or comfortable landing areas for single ramps. These slight changes can be the difference between a truly accessible route and one which perhaps meets the letter – but not the spirit – of the Americans with Disabilities Act (ADA) design guidelines.

Curb Extensions/Bulb-Outs

At intersections with high pedestrian traffic, jurisdictions should consider the construction of curb extensions, or 'bulb outs.' Curb extensions physically and visually narrow the roadway in a way that brings down driver speeds, reduces pedestrian crossing distances, and can reduce parking enforcement issues near crosswalks and street corners. Curb extensions are appropriate on streets with on-street parking and should not impede a bike lane or similar bicycle facility.

High Visibility Crosswalks

High visibility crosswalks have been proven to increase the yielding rate of drivers to pedestrians in the crosswalk.[11] High visibility crosswalks also help reduce the instances of drivers encroaching upon the crosswalk at a signalized intersection. Providing high visibility crosswalks in most cases, at both controlled and uncontrolled intersections, can help improve the comfort and ease with which pedestrians cross the street.

[11] For a good summary of the discussion of pedestrian safety and marked crosswalks, see Mitman, et al (2007). "The Marked Crosswalk Dilemma: Uncovering Some Missing Links in a 35-Year Debate," Transportation Research Board 2008 Annual Meeting CD-ROM.

Median Pedestrian Islands

Median pedestrian refuge islands should be considered where pedestrians must cross arterial, high volume, or otherwise high-speed roadways, especially for uncontrolled crossings. A median refuge island allows pedestrians to focus on one direction of traffic at a time while crossing the street. It also provides a waiting place for pedestrians who are not fast enough to cross the street in a single signal phase.

Reduced Lane Widths

Especially on local residential streets, but also on some collector streets, jurisdictions should consider the narrowing of travel lane widths where vehicle speeding issues or bicycle facility priorities exist. Providing overly wide travel lane widths induces higher speeds from drivers, whose speed perception is directly related to the width of the street. In addition to moving the curb line for reduced width, other measures include striping a bike lane or a "fog line" for parking isles.

Expanded, Improved Sidewalks

New and expanded sidewalks, whenever feasible, should be constructed using beyond standard minimum widths, and with a landscape buffer strip between the curb and sidewalk. Especially on streets where no street parking exists between travel lanes and the sidewalk (which includes many key arterials in Solano County), landscaping strips are an essential feature to promoting pedestrian comfort and confidence. Rolled curbs should generally be discouraged, as they blur the delineation between pedestrian space and vehicle space – with drivers often parking partially on the sidewalk and blocking pedestrian access.

Low Stress Bicycle Infrastructure

Jurisdictions should prioritize the completion of bicycle networks around schools, with special attention given to the locations with a combination of high connectivity and low 'stress' or conflict between drivers and bicyclists. Jurisdictions may consider providing school-serving bicycle facilities that go beyond the standards mandated in the CA MUTCD and CA HDM; facilities such as bicycle boulevards and physically protected bike lanes provide safe and inviting infrastructure that both students and parents will feel comfortable using. The use of green paint to highlight conflict or transitional areas, the use of painted buffers along with bike lanes, lane markings for bicyclists in the intersection, traffic calming treatments to reduce driver speed, and legible wayfinding on bike routes should all be considered on a project-by-project basis.

Pedestrian Countdown Heads/LPI

Ideally, all traffic signals within school zones should be equipped with countdown heads for pedestrians. Providing certainty for when the light will change encourages more pedestrians to cross at a particular intersection, and can reduce instances of jaywalking. On a case-by-case basis, jurisdictions should consider leading pedestrian indicators (LPI) for heavily trafficked signalized intersections in school zones to help temporally separate pedestrians from turning vehicles.

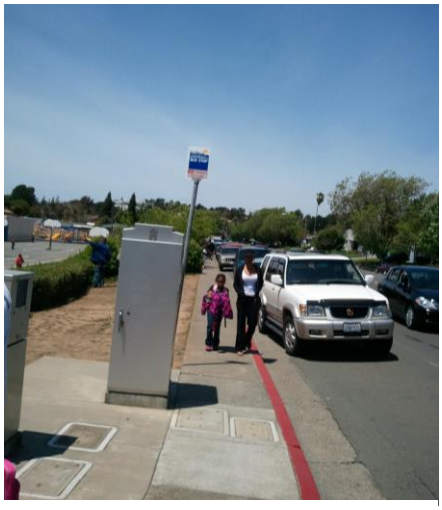
Residential Neighborhood / School Connectivity

New construction of housing units near schools, or retrofits to existing residential neighborhoods, should seek to reduce the length of and exposure to traffic along school travel routes and community services. To maximum extent possible, these developments should design a compact grid of pedestrian and bicycle-friendly streets, and/or include non-motorized pathways at the end of cul-de-sacs and across existing barriers.

Project Examples

Johnston Cooper Elementary, Vallejo – Tuolumne Street at Del Mar Avenue

Tuolumne Street is a four lane collector street that borders the eastern side of Johnston Cooper Elementary in Vallejo. The intersection of Tuolumne Street at Del Mar Avenue is a high-volume intersection for students, parents, and drivers traveling through the neighborhood. The sidewalks along Tuolumne Street and Del Mar Avenue are very narrow and often force users into the street, despite being a critical linkage for nearby parking areas and residential enclaves to the north, south, and east.



Project recommendations for Tuolumne Street and Del Mar Avenue will improve pedestrian safety and comfort, support new bicycle facilities, and enhance transit and school accessibility

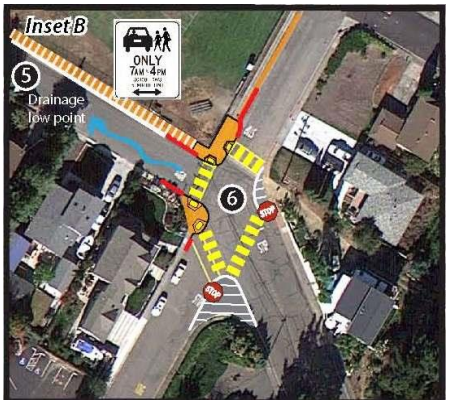
The Travel Plan for Johnston Cooper Elementary recommends a series of projects to improve pedestrian comfort and safety along this corridor and at this intersection. The plan calls for a 'road diet' on Tuolumne Street, or converting the roadway from four lanes to three and introducing bike lanes. This road diet encourages slower driving speeds while providing safe space for bicyclists. The bike lanes move vehicle traffic further from the sidewalk, creating a more comfortable space for pedestrians. Improved school zone signage would be relocated on Tuolumne Street, reinforcing slower driving speeds.

The sidewalks along Tuolumne Street would be expanded by moving the school fence abutting the sidewalk, creating a more comfortable pedestrian space with limited impacts on existing infrastructure. Where sidewalks cannot be expanded, an alternative walking path could be provided on school grounds as an alternative. Closer to Del Mar Avenue, the eroding slope abutting the sidewalk is proposed to be filled in, reinforced, and paved to expand the sidewalk and reduce potential hazards.

The intersection of Tuolumne Street at Del Mar Avenue would receive new curb extensions on all four corners of the intersection, extending to the the outer edge of the parking lane for easier crossings and natural enforcement of existing red curb zones. The adjacent bus stop waiting area would also be improved, as would the crosswalks and pedestrian signals. The final anticipated result is a new community gateway that improves safety for multiple modes across and along an existing arterial barrier, and enhances accessibility to the open school grounds, which include sports fields and children's play equipment.

Robert Semple Elementary, Benicia – East 3rd Street at S Street

The intersection of East 3rd Street and S Street is at the southern corner of the Robert Semple Elementary campus just north of Interstate 780. The intersection is overly broad and uninviting, with an eastern leg that comes in at a skew angle and narrow sidewalks with outdated and misaligned curb ramps. Used by many pedestrians who live south of Interstate 780 and use the tunnel under the highway to avoid neighboring arterial routes, improvements to this intersection would further reduce the "barrier effect" of the highway and help support walking in groups (as with a walking school bus).



Proposed changes to this intersection at Robert Semple include upgraded curb ramps, high visibility crosswalks, and low-cost striping near the tunnel entrance under I-780

The Travel Plan for Robert Semple Elementary calls for a mix of investment strategies at this intersection to improve accessibility and visibility, reduce pedestrian crossing distances and sidewalk gaps, and potentially expand on-street parking and/or school loading areas. Recommendations include a targeted curb extension along the primary access route to the pedestrian tunnel, upgraded crosswalks, widened sidewalks behind the face of curb, and low-cost hatch striping to avoid costly drainage issues while still narrowing corner turning radii and vehicle lane approaches.

5 Funding Sources

Many of the recommended SR2S programming can be carried out with parent volunteers, student volunteers, and school staff. Some of the local oversight of these programs can be managed by School or Parent Champions. Even so, funding is needed to plan and implement programs, hold events, print or procure materials, and develop marketing material and student curriculum. Many funding opportunities exist outside of the resources committed by STA to programmatic and capital improvements, and should be pursued by both STA and the cities of Solano County. This chapter provides a description of these sources.

5.1 Federal Funding Sources

The federal transportation law, MAP-21 (Moving Ahead for Progress in the 21st Century), signed into law in July of 2012 and replacing the longstanding SAFETEA-LU transportation bill, is the largest source of pedestrian and bicycle facility funding in the United States. The federal government funds transportation projects and programs in part through taxes and fees related to use of the transportation system.

Federal Funding (MAP-21)

MAP-21 is a newly enacted transportation bill, replacing the repeatedly re-authorized SAFETEA-LU transportation bill, which was established by the Intermodal Surface Transportation Efficiency Act (ISTEA) (1991). MAP-21 authorizes $105 billion over the 2013 and 2014 fiscal years for surface transportation programs. MAP-21 consisted of a significant realignment of funding rules and allocations over previous iterations of the SAFETEA-LU bill. The Transportation Enhancements (TE) program, federal Safe Routes to School (SRTS) program and Recreational Trails account have been consolidated under MAP-21 into a single account: the Transportation Alternatives (TA) account. The total amount of funding allocated to Transportation Alternatives in the two authorized years of MAP-21 is $808 million, a 33% decrease over the combined funding allocated to the previous three programs under SAFETEA-LU.

MAP-21 divides TA funding between statewide and local agencies for allocation to transportation projects. Half of TA funding is to be administered on the local level, with MPO's controlling distribution of funding. The MPO body administering local TA funding for East Palo Alto is the Metropolitan Transportation Commission (MTC). The other half of TA funding is to be administered by Caltrans. Caltrans, under MAP-21 rules, is empowered to "flex" funding from the TA account to other surface transportation programs. Caltrans has preliminarily agreed not to "flex" away their portion of TA funding. MAP-21 rules also preserve a level of funding for the Recreational Trails account. States must opt into a set-aside for Recreational Trails that matches the previous level of funding for that program, or lose the corresponding amount of funding.

Caltrans administers federal funding and provides project oversight including the issuance of National Environmental Protection Agency (NEPA) clearance for projects. Caltrans works with the local Metropolitan Planning Organization (MPO) to identify projects for funding that are selected through a competitive process. The MPO for the San Francisco Bay Area is the Metropolitan Transportation Commission (MTC) in Oakland, CA. Depending on the fund source, MTC will at times work with a local Congestion Management Agency (CMA), such as the Solano Transportation Authority (STA), to help distribute funding. The use of local-CMAs helps to better identify projects that best benefit a county directly versus looking at projects in relation to a larger region such as the San Francisco Bay Area.

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) was established by ISTEA, and is retained under MAP-21, specifically for projects and programs that will contribute to the attainment of a national ambient air quality standard. CMAQ is jointly administered by FHWA and the Federal Transit Administration (FTA). The funds are available to all ozone, carbon monoxide (CO), and particulate matter (PM) nonattainment and maintenance areas based on population and the degree of severity of pollution. The San Francisco Bay Area is in nonattainment status for ozone 8-hour averaging time, PM1012, and PM2.513. Activities eligible for CMAQ funds include construction of bicycle and pedestrian facilities (paths, bike racks, support facilities, etc.) that are not exclusively recreational and reduce vehicle trips.

MAP-21: http://www.fhwa.dot.gov/map21/

5.2 State Funding Sources

The State of California uses both funds from federal sources that it is responsible for administering and funds from its own budget to implement transportation projects, including bicycle and pedestrian projects and programs. With the passage of MAP-21, the state of California has decided to consolidate state funding with federal funding into a single account: the Active Transportation Program (ATP).

Active Transportation Program (ATP)

With the consolidation of federal funding sources in MAP-21, the California State Legislature has moved to consolidate a number of state-funded programs centered on alternative transportation into a single account. The resulting Active Transportation Program (ATP) will replace the federal TA Program, Bicycle Transportation Account, the Safe Routes to Schools Program, and the Recreational Trails Program. The ATP's authorizing legislation (awaiting final approval as of September 2013) also includes placeholder language to allow ATP to receive funding from the newly established Cap-and-Trade Program in the future. For the 2013/2014 fiscal cycle, approximately $130 million is anticipated for this program, of which $24 million will be earmarked specifically for Safe Routes to School projects. The call for projects is expected in spring 2014. As of July 2014, the protected category of Safe Routes to School projects will be phased out.

The ATP will be administered by the California Transportation Commission (CTC), which is charged with finalizing program selection and distribution criteria. Goals of the Active Transportation Program are currently defined as the following:

1) Increasing the proportion of trips accomplished by biking and walking;
2) Increasing safety and mobility for non-motorized users;
3) Advancing active transportation efforts of regional agencies to achieve the greenhouse gas reduction goals as established pursuant to SB 375 (Chapter 728, Statues 2008);
4) Enhancing Public Health, including the reduction of childhood obesity through the use of program funding, including the use of Safe Routes to Schools programs;
5) Ensuring that disadvantaged communities fully share in the benefit of the program; and,
6) Providing a broad spectrum of projects to benefit many types of active transportation users.

[12] The notation PM_{10} is used to describe particles of 10 micrometers or less and $PM_{2.5}$ represents particles less than 2.5 micrometers in aerodynamic diameter.
[13] hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm

State Highway Operations & Protection Program

The State Highway Operations and Protection Program (SHOPP) is a Caltrans funding source with the purpose of purpose of maintaining and preserving the investment in the State Highway System and supporting infrastructure. Projects typically fall into the following categories: collision reduction, major damage restoration, bridge preservation, roadway preservation, roadside preservation, mobility enhancement and preservation of other transportation facilities related to the state highway system. In the past, SHOPP funds have been used to construct bicycle projects, including curb ramps, overcrossings, bike paths, sidewalks, and signal upgrades to meet ADA requirements. Jurisdictions work with Caltrans' districts to have projects placed on the SHOPP list.

The total amount available for the four-year SHOPP period between 2010/11 and 2013/14 fiscal years is $6.75 billion, which is a reduction in funding from prior SHOPP programs. Past project awards have ranged from approximately $140,000 to $4.68 million.

Online resource: www.dot.ca.gov/hq/transprog/shopp.htm

Caltrans Planning & Environmental Justice Grants

Caltrans also administers Transportation Planning Grant awards that improve mobility by innovatively problems or deficiencies in the transportation system. In the past year, Caltrans awarded $10 million in grant funding to 70 applicants. It contains both Environmental Justice Grants and Community Based Transportation Plan Grants.

Caltrans, Transportation Planning: http://www.dot.ca.gov/hq/tpp/grants.html

Environmental Justice Grant Program

This program promotes the involvement of low-income and minority communities, and Native American tribal governments in the planning for transportation projects. EJ grants have a clear focus on transportation and community development issues to prevent or mitigate disproportionate, negative impacts while improving mobility, access, safety, and opportunities for affordable housing an economic development. Grants are available to cities, counties, transit districts, and tribal governments.

Caltrans, Environmental Justice Program:

http://www.dot.ca.gov/hq/tpp/offices/ocp/completed_projects_ej.html

Community Based Transportation Grant Program

The Community-Based Transportation Planning (CBTP) grant program promotes transportation and land use planning projects that encourage community involvement and partnership. These grants include community and key stakeholder input, collaboration, and consensus building through an active public engagement process. CBTP grants support livable and sustainable community concepts with a transportation or mobility objective to promote community identity and quality of life.

Caltrans, CBTP Program: http://www.dot.ca.gov/hq/tpp/offices/ocp/completed_projects_cbtp.html

Petroleum Violation Escrow Account (PVEA)

In the late 1970s, a series of Federal court decisions against selected United States oil companies ordered refunds to the States for price overcharges on crude oil and refined petroleum products during a period of

price control regulations. To qualify for PVEA funding, a project must save or reduce energy and provide a direct public benefit within a reasonable time frame. In the past, the PVEA has been used to fund programs based on public transportation, computerized bus routing and ride sharing, home weatherization, energy assistance and building energy audits, highway and bridge maintenance, and reducing airport user fees. In California, Caltrans administers funds for transportation-related PVEA projects. PVEA funds do not require a match and can be used as match for additional Federal funds.

Online resource: www.dot.ca.gov/hq/LocalPrograms/lam/prog_g/g22state.pdf

Proposition 84 – Urban Greening

The Urban Greening Grant Program is funded under Proposition 84 and is managed by the Strategic Growth Council and the California Natural Resources Agency. Urban Greening grant funding is eligible for projects and planning efforts that decrease air or water pollution, reduce natural resource consumption, increase the reliability of local water supplies, or increase adaptability to climate change in urban areas. Projects must also construct or plan for new community green spaces to be eligible. Solicitation for the third and final round of planning grant awards took place in the summer of 2013, although continuation of this program (or a similar program) can be expected in future years.

Online resource: http://www.sgc.ca.gov/urban_greening_grants.html

Office of Traffic Safety (OTS) Grants

The Office of Traffic Safety distributes grants statewide to establish new traffic safety programs or fund ongoing safety programs. OTS grants may only be applied to non-infrastructure projects, such as bicyclist and pedestrian safety courses. Grant funding cannot replace existing programmatic funding. Applications are ranked on their potential safety impact and the applicant's track record on previous OTS grants.

California Office of Traffic Safety: http://www.ots.ca.gov/

Environmental Enhancement and Mitigation Funds

The Environmental Enhancement Mitigation Program (EEMP) provides grant opportunities for projects that indirectly mitigate environmental impacts of new transportation facilities. Projects should fall into one of the following three categories: highway landscaping and urban forestry, resource lands projects, or roadside recreation facilities. Funds are available for land acquisition and construction. The local Caltrans District must support the project. The average award amount is $250,000.

Online resource: http://www.dot.ca.gov/hq/LocalPrograms/EEM/homepage.htm

Land and Water Conservation Fund

The Land and Water Conservation Fund is a federal program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The Fund is administered by the California State Parks Department.

Cities, Counties, and District authorized to acquire and develop park and recreation space are eligible for grant funding. While non-profits are ineligible, they are allowed to apply in partnerships with eligible agencies. Applicants must fund the project entirely and will be reimbursed for half of the cost. Up to $2 million was available in the 2012 round of grant funding.

LWCF: http://www.parks.ca.gov/?Page_id=21360

5.3 Regional Funding Sources

One Bay Area Grant (OBAG)

This funding source managed by the Metropolitan Transportation Commission (MTC) establishes program commitments and policies for investing roughly $800 million over the four-year period that includes fiscal years 2012/13 – 2015/16. The OneBayArea Grant Program is a new funding approach that integrates the region's federal transportation program with California's climate law (Senate Bill 375, Steinberg, 2008) and the Sustainable Communities Strategy. Funding distribution to the counties will consider progress toward achieving local land-use and housing policies based on specifically designated allocation areas and design policies (Complete Streets).

The OBAG program allows flexibility to invest in transportation categories such as Transportation for Livable Communities, bicycle and pedestrian improvements, local streets and roads preservation, and planning activities, while also providing specific funding opportunities for Safe Routes to School (SR2S) and Priority Conservation Areas.

Online resources: http://www.mtc.ca.gov/funding/onebayarea/

Yolo-Solano Air Quality Management District Clean Air Fund

The Yolo-Solano Air Quality Management District's Clean Air Funds program is an annual program that can provide funds to facilitate alternative transportation programs including walking and bicycling programs and related infrastructure, public information, education and incentives for Yolo County and northeastern Solano County.

YSAQMD: http://ysaqmd.org/incentives.php

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PART TWO
Local Planning

6 Benicia

6.1 SR2S Community Task Force

The Benicia Safe Routes to School Community Task Force conducted three official meetings to initiate, develop, and prioritize recommendations as part of the 2013 SR2S Plan Update process. Several members of the Task Force were also present at the walk audits conducted for the three selected schools: Benicia Middle School, Matthew Turner Elementary, and Robert Semple Elementary. The membership of the Benicia SR2S Community Task Force is shown in Table 6-1.

Table 6-1: Benicia Task Force Membership

Name	Position
Tom Campbell	Vice Mayor
Alan Schwartzman	Council Member
Rose Switzer	Board Member, Benicia Unified School District
Lindsay Dalske	Vice Principal, Benicia Middle School
Melissa Morton	Director, Public Works
Mike Roberts	Senior Civil Engineer, Public Works

6.2 Walkshed and Collision Maps

Figure 6-1 on the following page displays the locations of schools, the locations of parks, and the walkshed for each school in the City of Benicia. A walkshed shows how far a student could walk from school in a given amount of time. The map displays outer boundaries for both a ten-minute and twenty-minute walkshed, assuming an average walking speed of 2.8 feet/second. Figure 6-2 shows the approximate locations and volume for all collisions involving pedestrians or bicyclists from 2005-2010, as documented by the California Highway Patrol SWITRS (Statewide Integrated Traffic Records System).

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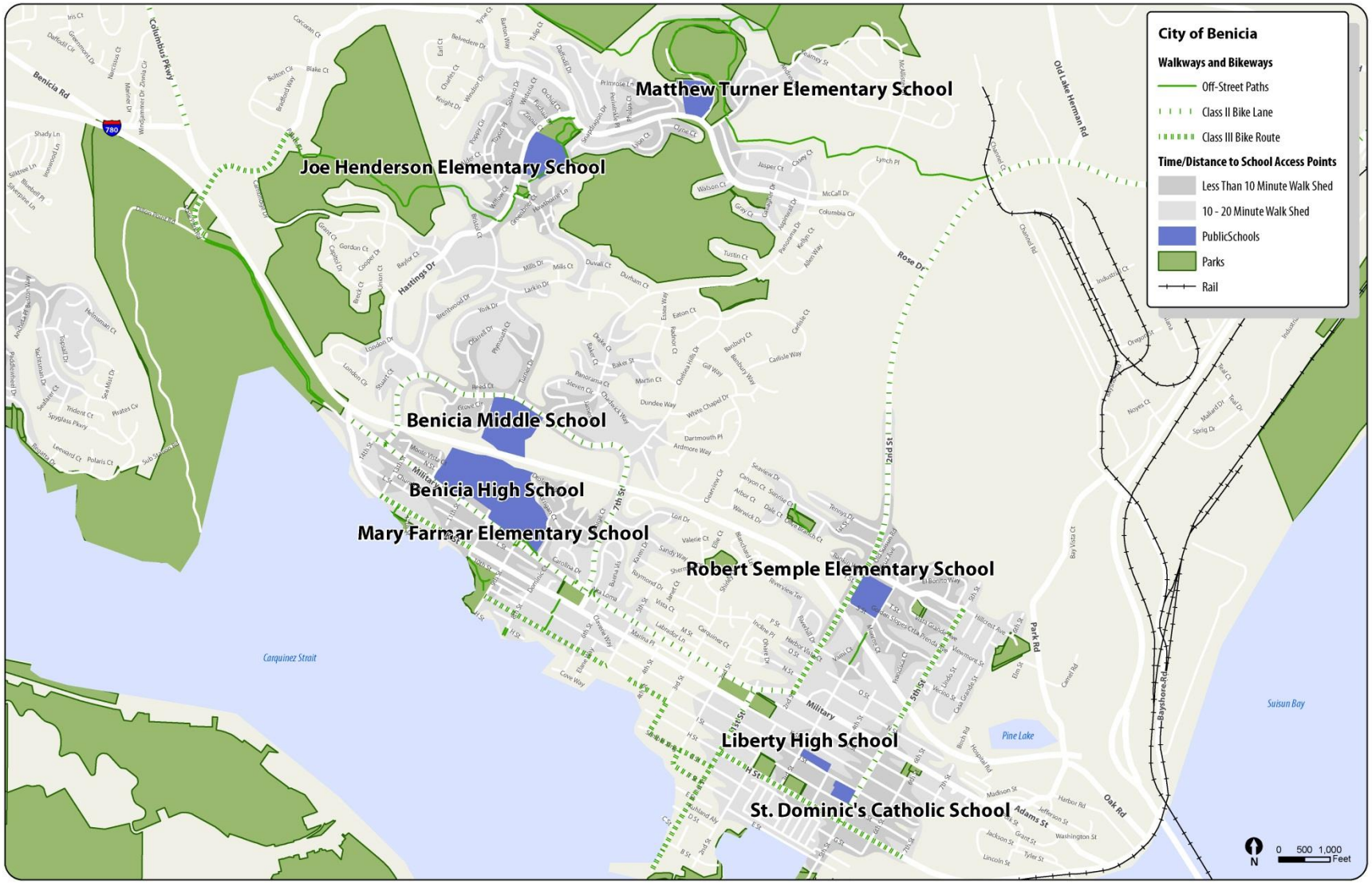

Figure 6-1: Benicia schools, parks, and walksheds

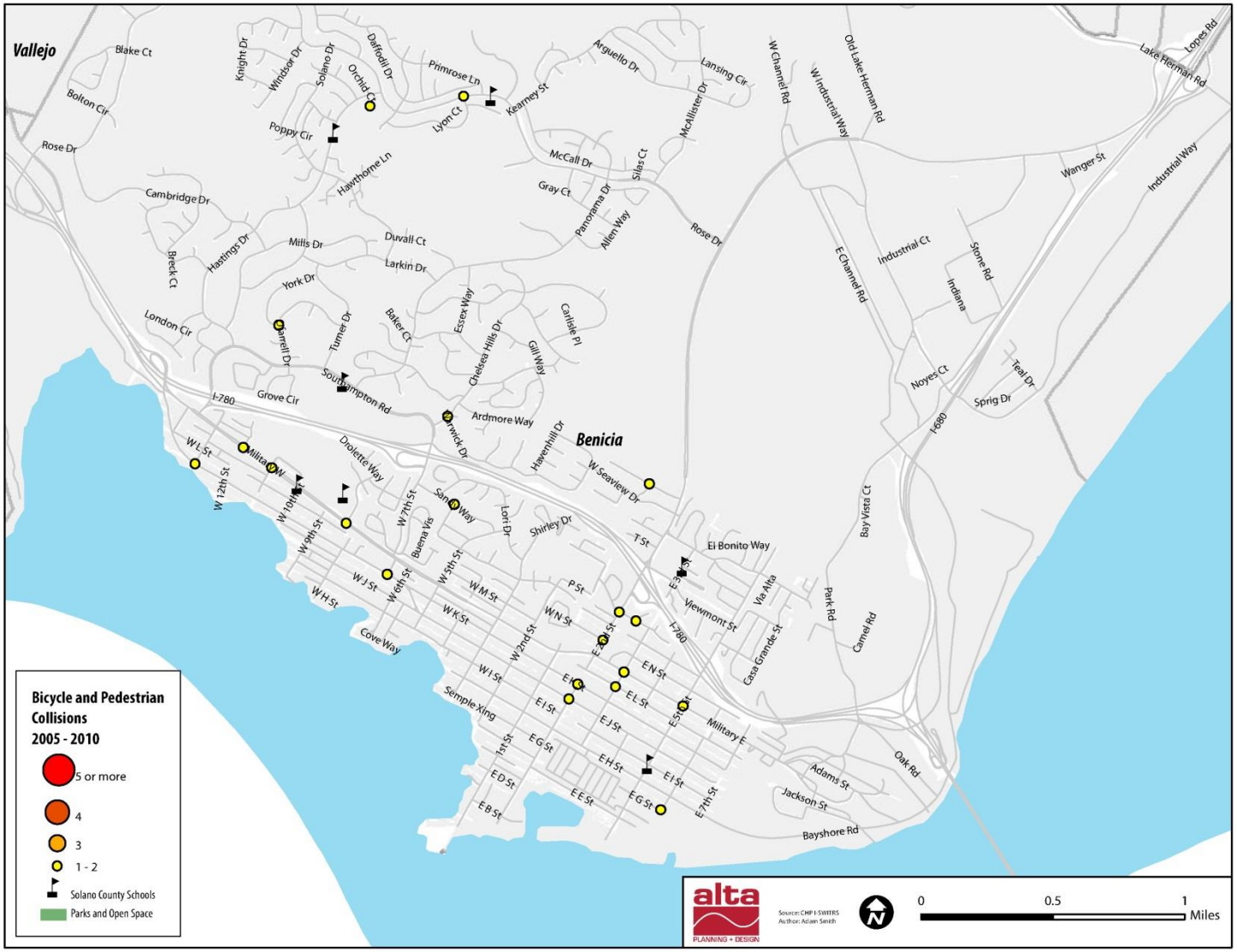

Figure 6-2: Benicia Bicyclist & Pedestrian Collisions, 2005-2010

6.3 2008 STA SR2S Plan

During the 2008 STA SR2S Plan, a Consultant-led walk audit was conducted at Benicia High and City-led walk audits were conducted at Benicia Middle School, Joe Henderson Elementary, Mary Farmar Elementary, Matthew Turner Elementary, Robert Semple Elementary and St. Dominic's Catholic School. Out of the thirty six (36) Benicia infrastructure projects identified in the 2008 STA SRS Plan, fifteen (15) projects were completed. Major project implementation took place at Benicia High School and St. Dominic's Catholic School. Six (6) remaining projects are incorporated into the 2013 STA SR2S Plan Update.

Benicia High

The City implemented all recommendations from the 2008 STA SR2S Plan. These improvements included closure of sidewalk gaps on West 10th Street and West 11th Street, and a 'road diet' (4 to 2 lane conversion with center two-way left turn lane) of Military West with the following elements included: bike lanes, curb extensions and high-visibility crosswalks at two intersections, improved bus shelters and pedestrian seating, and a relocated crosswalk at the intersection with West 10th Street.

St. Dominic's Catholic School

The City constructed curb extensions and a high-visibility crosswalk on 5th Street adjacent to school grounds. The Benicia SR2S Task Force expressed interest in following up on these completed projects to further improve pedestrian safety around the school.

Programmatic Achievements

Benicia has implemented a number of programmatic recommendations in the 2008 STA SR2S Plan, dealing with enforcement, education, and encouragement. Also since 2008, three schools (Benicia Middle, Matthew Turner Elementary, and Joe Henderson Elementary) have participated in hand tally travel surveys.

Encouragement

Four schools in Benicia will participate in the STA Walking School Bus pilot program in the 2012-2013 school year: Mary Farmar Elementary, Matthew Turner Elementary, Joe Henderson Elementary, and Robert Semple Elementary. Safety Assemblies and Bike Rodeos have also been held at each of these four schools.

In fall 2011, four schools participated in International Walk & Roll to School Day: Matthew Turner Elementary, Joe Henderson Elementary, Robert Semple Elementary, and St. Dominic's Catholic School. These schools also participated in the same event in 2012, as did Mary Farmar Elementary School.

Comprehensive crossing improvements for St. Dominic's Catholic School at E 5th Steet and E J Street were completed as part of implementation of the 2008 SR2S Plan recommendations

Enforcement

Matthew Turner Elementary has a robust Student Safety Patrol program, where students assist crossing guards at multiple locations on school grounds.

6.4 Carried-Over Recommendations

Benicia Middle

The 2008 STA SR2S Plan recommends one project at Benicia Middle which will be carried over with modifications in the current plan. The original recommendation was for a speed table at the intersection of Southampton Road at Turner Drive. This project has been adjusted to recommend a pedestrian-activated flashing beacon at this intersection, along with several related pedestrian improvements.

Matthew Turner Elementary

The 2008 Plan recommends a new crosswalk across the Community Park parking lot entrance to help formally establish the pedestrian desire line (the natural path of pedestrians) toward Kearney Street. Support for this recommendation continues and has been refined to incorporate ADA accessible curb ramps and landing areas.

Robert Semple Elementary

The 2008 Plan recommends lighting and aesthetic enhancements for the pedestrian tunnel under Interstate 780. This tunnel provides the only east/west access to Robert Semple Elementary that avoids significant highway-generated traffic. This recommendation has expanded to include repair of sidewalks approaching the tunnel and ensuring ADA compliance for access to and from the tunnel.

Joe Henderson Elementary

The 2008 Plan recommends widening the sidewalk along Hastings Drive immediately adjacent to and north of the school, and to open the back school gate where is connects to a Class I pathway. Both of these recommendations are carried over to support and improve suggested walking routes to school.

Mary Farmar Elementary

The 2008 Plan recommendation to pave the existing pathway between the school's playground area and Drolette Way is carried over in the 2013 Plan. The current pathway does not meet ADA, but is a significantly more direct access point for student families coming to/from the north and east of the school.

6.5 2013 Plan Walk Audit Recommendations

Benicia Middle School

The recommendations at Benicia Middle School focus on improving Southampton Road, the street that fronts the school. Priority pedestrian projects include new crosswalks across Southampton Road, both to the east and west of the school; sidewalk widening along the school frontage; and the installation of a pedestrian-actuated flashing beacon at Southampton Road and Turner Drive. Recommended improvements to this intersection also include sidewalk expansion and accessibility upgrades across the street and securing agreements with adjacent churches to use their parking lots for remote drop-off.

Matthew Turner Elementary

The recommendations at Matthew Turner Elementary focus on improving circulation around the school and improving pedestrian access. To address circulation, the report recommends studying a reconfiguration of Dempsey Drive and the distribution of drop-off and pick-up areas to disperse the concentration of drivers. To improve pedestrian access, additional facilities are recommended to formalize the route across the Benicia Community Park parking lot to/from the well-used pedestrian paths from Kearney Street. A recommendation in the initial phase of this report, the City will implement bike lanes on Rose Drive as part of the Rose Drive Traffic Calming Program.

Robert Semple Elementary

The recommendations at Robert Semple Elementary comprehensively address pedestrian access and safety. Sidewalk gaps and broad, offset (skewed) intersections are nearby the school, making for a difficult pedestrian environment. This report recommends using striping treatments to reduce the size of these offset intersections, creating 90 degree angle approaches for drivers and reducing the crossing distance for pedestrians. Improved pedestrian facilities along the suggested walking route to/from the tunnel under Interstate 780 and at the intersection of Hillcrest Avenue and E 3rd Street. This report also recommends a program of sidewalk construction to close gaps along walking routes to the east of the school near Duncan Graham Park.

6.6 Additional New Projects

St. Dominic's Catholic School

The Benicia SR2S Community Task Force identified one additional project – outside of the walk audit recommendations – for consideration of funding through this Plan. The project would serve St. Dominic's Catholic School and involve the installation of an actuated Rapid Rectangular Flashing Beacon (RRFB) at the uncontrolled crosswalk at the intersection of East J Street at 5th Street. This is the crosswalk where bulb-outs had been constructed as a 2008 STA SR2S Plan priority project.

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Table 6-2: Benicia Priority Engineering Projects

Benicia - Safe Routes to School Capital Project List

Total Project Costs Identified	**$740,500**	**Total Priority Projects**	**$424,000**	**Grants (Reasonable Anticipated, 5 years)**	**$250,000**

School District	School Name	Travel Plan ID #	Project Description	Funding Priority	Lead Agency	Cost Estimates
BUSD	Robert Semple Elementary	2	• Use hatch markings and/or soft hit posts to square up the El Bonito Ave/La Cruz Ave intersections • Install curb extension on southwest corner of Hillcrest Ave/3rd Street with new high visibility crosswalk and curb ramps • Enhance southern crosswalk to high-visibility yellow, refresh others as necessary	High	City	$35,000
BUSD	Robert Semple Elementary	8	• Construct sidewalk segments on El Bonito Way to close gaps on two blocks adjacent to the school • Construct a sidewalk segment on the north side of Vista Grande Avenue • Construct sidewalk segment on Hilcrest Ave (south side) • Use hatchings to square up Vista Grande/Hillcrest/Linda Vista intersection	High	City	$100,000
BUSD	Robert Semple Elementary	6	• Install curb extensions at northwest and southwest legs; fill in landscape strip along 3rd Street with all-weather accessible walking surface • Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks • Stripe a new high-visibility crosswalk in the east leg and reduce crossing distances/curb radii by providing hatched bulb-outs and/or soft hit posts.	High	City	$95,000
BUSD	Benicia Middle	2	• Install Rectangular Rapid Flash Beacon (RRFB), or similar device, and related school crossing signage at Southampton Road and Turner Drive • Provide truncated domes on existing curb ramps	High	City	$25,000
BUSD	Benicia Middle	2	• Widen sidewalks on north side of Southampton Road at Turner Road • Widen sidewalks on southern side of intersection along school frontage	High	City & BUSD	$125,000

School District	School Name	Travel Plan ID #	Project Description	Funding Priority	Lead Agency	Cost Estimates
BUSD	Matthew Turner Elementary	2	• Construct a landing pad for the existing crosswalk on the eastern side of Dempsey Drive at the Benicia Community Park parking lot entrance • install high-visibility yellow crosswalk at parking lot entrance, with curb ramps	High	City	$16,000
BUSD	Matthew Turner Elementary	3	• Study options for reconfiguring Dempsey Drive at intersection with Rose Drive to provide two ingress lanes for improved access to the Benicia Community Park parking lot; options to be studied include conversion of an existing egress lane (within existing roadway cross section) or widening roadway to four travel lanes • Construct a curb ramp at southern end of the crosswalk across Rose Drive	High	City	$25,000
BUSD	Robert Semple Elementary	3	• Replace existing crosswalk at 2nd Street with high-visibility yellow crosswalk	Medium/High	City	$3,000
BUSD	Benicia Middle	1, 2	• Widen sidewalks west of school driveway entrance at the bus stop • Replace white diagonal crosswalk in school parking lot with high-visibility yellow crosswalk	Medium	BUSD	$12,000
BUSD	Joe Henderson Elementary	2008 Plan	• Open rear school gate where Class I pathway connects to campus	Medium	BUSD	$1,000
BUSD	Mary Farmar Elementary	2008 Plan	• Pave and upgrade accessibility of existing pathway behind school at Drolette Way	Medium	BUSD	$100,000
BUSD	Robert Semple Elementary	6	• Construct sidewalk on the north side of S Street to close existing gap	Medium/Low	City	$45,000
BUSD	Robert Semple Elementary	7	• Install additional lighting in tunnel • Repave sidewalk approach and retrofit pathway for ADA access and compliance	Medium/Low	City	$42,000
BUSD	Matthew Turner Elementary	1	• Refresh curb paint and signage at load zones in school parking lot	Medium/Low	BUSD	$500
BUSD	Robert Semple Elementary	1	• Replace yellow curb loading zone at the school entrance with white curb • Designate yellow curb area to the west as bus/van loading zone • Make western parking lot an additional loading zone • Refresh white pavement striping in loading zones	Low/Medium	BUSD	$1,000
Private	St. Dominic's Catholic School	Task Force	• Install pedestrian-actuated flashing beacon at East J and 5th Streets	Low	City	$15,000
BUSD	Joe Henderson Elementary	2008 Plan	• Widen sidewalk along Hastings Drive adjacent to and north of school	Low	City	$50,000
BUSD	Robert Semple Elementary	4	• Retrofit/upgrade existing ramp pathway to meet ADA requirements	Low	BUSD	$40,000

School District	School Name	Travel Plan ID #	Project Description	Funding Priority	Lead Agency	Cost Estimates
BUSD	Benicia Middle	4	• Install fence or use vegetation to discourage students from cutting through the landscaping. • Install curb ramps with truncated domes at driveway.	Low	City	$10,000

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6.7 Benicia Middle School Travel Plan

Principal:	Michael Minahen
Enrollment:	1,225
Arrival:	8:30 AM
Dismissal:	3:10 PM; Wednesday, 1:20 PM
Mode Share:	19% walk/bike (May 2011) 19% walk/bike (Oct 2010)
Walk Score[14]:	60/100
Free/Reduced Lunch:	20.3% in 2010-2011

Benicia Middle School is located adjacent to Interstate-780 in northern Benicia

Layout

Benicia Middle School is located in western Benicia on Southampton Road, a primary east/west arterial with bicycle lanes and no street parking. A landscaped median on Southampton Road gives way at intersections to left-turn pockets. Interstate-780 runs along the south side of the school, and the majority of students travel along Southampton Road. The only marked crossing of Southampton Road is a high-visibility ladder crosswalk in front of the school, on the west side of Turner Drive. Transverse crosswalks parallel Southampton Road on the north side at O'Farrell Drive, Turner Drive, at adjacent church parking lot driveways, and on the south side at the entrance and exit to the school parking lot. A speed feedback sign is located just east of Grove Circle, on the eastbound approach to the school.

Two churches sit across the street from the school on either side of Turner Drive, both of which have large parking used for school loading. The school has a formal agreement with the First Baptist Church, located on the northeast corner of Southampton Road and Turner Drive. The church provides breakfast for students and parents drop off and pickup in the parking lot. The Church of Jesus Christ of Latter-Day Saints allows student loading in the parking lot, but without a formal agreement.

A shopping center east of the school attracts students after school and some parents pick up there. Students walk on the south side of Southampton Road to access the shopping center. The Southampton Road crossing of Interstate-780 to the south is the only pedestrian crossing of the freeway within 0.8 miles.

The main driveway for Benicia Middle School is blocked to through traffic during drop off and pick up times. The main access point is directly in front of the school on Southampton Road. Students who bicycle may access the school to the west side of the campus. There is no bicycle or pedestrian access to the south, west, or east of the school. There is a gated bicycle parking area on the school campus north of the main entrance. No marked crossing is provided across Southampton Road where students emerge with their bicycles.

Site Visit

The project team conducted a walk audit at Benicia Middle School in the afternoon of Friday, March 23rd. Conditions were sunny, with no indication of unusual factors influencing normal pick-up behaviors. Participating in the walk audit was Vice Principal Dalske, representatives from the community Task Force, the City of Benicia Public Works Department, and the Solano Transportation Authority. Participants

[14] See www.walkscore.com for more information.

observed traffic and pedestrians in front of the school, west of the school where students exit with bicycles and where the buses load, at the church parking lots, and east of the school at Southampton Road.

Most student exit the school from the front and cross Southampton Road, where the crossing guard allows them to cross at an angle

Loading Zones

The designated loading zone for Benicia Middle School is along Southampton Road. Many students cross the school driveway at the wide marked crossing to wait at the southwestern corner of the intersection of Southampton Road at Turner Drive. Students are picked up along Turner Drive or in the church parking lots. Some students also ride the City of Benicia bus (SolTrans) from the bus stop located to the west end of campus.

There is a crossing guard at the intersection of Southampton Road and Turner Drive, who stops traffic in all directions to facilitate diagonal pedestrian crossing. Teachers assist with directing students from the median between the school parking lot and Southampton Road.

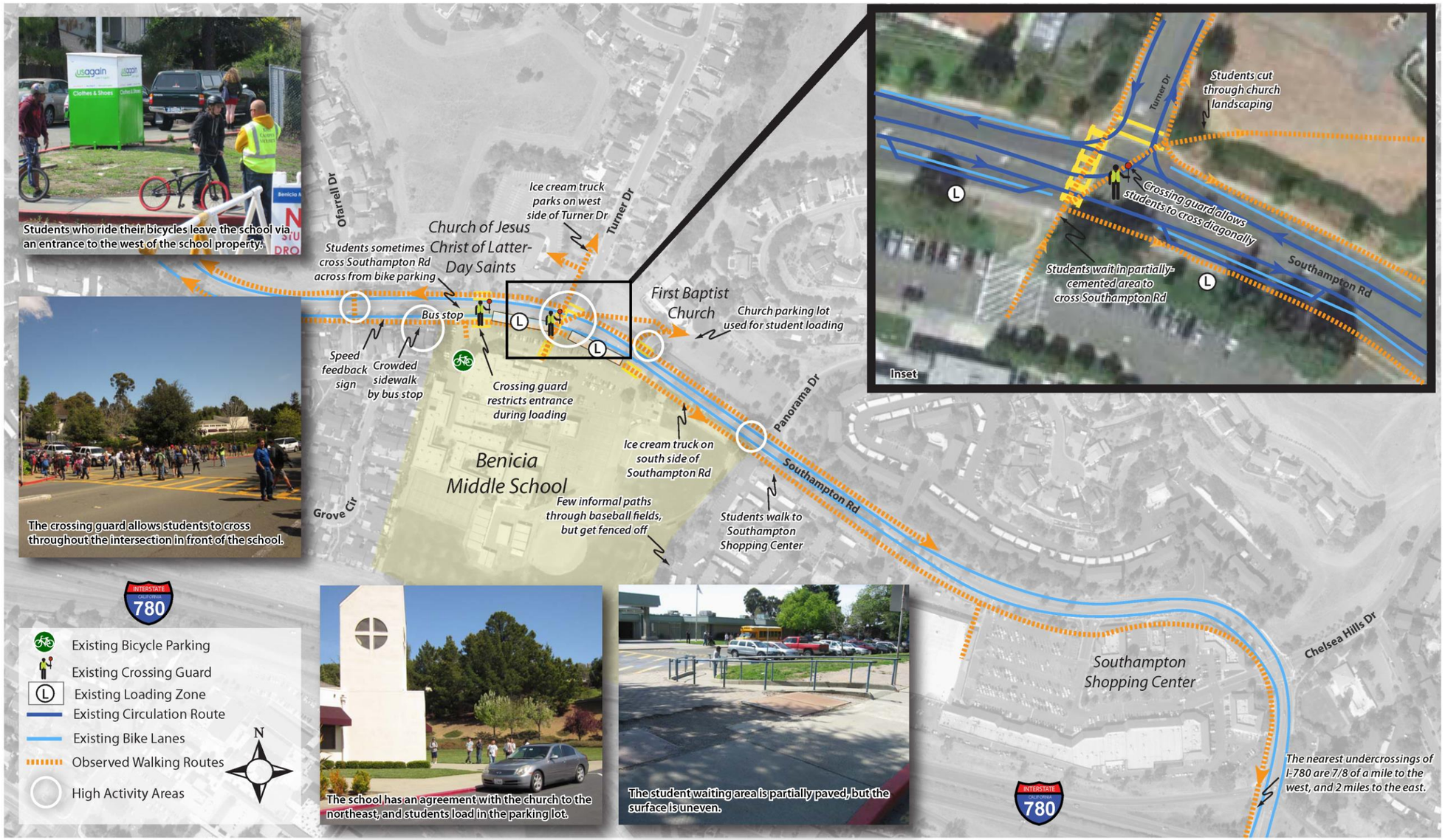
Other Plans

The **2004 Solano County Pedestrian Master Plan** identifies pedestrian connections to the Southampton Shopping Center as a priority for the City of Benicia, and finds Southampton Road to be a major pedestrian route. It also notes the possibility of an enhanced crosswalk at Turner Drive and Southampton Road, as well as other (unspecified) school access safety improvements.

The **2011 STA Safe Routes to Transit Plan** proposed a park and ride lot along Southampton Road, which would be a transit facility of regional significance.

The **2008 Solano County Safe Routes to School Plan** included improvement plans for Benicia Middle School. Projects include improving the informal trail in the open space north of Southampton Road, which does not appear to be utilized as a current route to or from school. In addition, the Plan recommends installation of a "table top" treatment (also known as a raised intersection) at the Southampton Road and Turner Drive intersection. The Plan also recommends a crossing of Southampton Road at Grove Circle, and a long term recommendation of connecting the Middle School and High School via a bicycle/pedestrian bridge over I-780. Non-engineering recommendations include speed feedback signs on Southampton Road, which have been implemented, as have school bicycling encouragement programs (a Bike Rodeo).

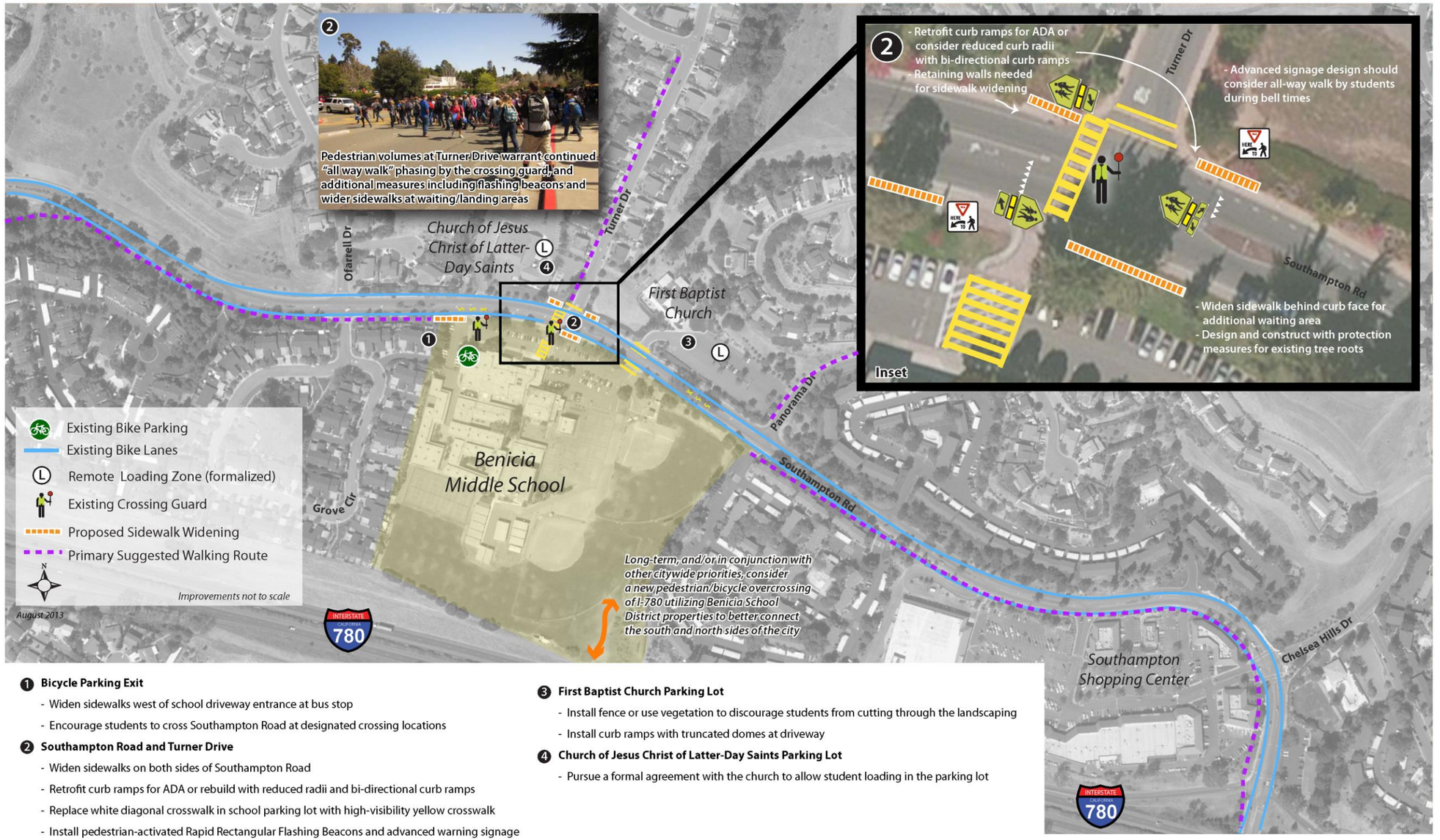
The **Land Use + Transportation Element of the Benicia Climate Action Plan** calls for reinstating school buses throughout the Benicia Unified School District (BUSD), and also notes Benicia's success in implementing Safe Routes to School infrastructure programs.



Benicia Middle School
Existing Conditions

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 6-3: Benicia Middle School Existing Conditions



1 Bicycle Parking Exit

- Widen sidewalks west of school driveway entrance at bus stop
- Encourage students to cross Southampton Road at designated crossing locations

2 Southampton Road and Turner Drive

- Widen sidewalks on both sides of Southampton Road
- Retrofit curb ramps for ADA or rebuild with reduced radii and bi-directional curb ramps
- Replace white diagonal crosswalk in school parking lot with high-visibility yellow crosswalk
- Install pedestrian-activated Rapid Rectangular Flashing Beacons and advanced warning signage

3 First Baptist Church Parking Lot

- Install fence or use vegetation to discourage students from cutting through the landscaping
- Install curb ramps with truncated domes at driveway

4 Church of Jesus Christ of Latter-Day Saints Parking Lot

- Pursue a formal agreement with the church to allow student loading in the parking lot

Benicia Middle School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 6-4: Benicia Middle Recommended Improvements

Benicia Middle Existing Conditions and Recommendations

Bicycle Parking Exit

Bicycle parking is located within the school fence on the west side of school grounds. Students leave through a gate and cross the parking lot via a marked crossing. There are, however, no marked crosswalks across Southampton Road at this location.

This location is also where the school buses line up to wait for students. The sidewalks lack capacity for the large volume of students who line up to get on the buses; students congregate on the dirt adjacent to the sidewalk.

A crossing guard ensures that parents do not turn into the school driveway entrance to park or load their students. The bus for special education students is allowed to load in the school parking lot.

A crossing guard prevents parents from driving into the school parking lot to load students, and SolTrans buses pick students up west of the school

Recommendation (ID #1)

The District should encourage students leaving from this exit to walk to the main crosswalk of Southampton Road at Turner Drive or to walk on the south side of the road. The City should explore enlarging the sidewalk adjacent to the bus loading area to facilitate the high volume of waiting students after school. The expanded sidewalk would be built behind the curb on the adjacent dirt strip at this location.

Southampton Road and Turner Drive

The majority of students exit Benicia Middle School via the front entrance and cross Southampton Road at Turner Drive. Students cross the wide crosswalk in the school parking lot and wait for the crossing guard in the partially-paved area in the southwest corner of the intersection. When the crossing guard allows, the majority cross diagonally to the northeast corner of the intersection. Due to the large volume of students crossing at this intersection, students spill out throughout the intersection.

Sidewalk extensions are needed to accommodate the highest volume of pedestrians

Recommendation (ID #2)

The 2008 Solano County Safe Routes to School Plan recommends a raised intersection at Southampton Road and Turner Drive. In lieu of a raised intersection, the City has identified a pedestrian-activated Rapid Rectangular Flashing Beacon (RRFB), or similar device, as the preferred improvement on Southampton Road.

Additional recommendations include widening the sidewalks on both sides of Southampton Road to accommodate the volume of student pedestrians. Sidewalk expansion on the south side of the street will, by necessity, be on school property and the District should coordinate with the City on the project. Retrofitting

all curb ramps with yellow truncated domes is recommended, as is restriping the white diagonal crosswalk in the school parking lot as yellow high-visibility.

Students cut through the landscaping to get picked up at the First Baptist Church parking lot

First Baptist Church Parking Lot

Benicia Middle School has an agreement with the First Baptist Church on the northeast corner of Southampton Road and Turner Drive, allowing student pick-up.

Students access the church via an informal dirt path northeast of Southampton Road and Turner Drive across the church lawn, or along the north side of Southampton Road and up the driveway. The parking lot has few conflicts with pedestrians and automobiles. Drivers access the parking lot via a dedicated left turn lane on Southampton Road. The driveway has a transverse crosswalk and no curb ramps.

Recommendations (ID #3)

The School could encourage more parents to use the church parking lots as a loading zone. This disperses traffic on Southampton Road and reduces congestion. The City could also work with the church to install fencing or use additional vegetation to discourage students from walking through the landscaping at the corner of Southampton Road and Turner Drive.

At the church driveway, new curb ramps with truncated domes are recommended for improved access.

Church of Jesus Christ of Latter-Day Saints Parking Lot

The Church of Jesus Christ of Latter-Day Saints on the northwest corner of Southampton Road and Turner Drive informally allows parents to drop off and pick up their students in the parking lot. The large size of the parking lot and separate entrance and exit results in few conflicts between students walking and drivers.

Recommendation (ID #4)

The School should consider pursuing a formal agreement with the church to allow student loading in the parking lot.

Summary of Recommendations

Table 6-3 lists the recommended improvements to address safety and circulation issues around Benicia Middle School; Figure 6-3 maps existing conditions and Figure 6-4 presents an improvement plan of these recommendations. The project IDs in Table 6-3 correspond to those in Figure 6-4. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work that may be required for some of the recommendations.

Table 6-3: Benicia Middle School Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	Bicycle Parking Exit	• Widen sidewalks west of school driveway entrance.	BUSD	Middle	$10,000
2	Southampton Road at Turner Drive	• Widen sidewalks on both sides of Southampton Road. • Provide truncated domes on curb ramps. • Install pedestrian-activated Rapid Rectangular Flashing Beacons (RRFBs) at intersection. • Replace white diagonal crosswalk in school parking lot with high-visibility yellow crosswalk.	City of Benicia/ BUSD	High	$152,000
3	First Baptist Church parking lot entrance	• Install fence or use vegetation to discourage students from cutting through the landscaping. • Install curb ramps with truncated domes at driveway.	City of Benicia	Low	10,000
4	LDS Church Parking Lot	• Pursue a formal agreement with the church to allow student loading in the parking lot.	BUSD	Low	N/A
Total Cost					**$172,000**

6.8 Matthew Turner Elementary School Travel Plan

Principal:	Barbara Sanders
Enrollment:	K-5, 534
Arrival:	K-5, 8:40 AM
Dismissal:	K, 1:40 PM; 1-3, 2:53 PM; 4-5, 3:05 PM; Friday, 12:40 PM
Mode Share:	13% walk/bike (Oct. 2011), 10% walk/bike (May 2011)
Walk Score[15]:	52/100
Free/Reduced Lunch:	0% in 2011-2012, 6% in 2010-2011

Matthew Turner Elementary is located in an exclusively residential area of northern

Layout

Matthew Turner Elementary is located at the northern edge of Benicia, nestled amongst hillside residential communities. Development surrounding the school is interspersed with preserved open space hilltops, limiting the number of through roadways. To north of the school are the playing fields and parking lots of the Benicia Community Park, followed by dedicated open space. Rose Drive, one of the connecting thoroughfares in the community, bounds the school on the south. Dempsey Drive, which serves both the school and Benicia Community Park, bounds the school on the east. To the west of the school are single family homes which all front onto Primrose Lane.

There is a significant trail system in the community surrounding Matthew Turner Elementary. The Rollye Wiskerson Trail is located to the north of Benicia Community Park and travels from Vallejo and the Bay Ridge Trail in the west to Lake Herman in the east. A spur from this trail travels southeast to E 2nd Street. Another pathway travels off-street from the western end of Rose Drive to Hastings Drive. This pathway continues behind Joe Henderson Elementary and Jack London Park, emerging at Rose Drive just west of Matthew Turner Elementary. The northern side of Rose Drive, from this point until McAllister Drive, has a detached extra-wide sidewalk which functions like a Class I multi-use path. The lack of access points to the trail limit its utility to serve students walking to and from school.

Matthew Turner Elementary has three access points for students:

- The main gate fronting onto Dempsey Drive;
- A side gate into the staff parking lot and vanpool loading zone; and
- A rear gate from the playground to Benicia Community Park, which is currently locked.

There are three banks of "toaster" style bicycle racks adjacent to the main gate entrance.

Site Visit

The project team conducted a walk audit at Matthew Turner Elementary on the afternoon of Monday April 23rd, where they observed the pick-up period after dismissal. Conditions were sunny and windy, with no indication that weather impacted normal pick-up activities. The walk audit was attended by the school

[15] See www.walkscore.com for more information.

principal, representatives from the Solano County Public Health, from the City of Benicia, and from STA. Participants observed traffic and pedestrians at the intersection of Rose Drive at Dempsey Drive, at the loading zone at the school's main gate, around the parking lots for Benicia Community Park, and at a trail crossing nearby on Kearney Street. Participants convened afterwards to discuss their findings.

Students waiting at Matthew Turner's main loading loop

Signage at the vanpool entrance prohibits other vehicles

The school's lone crossing guard is at the intersection of Rose Drive at Dempsey Drive

Loading Zones

There is one formal loading zone for drivers at Matthew Turner Elementary and one formal loading zone for vanpools. The formal loading zone for drivers is at the school's main gate entrance, where there is also a visitor parking lot. Drivers enter the loading zone from a STOP controlled intersection on Dempsey Drive, traveling through a loading loop which has two speed bumps and a painted yellow curb. There are lane markings for three lanes of travel in the loading zone. The curbside lane is lined with soft-hit bollards, separating it from the other two lanes. On the day of the walk audit, staff had blocked off the two left-most lanes of the loading zone, requiring drivers to travel through the curbside lane. One staff member assists students loading into cars.

There is a formal vanpool loading zone in the staff parking lot, which is separate from the driver loading loop and visitor parking lot. This loading zone has a separate entrance off of Dempsey Drive and exits onto Rose Drive. This loading zone was previously used by buses, but staff told participants that bus service was ended a few years ago. Currently, vanpools and transportation for special needs students are allowed to load here. There is extensive signage at the entrance prohibiting other drivers. This loading zone & parking lot also provide pedestrian access to Rose Drive.

There are four additional informal loading zones at Matthew Turner Elementary. One loading zone is on Rose Drive adjacent to the staff parking lot. This is a fairly small zone, and parking is prohibited closer to the intersection of Rose Drive at Dempsey Drive. There is an informal loading zone on Primrose Lane, which students walk to from Rose Drive. There is an informal loading zone in the parking lot for Benicia Community Park, whose entrance is at the same intersection as the entrance to the school's formal loading loop. The last informal loading zone is on Kearney Street, alongside the park just east of the school.

There is one formal crossing guard for Matthew Turner Elementary, who is posted at the intersection of Rose Drive at Dempsey Drive. On the day of the walk audit, she seemed tasked more with managing traffic at the intersection than with helping students and parents

cross the street. Matthew Turner Elementary also has a robust Student Patrol program. Students outfitted with florescent vests and pole-mounted stop signs were posted at the entrance and exit to the driver loading loop, at the entrance to the vanpool loading zone, and at the crosswalk to the Benicia Community Park parking lot entrance.

Bicycling

The rate of bicycling at Matthew Turner Elementary is low. While bicycle parking is placed prominently at the school entrance, students are required to submit a signed parent authorization form before school staff will permit them to bike to school. Grades 3-5 may ride to school alone after submitting this form, while grades K-2 must be accompanied by a parent when they bike to school. The form requires not only a student and parent signature, but also those of their teacher and the principal. This rigorous approval process may be a contributing factor to the low bicycling rate, and should be reconsidered by school staff.

The bike racks at Matthew Turner Elementary were almost empty on the day of the walk audit

Other Plans

The City of Benicia will soon implement the Rose Drive Traffic Calming project, in the spring of 2013. The bike lane will extend existing bike lanes on Rose Drive from the western terminus at Panorama Drive to Dempsey Drive, with sharrows installed on Rose Drive from Dempsey Drive to Hastings Drive.

Initial draft recommendations for Matthew Turner Elementary also included installation of signage at a crosswalk on Kearney Avenue. This signage has since been installed, as reflected on the recommendation map in **Figure 6-6**, but is not included in the report recommendations.

The **Countywide Pedestrian Master Plan** calls for additional "school access safety enhancements" in the area surrounding Benicia Community Park & Lake Herman.

The **2008 STA SR2S Plan** calls for sidewalk and crosswalk improvements on Dempsey Drive, a pedestrian path from the school to Kearney Street, and extending "no parking" zones along Rose Drive and Primrose Lane. As of this report, only the pedestrian path from the school to Kearney Street has been completed.

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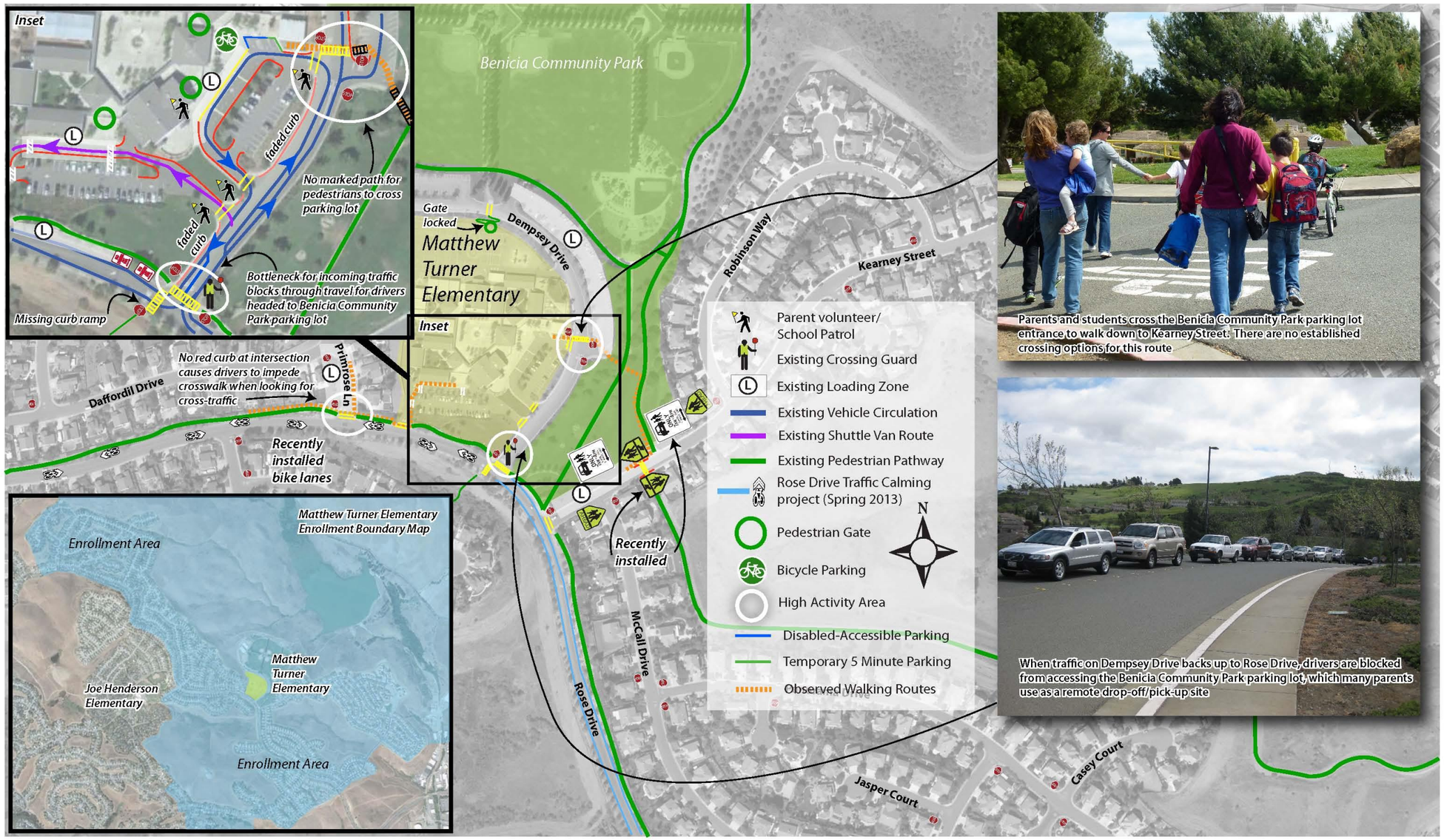
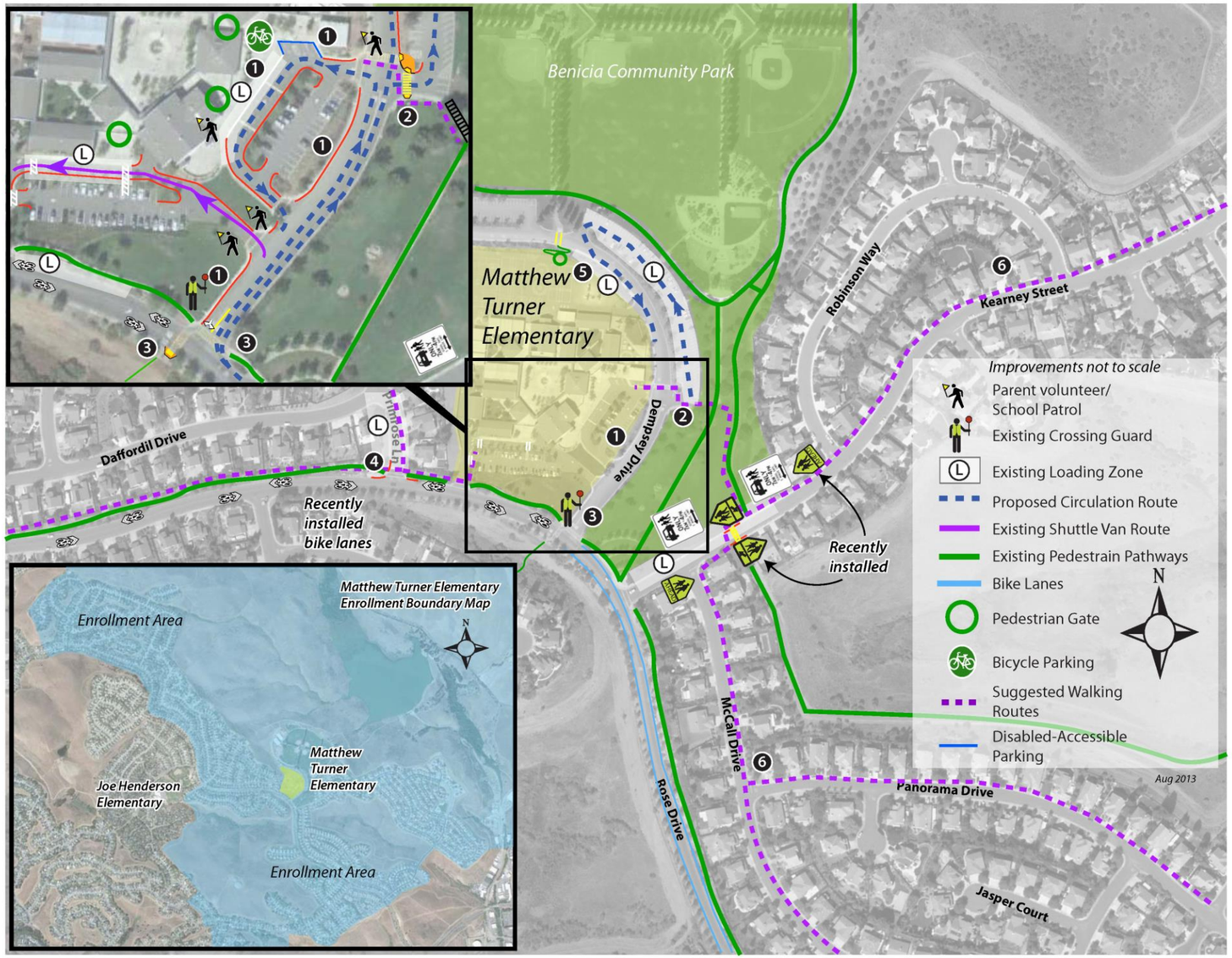


Figure 6-5: Matthew Turner Elementary Existing Conditions



1 School Grounds Curb Painting
- Refresh red curb along the school-adjacent side of Dempsey Drive
- Replace the yellow curb in the loading zone with white curb
- Replace the green 5-minute parking curb with additional blue curb for disabled parking

2 Benicia Community Park parking lot entrance
- Construct a landing pad for the existing cross-walk on the eastern side of Dempsey Drive
- Stripe a high-visibility yellow crosswalk across the parking lot entrance, with curb ramps at both ends

3 Dempsey Drive at Rose Drive
- Construct a curb ramp at southern end of the crosswalk across Rose Drive

Option 1
- Reconfigure Demsey Drive at the intersection with only one egress lane and two ingress lanes, allowing for a dedicated lane to access the Benicia Community Park parking lot. As necessary, active traffic control could be used to expand egress capacity for large events

Option 2
- Study widening Dempsey Drive at the intersection to provide two lanes of travel in both directions

4 Rose Drive at Primrose Lane
- Stripe red curb at this intersection to improve driver sightlines and reduce instances of drivers encroaching the crosswalk to look for cross-traffic

5 Rear School Gate
- Unlock rear gate and use adjacent sidewalk as an additional loading zone
- Recruit a parent volunteer to monitor the gate while open

6 Walking School Bus
- Work with Matthew Turner PTA to organize walking school buses from the two neighborhoods to the east
- Designate specific walking school bus stops along the routes

Matthew Turner Elementary School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
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Figure 6-6: Matthew Turner Elementary Recommended Improvements

Matthew Turner Elementary Existing Conditions and Recommendations

School Loading Loop & Parking Lot

The school loading loop at Matthew Turner Elementary works fairly smoothly, but long driver backups occur on Dempsey Drive during drop-off and pick-up periods. The loading area in the loop has a painted yellow curb. At the top of the loading loop are three parking spaces, two of which are striped with blue curb for disabled access and one space striped with green curb for short-term parking. Once drivers begin queuing during drop-off and pick-up periods, these three parking spots become fully blocked. Walk audit participants observed that any drivers parking in those spots often must wait until the end of the loading period to exit.

The west side of Dempsey Drive, adjacent to the school parking lots, is striped with red curb that is very faded. In some areas, the curb is so faded as to appear painted white with a pink tint.

The red curb at Matthew Turner is in need of refreshing

Recommendation (ID #1)

The District should consider replacing the existing yellow curb in the loading loop with white curb, and moving the green curbed parking space at the top of the loading loop. This parking space will always be blocked by queuing drivers waiting to enter the loading loop, and therefore should not be designated for short-term parking. The curb at this space could be striped blue to provide an additional disabled-accessible parking space, and one of the parking spaces in the visitor parking lot could be striped green for short-term parking.

The City should also refresh the faded red curb along Dempsey Drive, reinforcing its designation as a no-parking zone.

Benicia Community Park Parking Lot Entrance

The entrance to the school loading loop and visitor parking lot from Dempsey Drive is also the entrance to the first parking lot for Benicia Community Park. The intersection is STOP controlled in all direction and there is a yellow transverse crosswalk in the western leg of the intersection and a yellow ladder crosswalk in the northern leg of the intersection. The eastern end of the ladder crosswalk has no curb ramp or landing area for crossing pedestrians. There is a stairway from this end of the crosswalk down to the Benicia Community Park parking lot. The crossing is managed by two Student Patrol volunteers.

Parents and students crossing the entrance to the Benicia Community Park parking lot

Walk audit participants observed a high volume of parent and student pedestrians crossing Dempsey Drive at this location. Many parents on the day of the walk audit chose to park in the Benicia Community Park parking lot instead of waiting in the queue for the loading loop. Students were also observed crossing the entry lane to the parking lot, which currently has no markings or curb ramps, in order to walk through the park downhill to another loading zone on Kearney Street. Students crossing the parking lot entry lane were often placed into conflict with drivers turning into the parking lot. On the southern side of the parking lot

entry lane is a sidewalk which terminates at a stairway down to a pedestrian path. This pedestrian path travels south to Rose Drive and north to the Benicia Community Park.

The crosswalk landing at Dempsey Drive needs improvements

Recommendation (ID #2)

The City and District should work together to consider pedestrian travel improvements between the school and Kearney Street. Encouraging parents and students to use this route could significantly reduce the amount of congestion on Dempsey Drive. With the high volume of pedestrians crossing the parking lot entry lane in order to travel to Kearney Street, additional infrastructure is needed to denote the presence of pedestrians.

It is recommended that the City construct a concrete landing pad at the eastern end of the crosswalk in the northern leg of the intersection, outfitted with bi-directional curb ramps. An additional high-visibility yellow crosswalk in the eastern leg of the intersection could also be striped, requiring a curb ramp on the southern end where the crosswalk meets the existing sidewalk. This will provide a direct, marked route for students and parents to access the stairway leading down to Kearney Street.

Rose Drive at Dempsey Drive

Missing curb ramp at Rose Drive

Rose Drive at Dempsey Drive

This intersection is the only access point for drivers traveling to Matthew Turner Elementary. During pick-up, walk audit participants observed long backups on Rose Drive in both directions by drivers waiting to get into the queue on Dempsey Drive. There are yellow ladder crosswalks in the northern and western legs of this intersection, and the southern end of the western crosswalk has no curb ramp. The school's single crossing guard manages traffic at this intersection.

There are two lanes of travel eastbound on Rose Drive at this intersection, with the left lane dedicated for left turns onto Dempsey Drive. There is one lane of travel westbound on Rose Drive, though drivers on the day of the walk audit were observed queuing in two lanes, with the right lane queuing to turn right onto Dempsey Drive. Dempsey Drive has one dedicated right turn lane and one dedicated left turn pocket onto Rose Drive. The space taken up by the left turn pocket requires there be only one lane of travel northbound on Dempsey Drive at the intersection. After clearing the turn pocket, northbound Dempsey Drive expands to two lanes of travel. The left lane is a dedicated left turn for entry into the loading loop, while the right lane is for through traffic to Benicia Community Park and for right turns into the park's parking lot.

When traffic backs up to the intersection, drivers who are trying to access the park or the park's parking lot (a preferred location for park-and-walk) are blocked by drivers waiting to access the loading loop because of the single ingress lane caused by the left turn pocket.

Pedestrian volumes were low at this intersection on the day of the walk audit. Most northbound pedestrians accessed Rose Drive to the north via the staff parking lot, while southbound pedestrians crossed to Kearney Street at the Benecia Community Park parking lot entrance.

Recommendation (ID #3)

The City should install a curb ramp in the southern side of this intersection with yellow truncated domes.

The bottleneck for drivers entering Dempsey Drive from Rose Drive

The City should conduct a traffic study to determine the impacts of reconfiguring the intersection. If impacts are not high, the City may consider reconfiguring the Dempsey Drive leg of this intersection to better facilitate circulation. The left turn pocket on Dempsey Drive could be removed, creating a single exit lane for both right and left turns. This would allow the creation of two lanes of travel on Dempsey Drive northbound, allowing through traffic for drivers en route to the Benicia Community Park parking lot. As this intersection is STOP controlled, a dedicated left turn pocket on Dempsey Drive is less necessary.

If a traffic study shows significant impacts from a reconfiguration, the City may consider widening Dempsey Drive at the intersection with Rose Drive. This roadway expansion would allow for two travel lanes in both directions, alleviating traffic concerns for both ingress and egress traffic.

Rose Drive at Primrose Lane

Walk audit participants observed a large number of student pedestrians traveling northbound on Rose Drive, via the staff parking lot, on the day of the walk audit. Parents were observed parking on Primrose Lane and waiting for students in order to avoid traffic on Dempsey Drive. Primrose Lane is STOP controlled, with through traffic on Rose Drive. There is no red curb striped at this intersection, and cars park right up to the crosswalk on both sides. This caused an issue, as drivers on Primrose Lane often encroached on the crosswalk while trying to look for oncoming traffic on Rose Drive.

Recommendation (ID #4)

The City may consider striping additional red curb adjacent to the crosswalk at Rose Drive & Primrose Lane. This red curb will improve driver sightlines, reducing the need to encroach on the crosswalk before making a turning movement onto Rose Drive.

The rear gate at Matthew Turner is currently locked

Rear School Gate

There is a locked pedestrian gate at the northern end of the school's playing fields. This gate has a ramp leading down to Dempsey Drive and a yellow transverse crosswalk leading to Benicia Community Park.

Recommendation (ID #5)

The sidewalks and parking lots immediately north of the school were practically empty on the day of the walk audit. Creating an additional loading zone in this area, accessible for students via the locked pedestrian gate, could help relieve congestion at the schools' loading loop. The District should consider unlocking this gate, which could be overseen by either a staff member or parent volunteer, and encouraging parents to use this northern area as an alternative loading zone.

Matthew Turner Elementary sits at the top of the hillside in this photo

Kearney Street Crossing

Kearney Street runs parallel to Dempsey Drive, and its northern side fronts the southern edge of the Benicia Community Park. Parents were observed on the day of the walk audit using this park frontage as a remote loading zone, to avoid congestion on Dempsey Drive. A trail spur from the Rollye Wiskerson Trail runs down to Kearney Street, crossing Kearney Street at a yellow ladder crosswalk approximately 200 feet east of Kearney Street's intersection with Rose Drive. After the crossing, this trail continues to E 2nd Street. As a result of this report's initial recommendations, Assembly B and D signage was added to this crossing.

Walk audit participants identified the two neighborhoods near this crossing on the north side of Rose Drive as a possible route for a walking school bus.

Recommendations (ID #6)

The District should work with the Matthew Turner Elementary PTA to organize a walking school bus, with routes along McCall Drive, Panorama Drive, and Kearney Street. The new improvements on Kearney Street and at the Benicia Community Park parking lot **(ID #2)**, will contribute to creating a pedestrian-friendly walking school bus route from these locations.

Summary of Recommendations

Table 6-4 lists the recommended improvements to address safety and circulation issues around Matthew Turner Elementary; **Figure 6-5** maps existing conditions and **Figure 6-6** presents an improvement plan of these recommendations. The project IDs in

Table 6-4 correspond to those in **Figure 6-6**. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

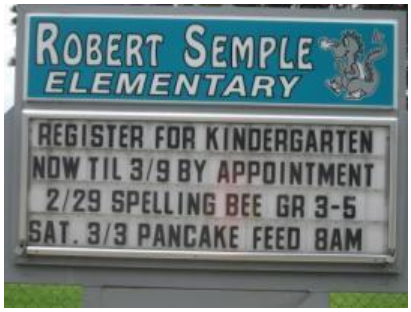
Cost estimates do not include additional engineering or design work required for some of the recommendations.

Table 6-4: Matthew Turner Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	School Grounds Curb Painting	• Refresh red curb along the school-adjacent side of Dempsey Drive.	City of Benicia	Middle/ Low	$500
2	Benicia Community Park parking lot entrance	• Construct a landing pad for the existing crosswalk on the eastern side of Dempsey Drive. • Stripe a high-visibility yellow crosswalk across the parking lot entrance, with curb ramps at both ends.	City of Benicia	High	$16,000
3	Dempsey Drive at Rose Drive	• Construct a curb ramp at southern end of the crosswalk across Rose Drive. • Conduct traffic study of intersection. According to results, pursue one of two options: • (1) Reconfigure Dempsey Drive at intersection, with only one egress lane two ingress lanes, allowing dedicated lane to access Benicia Community Park parking lot. • (2) Consider road widening to allow extra lane on Dempsey Drive if reconfiguration not feasible.	City of Benicia	High	$25,000
4	Rose Drive at Primrose Lane	• Stripe red curb at this intersection to improve driver sightlines and reduce instances of drivers encroaching the crosswalk to look for cross-traffic.	City of Benicia	Low	$50
5	Rear School Gate	• Unlock rear gate and use adjacent sidewalk as an additional loading zone. • Recruit a parent volunteer to monitor the gate while open.	District	Low	N/A
6	Walking School Bus	• Work with Matthew Turner PTA to organize walking school buses from the two neighborhoods to the east. • Designate specific walking school bus stops along the routes.	District	Middle	N/A
Total Cost					**$41,050**

6.9 Robert Semple Elementary School Travel Plan

Principal: Gary Dias
Enrollment: K-5, 429
Arrival: Kindergarten, 8:25 AM;
Grades 1-5, 8:35 PM
Dismissal: Kindergarten, 1:30 PM
Grades 1-3, 2:55 PM
Grades 4-5, 3:05 PM
All Grades (Friday), 12:40 PM
Mode Share: N/A
Walk Score[16]: 51/100
Free/Reduced Lunch: 38% in 2011-12,
47% in 2010-11



Robert Semple Elementary is located in eastern Benicia

Layout

Robert Semple Elementary is located in eastern Benicia amid established residential neighborhoods. It is located just north of Interstate 780. Athletic fields separate the school from busy East 2nd Street and the school's main entrance and passenger loading loop are accessed from East 3rd Street. A short, steep hill separates the passenger loading loop from East 3rd Street.

A pedestrian tunnel passes under Interstate 780 at East 3rd Street to the south of the school, connecting to sections of the City where significant numbers of students live. S Street, a quiet street with single family homes on one side, forms the southern boundary of the school. Single family homes border Robert Semple Elementary to the north, all of which front onto Hillcrest Avenue.

Students being picked up curbside at the main school entrance

Many of the neighboring residential streets, especially to the east, do not have sidewalks. East 5th Street is the nearest collector street to the east, which received traffic calming and pedestrian treatments in 2009 as part of the East 5th Street Smart Growth Project.

Robert Semple Elementary has two access points for students:

- The main entrance in the school parking lot, accessible from 3rd Street; and
- A pedestrian pathway providing access to the back of the school from the intersection of 2nd Street and Hillcrest Avenue

Site Visit

The project team conducted a walk audit at Robert Semple Elementary on the afternoon of Wednesday, March 21st. Weather was warm and sunny, relatively common for a spring day in Benicia. The principal of the school, staff from the City of Benicia, and the Solano Transportation Authority also attended the meeting.

[16] See www.walkscore.com for more information.

Semple Elementary School has an active Parent-Teacher Organization, though they are not generally engaged with the traffic situation.

The sites chosen to observe were the intersection of East 2nd Street and Hillcrest Avenue, the intersection of Hillcrest Avenue and 3rd Street, and the intersections of East 3rd Street with Golden Slopes Court and S Street.

Students and parents walking north on the sidewalk along the loading loop

Loading Zones

The primary loading zone for Robert Semple Elementary is a loading loop on East 3rd street. A one-way entry at the northern end and one-way exit at the southern end provide access to the school and its parking lots. There is one row of parallel parking on the side not facing the school entrance; while some parents park in these spots, most parking spaces on the day of the walk audit were occupied by visitors or staff who did not move their cars during school dismissal. There is also a hatched loading zone and a lane for through traffic that is not formally separated from the parking lane. Five speed bumps have been installed in the loading loop.

The loading loop also provides access to two small parking lots. Vans for after-school activities were observed blocking one of the parking lot travel lanes. Without a place for these vans to park out of the travel lane, the second parking lot is effectively closed to driver through traffic. The principal expressed satisfaction with the current loading loop when parents follow the rules of the parking lot. Several staffers assist in the parking lot. Although they were not identified with yellow vests, most parents recognize them.

There are three crossing guards at Robert Semple Elementary. One manages the crosswalk at East 2nd Street and Hillcrest Avenue. Although pedestrian volumes were relatively low on the day of the walk audit, participants indentified this crossing as being especially problematic. The second crossing guard manages higher pedestrian volumes at the intersection of Hillcrest Avenue and East 3rd Street. The third crossing guards assists at the intersection of East 2nd Street and St Augustine Road, a heavily traveled crossing for students who live south of Interstate 780. This crossing also has pedestrian-activated in-pavement flashers.

Other Plans

The **2004 Solano County Pedestrian Master** Plan identifies the Hillcrest neighborhood, which encompasses Robert Semple Elementary, as a pedestrian focus area, identifying the possibility of closing some of the sidewalk gaps in conjunction with Safe Routes to School.

The **2008 STA SR2S Plan** calls for mid-block improvements on East 3rd Street, as well as improvements to the pedestrian tunnel under Interstate 780. This report does not recommend mid-block improvements on East 3rd Street, instead concentrating improvements on East 3rd Street at intersection to the north and south of the school. This report does carry-over the recommendation for improvements to the pedestrian tunnel under Interstate 780.

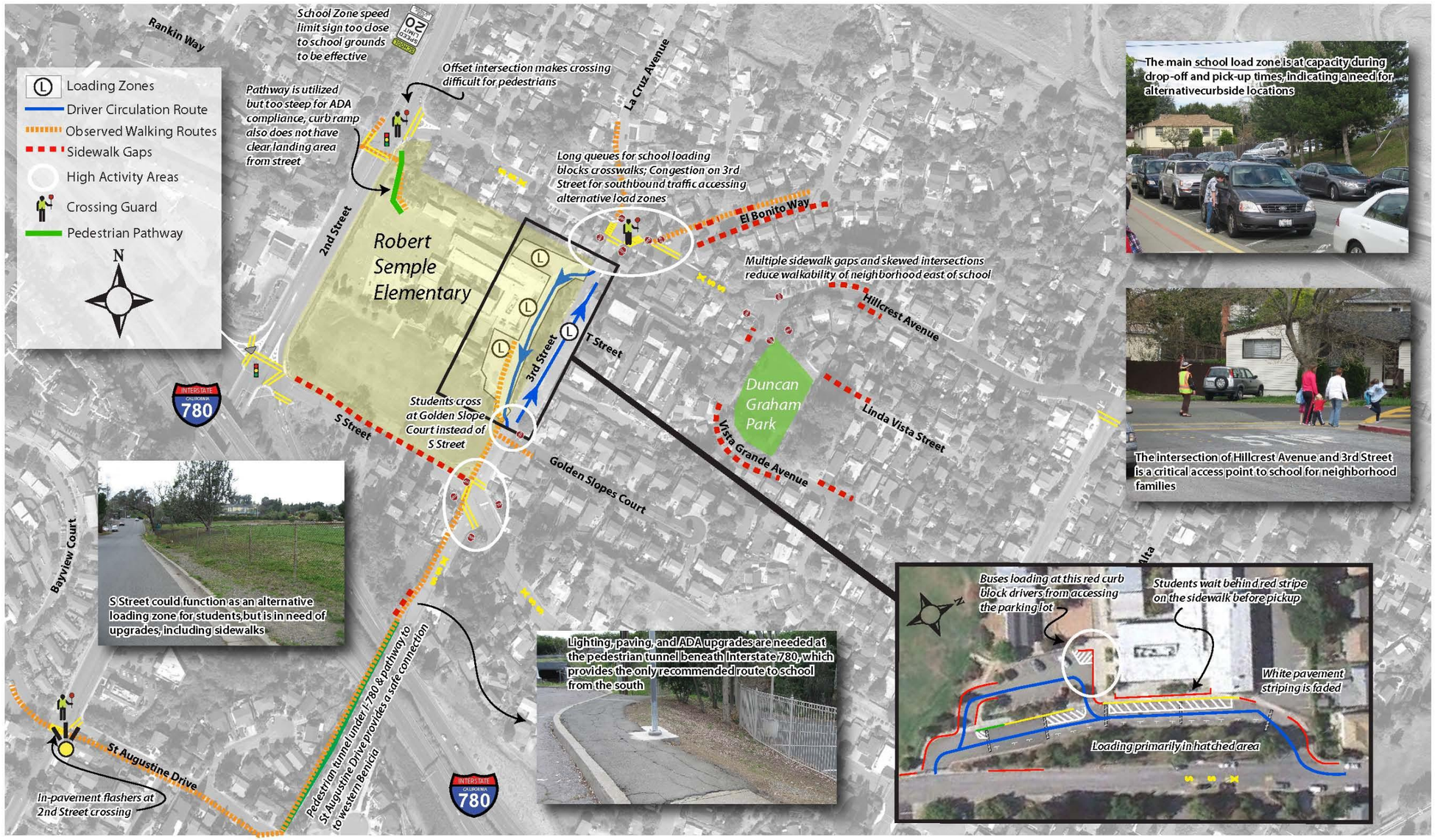


Figure 6-7: Robert Semple Elementary Existing Conditions

1 Robert Semple Parking Lot
- Replace yellow curb loading zone with white curb; refresh white parking zones pavement striping
- Recruit older students as volunteer valets to speed up drop-off process; outfit with florescent vests
- Install signage on 3rd Street directing pedestrians to cross at S Street

2 East 3rd Street at Hillcrest Avenue
- Construct curb extension in the southwest corner
- Upgrade southern crosswalk to high-visibility yellow, refresh other crosswalks where necessary
- Use hatch markings and soft-hit posts (as necessary) to square up La Cruz Ave and El Bonito Way intersections with reduced curb radii and additional pedestrian waiting areas

3 East 2nd Street at Hillcrest Avenue
- Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks

4 School Pedestrian Pathway
- Retrofit pathway and curb ramp from 2nd Street at Hillcrest Avenue for ADA compliance

5 S Street
- Construct sidewalk on the north side of S Street to close existing gap; stripe and sign as new load zone

6 S Street at East 3rd Street
- Install curb extensions with curb ramps at northwest and southwest legs of intersection; consider filling in dirt landscape strip along 3rd Street to anticipate/ respond to increased demand for walking
- Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks
- Stripe a new high-visibility crosswalk in the east leg and reduce crossing distances/curb radii with hatched bulb-outs and soft hit posts if necessary

7 Interstate 780 Pedestrian Tunnel & Pathway
- Install additional lighting in tunnel
- Re-grade and repave sidewalk to improve ADA access and compliance

8 Sidewalk Gap Closures
- Construct sidewalk segments on north side of El Bonito Way, south side of Hillcrest Ave, and north side of Vista Grande Ave to close priority gaps
- Use hatch markings and soft-hit posts (as necessary) to square up the Vista Grande Ave/Hillcrest Ave/ Linda Vista St intersection

Robert Semple Elementary School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
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Figure 6-8: Robert Semple Elementary Recommended Improvements

Robert Semple Elementary Existing Conditions and Recommendations

School Parking Lot

The school parking lot has a loading zone and a through travel lane. There is significant congestion through the loading loop that backs up onto East 3rd Street and Hillcrest Avenue. A painted red line directs children to stand back from the curb until their parents arrive. Staff found the red line to be extremely useful in managing the high volume of students waiting for pick-up after school.

A staff person directing students and parents in the passenger loading area

Several staff and volunteers help manage the parking lot, with the principal and a school staff member providing direction to students and motorists in the loading area.

The parking lot on the southern end of the loading loop was filled to capacity during school dismissal. Two large vehicles were parked in the lot waiting to transport students to after-school activities.

The loading zone along the front of the school has a painted yellow curb, as does the loading zone immediately south of the school entrance. The furthest southern section of the second loading zone has a painted green curb.

A student runs across 3rd Street to Golden Slopes Court

Students who live on Golden Slopes Court and on T Street were observed on the day of the walking audit crossing at legal unmarked crosswalks at the end of these streets and running down the steep grassy hill to the school. While a relatively small number of students, this is an action that should be thoroughly discouraged, especially considering the well-marked crosswalks immediately to the north and to the south on East 3rd Street.

A KinderCare bus loading in the south parking lot

Recommendation (ID #1)

This loading zone could benefit from additional volunteers and management, especially in helping vehicles find available spaces in the loading zone further the south. The District should outfit the current parent volunteers and school staff members with yellow vests to increase their visibility and authority. The District may also consider implementing a student valet program to give 4th and 5th grade students the opportunity to help their school community during the pick-up and drop-off for younger grades. Under the supervision of staff already performing similar tasks in the parking lot loop, such a program could improve the circulation of traffic through the loading loop and elevate student confidence. The District should also replace the yellow curb

along the loading zone at the school entrance with white curb and refresh the white pavement striping in the existing loading zones.

The City might install "Use Crosswalk" signage on the sidewalk on the western side of East 3rd Street, adjacent to the intersection with Golden Slopes Court, in consideration with installation of railing along the sidewalk to reinforce the directive for pedestrians to cross to the south at S Street. The District should also seek to engage families on Golden Slopes Court and T Street in a discussion about safe ways to cross East 3rd Street. As they are relatively few families on these streets, outreach can be narrowly targeted.

A crossing guard helping students and parents cross at 3rd Street and Hillcrest Avenue

East 3rd Street at Hillcrest Avenue

Immediately northeast of the school is the intersection of Hillcrest Avenue and East 3rd Street. On the northern side of the intersection, East 3rd Street becomes La Cruz Avenue. The intersection is an all-way stop managed by a crossing guard and has crosswalks in the western, southern, and eastern legs. The western and eastern crosswalks are striped as yellow ladder crosswalks, with all others striped as yellow transverse. La Cruz Avenue meets Hillcrest Avenue at an angle, with wide cub radii on both sides of the street at the intersection. El Bonito Way also has an angled intersection with Hillcrest Avenue immediately to the east, with corresponding wide curb radii and a long crossing distance for pedestrians. During the most congested periods on the day of the walk audit, vehicles queuing for the parking lot loading zone backed up to East 3rd Street and Hillcrest, blocking the crosswalk. Some motorists were observed passing the queue on the left side, despite Hillcrest Avenue being only one lane in each direction.

A single parking space in the southbound direction on East 3rd Street between the intersection with Hillcrest Avenue and the parking lot driveway impedes the smooth ingress of vehicles into the school loading loop.

Recommendation (ID #2)

The single parking space on the western side of East 3rd Street, immediately south of Hillcrest Avenue, should be repainted as red curb to better facilitate the flow of vehicles into the school parking lot.

The City should consider a curb extension in the southwest corner of East 3rd Street & Hillcrest Avenue, extending out into the roadway on East 3rd Street only. This would provide a shorter crossing for pedestrians, although careful design is needed to maintain appropriate traffic flow on Hillcrest Avenue. In conjunction with or independent from the curb extension, the City should restripe the southern crosswalk at East 3rd Street & Hillcrest Avenue as a high-visibility yellow crosswalk.

In an attempt at low-cost, high-value pedestrian enhancements, the City should discuss with the neighborhood the possibility of using painted hatch markings and/or soft-hit bollards on the southern side of the La Cruz Avenue intersection to bring La Cruz Avenue to a standard width. This treatment will direct drivers to meet the intersection at a perpendicular angle, allowing better sight distances, and would help straighten/shorten the existing angled crosswalk in the southeast corner.

Similarly, the City should restripe the yellow transverse crosswalk at El Bonito Way as high-visibility yellow. The City should also use painted hatch markings and/or soft-hit bollards on both sides of El Bonito Way to orient vehicles perpendicular to Hillcrest Avenue. This treatment will also significantly reduce the crossing distance for students, as well as provide additional pedestrian waiting areas.

East 2nd Street at Hillcrest Avenue

East 2nd Street is an arterial road that connects Interstate 780 with northern Benicia. Traffic speeds are high on this aertial – the speed limit north of the school neighborhood is 45 MPH, which decreases to 35 MPH and then 25 in the school zone, beginning just south of Seaview Drive.

The crosswalk at 2nd Street is managed by a crossing guard

The intersection is offset, and the crosswalks are consequently separated from each other by a stretch of sidewalk. There are yellow transverse crosswalks in the eastern, southern, and western legs of the intersection. Few students were seen walking at the intersection of East 2nd Street and Hillcrest Drive. The intersection is managed by a crossing guard. A pedestrian path from the southeast corner of this intersection provides access to the back of the school. The pathway is in good condition, but its current design does not meet ADA requirements.

The current pedestrian path to 2nd Street is not ADA compliant

Recommendation (ID #3 & 4)

The City should consider moving the school zone speed limit sign on East 2nd Street from its current location at Seaview Drive further north to just before the intersection with Tennys Drive. Adding this extra distance may help southbound drivers on East 2nd Street suitably adjust their speed before nearing the intersection with Hillcrest Avenue. The City should also consider upgrading the existing yellow transverse crosswalks to high-visibility yellow crosswalks. **(ID #3)**

Long-term, the District should explore funding options to retrofit the existing pedestrian pathway from this intersection to the rear of school grounds to comply with ADA. The slope of travel is currently too steep, and there is no hand railing. **(ID #4)**

A crosswalk at the intersection of S Street and 3rd Street

S Street

S street saw relatively low traffic volumes on the day of the walk audit as compared to other streets surrounding the school. There is an existing sidewalk gap on the north side of S Street from East 3rd Street in the east to approximately 100 feet east of the intersection with East 2nd Street in the west. School staff noted that S Street sometimes suffers from drainage deficiencies during rainstorms, leaving sections of the roadway underwater. An unplanted landscaping strip runs alongside the sidewalk on

East 3rd Street north of S Street. Assembly A signage on S Street is blocked from sight by overgrown vegetation.

The intersection of East 3rd Street and S Street is a wide intersection with yellow transverse crosswalks on all but the east side of the intersection. One meeting attendee mentioned that students were anxious about the crossing at S Street. Most students using the intersection crossed in groups or accompanied by parents.

A sidewalk on S Street could act as an alternate loading area for students

Recommendation (ID #5 & 6)

The school frontage on S Street should be utilized as an additional student loading zone or parking zone. To accomplish this, the City would need to construct sidewalks on the north side of S Street to close the existing gap in the sidewalk network. This new sidewalk should be adequately signed and its curb painted to indicate its status as a loading or parking zone.

Once sidewalks are constructed along S Street, the District should devise a suggested circulation route for parents, advising them to use this new drop-off and pick-up site. The District may need to oversee this drop-off area with a school staff member or parent volunteer due to its distance from the school entrance. **(ID #5)**

Independent from the sidewalk, the City should consider constructing curb extensions in the northwest and southwest corners of the intersection of East 3rd Street at S Street. This improvement concept includes upgrading the three existing transverse yellow crosswalks to high visibility yellow crosswalks, and striping a new high-visibility yellow crosswalk in the east leg of the intersection. In a similar treatment to the intersections in **ID #2**, the City may utilize painted hatch markings and/or soft-hit bollards in the south and east corners of the East 3rd Street and S Street intersection to reduce the curb radii and shorten pedestrian crossing distances.

The City should also consider filling in the dirt landscaping strip on the East 3rd Street sidewalk north of S Street to better accommodate increased pedestrian traffic. **(ID #6)**

Sidewalk in need of repair leading to the pedestrian tunnel

Pedestrian Tunnel

The pedestrian tunnel under Interstate 780 presents a major opportunity to improve walking and bicycling conditions for Robert Semple Elementary. The tunnel extends from the end of 3rd Street to an all-way stop at Saint Augustine Drive and East 3rd Street. Participants cited concerns about cleanliness and safety along the length of the tunnel. There are some physical infrastructure challenges at the northern end of the tunnel, like a steep grade leading into the tunnel and sidewalk maintenance issues.

Saint Augustine Drive is part of a preferred route to school, providing a crossing at 2nd Street with a crossing guard, school speed limit signage, and pedestrian-actuated flashing lights. Many students who live across East 2nd Street along Riverhill Drive walk to Robert Semple Elementary using this route.

Improvements to the tunnel would be part of a cohesive strategy to discourage students from crossing at a confusing intersection of S Street, East 2nd Street, which would force students to cross over multiple freeway ramps for I-780 before reaching the same destination to the south.

Recommendation (ID #7)

The City should engage in a repair program for the length of the pedestrian path from one side of I-780 to the other along this tunnel. Priority improvements include improved lighting in and around the tunnel, repair to the damaged sidewalks on the approach to the tunnel, and retrofit of the ramps leading to the tunnel so they meet ADA compliance standards.

The District, in concert with STA staff, should work with the Robert Semple PTA to organize a walking school bus from the neighborhoods south of I-780, utilizing the pedestrian tunnel crossing.

Sidewalks East of Robert Semple Elementary

The street network to the east of Robert Semple, especially along El Bonito Way, Hillcrest Avenue, Linda Vista Street, and Vista Grande Avenue, have significant gaps in their sidewalk network. Closing the gaps in this network will prove to be difficult, as the sidewalks lie on private property and the landscaping of some homes runs right up to the property line against the street. Because of these constraints, there are only limited opportunities to install sidewalk, and each project will need to negotiate easement rights from the property owners impacted.

Duncan Graham Park, located to the east of the school at the intersections of Vista Grande Avenue, Hillcrest Avenue, and Linda Vista Street, could serve as a staging area for a walking school bus. These three streets come together at a very broad, offset intersection at the northern end of the park, with both Linda Vista Street and Vista Grande Avenue running into Hillcrest Avenue at 45 degree angles.

Recommendation (ID #8)

The City should select priority sites for sidewalk gap closure where they might have the largest benefit. The sidewalk segments recommended in this report are on the north side of El Bonito Way on both sides of Corte Del Sol, on the north side of Vista Grande Avenue east of Duncan Graham Park, and on the south side of Hillcrest Avenue east of Duncan Graham Park. The City could also utilize painted hatch marks and/or soft-hit bollards, as in **ID # 2** & **ID # 6**, to "square up" the intersection of Vista Grande Avenue, Linda Vista Street, and Hillcrest Avenue. This can be accomplished by creating a large hatched area on the western side of the intersection, routing northbound traffic on Vista Grande Avenue out to Linda Vista Street.

This neighborhood area is another potential location for a walking school bus. The District, in concert with STA, should work with the Robert Semple PTA to organize one or more walking school buses, potentially utilizing completed sidewalk network segments recommended in **ID #7**. Duncan Graham Park could be used as a meeting place and/or remote drop off location for the walking school bus.

Summary of Recommendations

Table 6-5 lists the recommended improvements to address safety and circulation issues around Robert Semple Elementary; **Figure 6-7** maps existing conditions and **Figure 6-8** presents an improvement plan of these recommendations. The project IDs in **Table 6-5** correspond to those in **Figure 6-8**. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost

estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates may not include additional engineering or design work required for some of the recommendations.

Table 6-5: Robert Semple Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	Robert Semple Parking Lot	• Replace yellow curb loading zone with white curb • Refresh white parking zones pavement striping • Install signage on 3rd Street directing pedestrians to cross at S Street	BUSD	Middle/ Low	$1,000
2	3rd Street at Hillcrest Avenue & 3rd Street at S Street	• Use hatch markings and/or soft hit posts to square up the El Bonito Ave/De la Cruz Ave intersections • Install curb extension on southwest corner of Hillcrest Ave/3rd Street with new high visibility crosswalk and curb ramps • Enhance southern crosswalk to high-visibility yellow	City of Benicia	High	$35,000
3	2nd Street at Hillcrest Avenue	• Replace yellow transverse crosswalks with yellow high-visibility crosswalks	City of Benicia	Middle/ High	$3,000
4	2nd Street at Hillcrest Avenue	• Retrofit pathway and curb ramp for ADA compliance	BUSD	Low	$40,000
5	S Street	• Construct sidewalk on north side of St Street	City of Benicia	Middle/ Low	$45,000
6	3rd Street at S Street	• Install curb extensions at northwest and southwest legs; fill in landscape strip along 3rd Street • Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks • Stripe a new high-visibility crosswalk in the east leg and reduce crossing distances/curb radii by providing hatched bulb-outs and/or soft hit posts.	City of Benicia	High	$95,000
7	Interstate 780 Pedestrian Tunnel & Pathway	• Install additional lighting in tunnel • Re-grade and repave sidewalk to improve ADA access and compliance	City of Benicia	Middle/ Low	$42,000
8	Sidewalk Gap Closures	• Construct sidewalk segments on El Bonito Way to close gaps on two blocks adjacent to the school • Construct a sidewalk segment on the north side of Vista Grande Avenue • Construct sidewalk segment on Hillcrest Ave (south side) • Use hatch markings and/or soft hit posts to square up the Vista Grande Ave/Hillcrest Ave/Linda Vista St intersection	City of Benicia	High	$100,000
	Total Cost				**$361,000**

7 Dixon

7.1 SR2S Community Task Force

The Dixon SR2S Community Task Force selected two schools for walk audits: C.A. Jacobs Intermediate School and Tremont Elementary School. The Community Task Force provided feedback on project prioritization for this plan. The membership of the Dixon Community Task Force is shown in **Table 7-1**: Dixon Task Force Membership.

Table 7-1: Dixon Task Force Membership

Name	Position
Jack Batchelor	Mayor
Jason Riley	Associate Civil Engineer, City of Dixon
Ron Willingmyre	Dixon PD
James Fisk	STA BAC member
Bill Paul	STA PAC member
Cecile Nunley	Dixon Unified

7.2 Walkshed and Collision Maps

Figure 7-1 on the following page displays the locations of schools, the locations of parks, and the walkshed for each school in the City of Dixon. A walkshed shows how far a student could walk from school in a given amount of time. The map displays outer boundaries for both a ten-minute and twenty-minute walkshed, assuming an average walking speed of 2.8 feet/second. **Figure 7-2** shows the approximate locations and volume for all collisions involving pedestrians or bicyclists from 2005-2010, as documented by the California Highway Patrol SWITRS (Statewide Integrated Traffic Records System).

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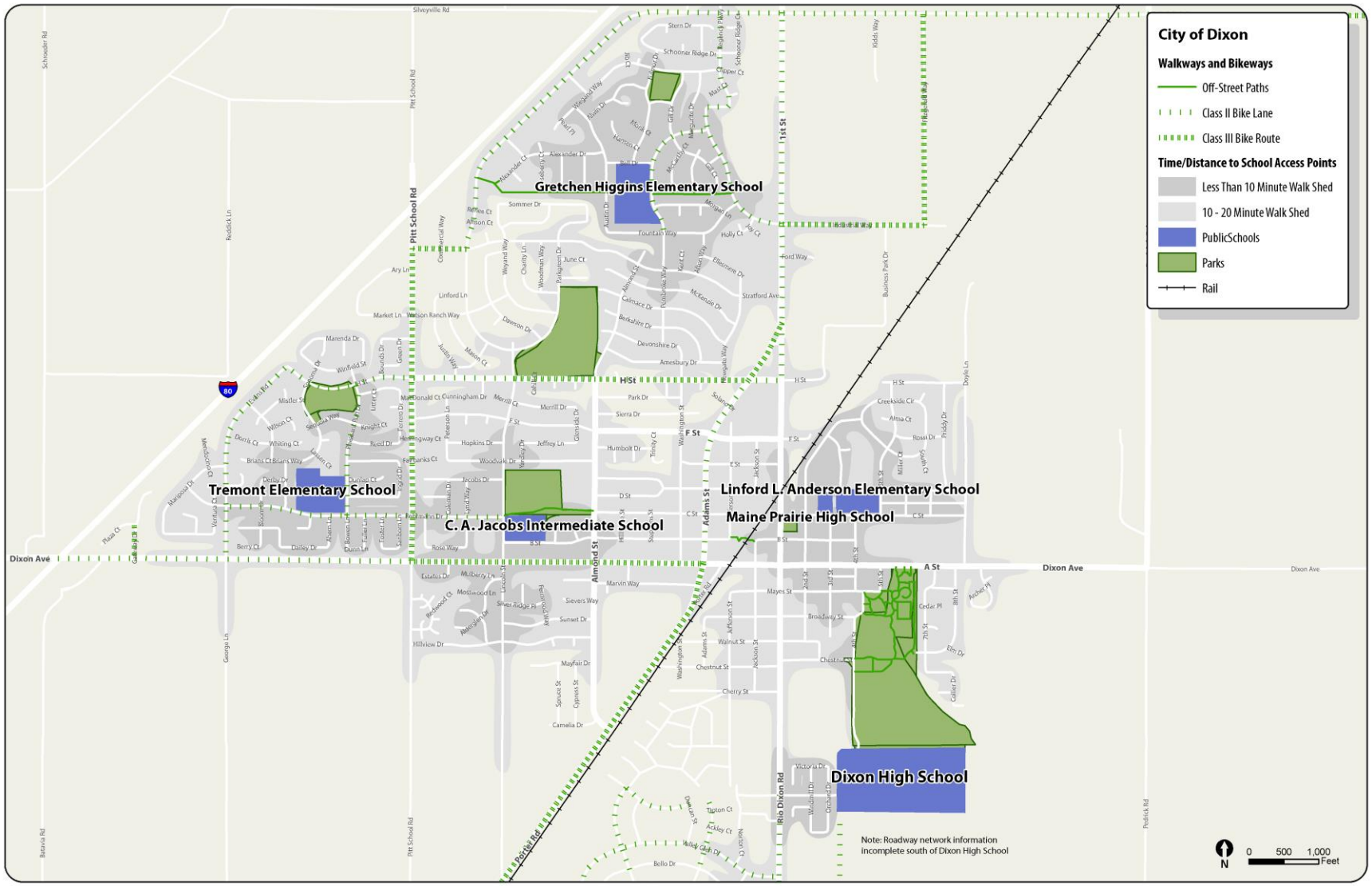


Figure 7-1: Dixon schools, parks, and walksheds

Figure 7-2: Dixon Bicyclist & Pedestrian Collisions, 2005-2010[17]

[17] Does not include collisions reported outside of the street network along the BNSF railroad line

7.3 2008 STA SR2S Plan

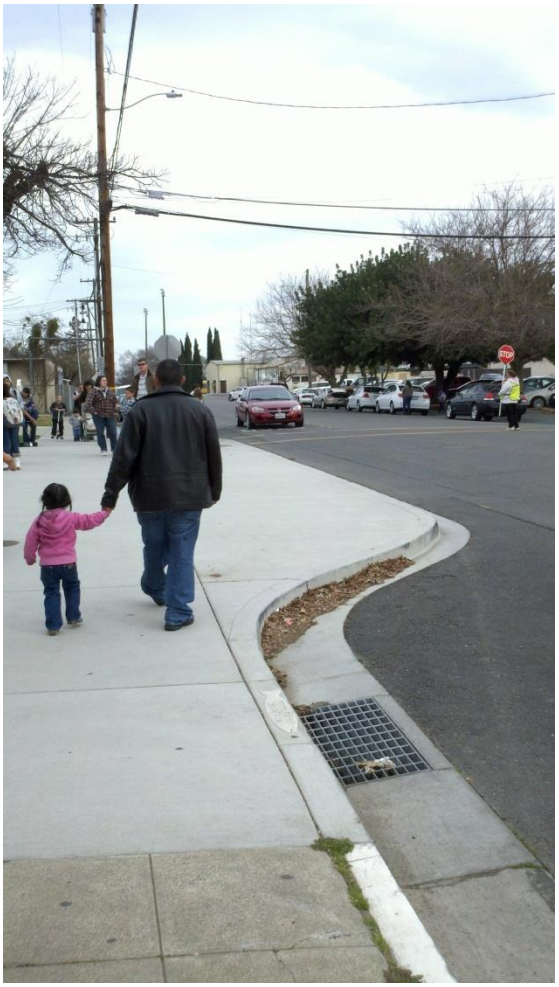
One walk audit was conducted in Dixon for the 2008 STA SR2S Plan at Linford Anderson Elementary. Additional priority projects were identified for Tremont Elementary. Notable projects at both schools were implemented under cooperation between the Solano Transportation Authority (STA), the City of Dixon, and the Dixon Unified School District.

Linford Anderson Elementary

The City of Dixon constructed a sidewalk extension along the front of Linford Anderson Elementary, on the northern side of the intersection of East C Street at North 4th Street. The sidewalk extension also included ADA accessible curb ramps and crosswalks. The City also striped the curb white for a loading zone along East C Street from North 5th Street to North 4th Street.

Tremont Elementary

The 2008 STA SR2S Plan calls for the City to study a 4-way STOP sign at the intersection of Rehrmann Drive at Pitt School Road. In the spring of 2012, the City approved a 4-way STOP at this intersection and installed the stop signs along with striping yellow transverse crosswalks in all four legs of the intersection. This project was also considered a priority project in initial drafts of the 2012 STA SR2S Plan Update, but was removed after the project's approval and implementation.



The City of Dixon implemented several recommendations from the 2008 SR2S Plan, including a new curb extension at the entrance to Anderson Elementary

Programmatic Achievements

Several Dixon schools have conducted student hand tallies as a baseline involvement with the SR2S program, and the Dixon Police Department continues to monitor school areas on a regular basis during school bell times. Linford Anderson Elementary School has also stood out for its participation in traffic safety assemblies, bike rodeos, and Walk & Roll to School events. For the 2012-2013 school year, it is anticipated that several schools will be participating in the STA Walking School Bus pilot program.

7.4 Carried-Over Recommendations

No engineering recommendations are carried forward from the 2008 STA SR2S Plan. Several education and encouragement recommendations are worth re-emphasizing, however, to help complement the city's

unique position as a small, flat community with a strong network of dedicated bicycle facilities and low-volume residential streets. These physical traits are strengthened in part by the City's proximity to Davis, a national leader in bicycle activity and non-motorized planning. By developing a stronger link between capital projects and education/encouragement efforts, Dixon has the potential to significantly improve the share of school trips taken by non-motorized modes and to firmly establish a culture of walking and bicycling among its youth.

Education

The 2008 SR2S Plan emphasized the integration of Safe Routes to School education into school curriculum, as well as regular communication to parents of appropriate driving and parking behavior around each school. The City and District should work together to expand Safe Routes to School efforts in these areas, with support from STA.

One potential focus area might be to modify curriculum at the middle school level to provide a natural progression of Safe Routes to School education from elementary school. As a first step, this effort would include ensuring Tremont and Gretchen Higgins elementary schools begin to take advantage of existing traffic safety assembly and bicycle rodeo offerings, and that Anderson Elementary continues to regularly participate in these programs as well. Once this baseline level of education is established, CA Jacobs Intermediate School could introduce advanced bicycle skills training as part of physical education classes and new transportation-related lesson modules as part of health or science curriculum. Such a progression and expansion of Safe Routes education would promote continuity within the SR2S program and help maintain interest among students as they mature into teenagers (and potentially, drivers).

Encouragement

Both the 2008 and 2012 SR2S Plans support a multi-pronged strategy to educate and encourage students to walk and bicycle more often (and more safely). Together with a progressive curriculum as described above, this should include contests and incentives targeted to the younger age groups to build enthusiasm and a sense of fun around walking and biking. As students "graduate" to middle school and high school and are already familiar with Safe Routes to School concepts, encouragement strategies could be modified to help overcome the bias against non-motorized transport and emphasize the financial and environmental/health benefits of walking and biking. Encouragement strategies of this type might include bicycle/sneaker raffles, working with student groups to focus on "green" transportation issues, and supporting a bicycling club and/or information exchange with UC Davis (or the City of Davis) at the high school level.

7.5 2013 Plan Walk Audit Recommendations

The walk audits for CA Jacobs Intermediate and Tremont Elementary produced recommended projects for each school. These recommendations are detailed in each school's Travel Plan later in this chapter. The following is a summary of the recommended projects.

CA Jacobs Intermediate

Projects suggested for CA Jacobs Intermediate focus on improvements directly around the school campus and improvements along walking routes to the east and to the west of the school.

Projects around school grounds include changing pick-up and drop-off operations in the school parking lot, improving bicycle parking near the school entrance, and building a sidewalk extension along North Lincoln Street to safely accommodate student pedestrian volumes.

East of the school grounds, recommendations include closing key gaps in the sidewalk network on West B Street and West C Street. The plan also supports the recommendation to construct a bicycle & pedestrian undercrossing of the railroad tracks, providing a safe grade-separated connection between the school and downtown Dixon. In 2012, STA submitted a funding application for this project from the California SR2S grant program Cycle 10 call for projects. Although the project did not receive funding, it remains a high priority project for the SR2S program.

Tremont Elementary

Tremont Elementary has recommended projects mostly on and adjacent to school grounds, on Pheasant Run Way and on Rehrmann Drive.

Improvements on Pheasant Run Way include re-establishing a former mid-block crosswalk, with a curb extension on the western end to address previous safety concerns. The report also calls for new striping of red curb at intersections and re-striping of crosswalks. Further north along Pheasant Run Way, the report recommends establishing a formal "Park and Walk" area at Patwin Park, which might also assist the formation of a neighborhood walking school bus with participation from student families driving from across town.

Improvements on Rehrmann Drive include planting additional street trees to provide shade for students waiting to be picked up after school. The report also recommends opening up a gate at the western end of the school grounds on Rehrmann Drive to spread out the area along the street used for loading by parents.

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Table 7-2: Dixon Priority Engineering Projects

Dixon - Safe Routes to School Capital Project List

Total Project Costs Identified	**$180,200**	**Total High/Medium Priority Projects**	**$176,000**	**Grants (Reasonable Anticipated, 5 years)**	**$50,000**

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
Dixon Unified	C A Jacobs Intermediate	7	• Replace at-grade bike/ped railroad crossing with planned railroad undercrossing	High	STA	$6,000,000[18]
Dixon Unified	C A Jacobs Intermediate	3	• Construct curb extension along east side of N Lincoln Street • Replace transverse yellow crosswalks with high-visibility yellow ladder crosswalks • Restripe bike lanes on Rehrmann Drive for CA MUTCD compliance	High	City of Dixon	$50,000
Dixon Unified	C A Jacobs Intermediate	5	• Consider construction of sidewalks where gaps currently exist on West B Street and on West C Street	High	City of Dixon	$85,000
Dixon Unified	Tremont Elementary	6	• Designate Patwin Park as a 'Park and Walk' location and promote as a potential Walking School Bus meeting spot • Reconfigure the northbound Pheasant Run Way / W H Street intersection approach to add Patwin Park parking and improve bicycle facility design	Medium	City of Dixon	$2,500
Dixon Unified	Tremont Elementary	5	• Open gate at the southwestern end of school grounds, assign staff or a volunteer to oversee • Inform parents in school newsletter about newly opened gate to encourage loading further west on Rehrmann Drive • Plant trees along Rehrmann Drive to improve walking environment	Medium	DUSD	$3,000

[18] Cost estimate provided by STA. For simplification purposes, costs for this project are not included in the cost summary totals above

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
Dixon Unified	Tremont Elementary	3	• Stripe new high-visibility yellow crosswalk in southern leg of intersection • Construct a curb extension on each end of the crosswalk to increase pedestrian visibility and channel pedestrians towards the crossing • Install Assembly B signage at the crossing, and Assembly D signage & SLOW SCHOOL CROSSING pavement markings in advance of the crossing • Consider red curb removal in other areas to make up for lost parking from curb extension (if built)	Medium	City of Dixon	$35,000
Dixon Unified	C A Jacobs Intermediate	1	• Train parent and student volunteers to assist loading • Consider closing parking lot with orange cones during loading times • Stripe yellow ladder crosswalk at east leg of N Lincoln St & West B St	Medium	DUSD	$500
Dixon Unified	C A Jacobs Intermediate	2	•Install overhead covering for bicycle parking • Install adult-sized inverted-U racks for parents on bicycle	Medium/Low	DUSD	$3,000
Dixon Unified	C A Jacobs Intermediate	4	• Install a gate in the fence break along north side of the pedestrian path, preventing pedestrian movement through the Silveyville Montessori parking lot	Medium/Low	City of Dixon	$500
Dixon Unified	Tremont Elementary	2	• Stripe red curb at all curb ramps on both Dunlap Court & Madera Drive along Pheasant Run Way • Work with Dixon PD to discourage parking in front of curb ramps adjacent to the school	Low	City of Dixon	$500
Dixon Unified	CA Jacobs Intermediate	6	• West C Street at North Adams Street - Install NO PED CROSSING sign on southwest corner to direct pedestrians to cross at West B Street.	Low	City of Dixon	$200

7.6 C.A. Jacobs Intermediate School Travel Plan

Principal:	Cindy Moore-Perkins
Enrollment:	Grades 6-8, 603
Arrival:	All grades, 8:30 AM
Dismissal:	All grades, 2:58 PM; Minimum Day, 12:35 PM; Wednesday, 1:40 PM
Mode Share:	N/A
Walk Score[19]:	46/100
Free/Reduced Lunch:	41% in 2011-2012, 45% in 2010-2011

C.A. Jacobs Intermediate is located in central Dixon

Layout

C.A. Jacobs Intermediate School is located in central Dixon on North Lincoln Street, two blocks north of West A Street and several blocks east of Pitt School Road (both considered primary roadways). The school campus is directly adjacent to Westside Park, a community open-space, as well as a Montessori charter school (Silveyville). Together, the schools and park form a large 'superblock' that includes an east/west trail connecting Rehrmann Drive and West C Street.

The Capital Corridor rail corridor is approximately ½ mile southeast of school grounds and contains at-grade crossings at West A Street (auto access only), West B Street (pedestrian/bicycle only), and North 1st Street (auto access only). Historic Downtown Dixon is on the far side of the rail corridor, east of the school. As the only middle school in Dixon, many students must cross the railroad tracks at West B Street to reach school.

C.A. Jacobs Intermediate has three access points for students:

- The main entrance & parking lot on North Lincoln Street, from Rehrmann Drive to West B Street;
- A side entrance from West B Street, east of North Lincoln Street; and
- A pedestrian pathway from the intersection of North Almond Street and West C Street

Participants gather before the walk audit

There is a gated bicycle parking area directly north of the parking lot on North Lincoln Street, opposite Rehrmann Drive. School crossing signage has been extensively implemented around C.A. Jacobs Intermediate by the Dixon Public Works Department.

Site Visit

The project team conducted a walk audit at C.A. Jacobs Intermediate School in the afternoon of Tuesday, February 28th. Conditions were intermittently cloudy and cold, with no indication of factors influencing

[19] See www.walkscore.com for more information.

normal pick-up behaviors. Participating in the walk audit was Principal Moore-Perkins, Mayor Batchelor, the chief of the Dixon Police Department, representatives from the Dixon Unified School District, from the City of Dixon Public Works Department, from Solano County Public Health, from the Solano Transportation Authority, and from the STA Pedestrian Advisory Committee. Participants observed traffic and pedestrians in the parking lot, on Rehrmann Drive at Pitt School Road, at the pedestrian pathway at North Almond Street at West C Street, at the intersection of West A Street at North Lincoln Street, at the intersection of West A Street at North Almond Street, and at the bicycle/pedestrian railroad crossing east of West B Street at North Jefferson Street. Additionally, the chief of police drove around the surrounding neighborhood to monitor activity between the listed intersections.

Loading Zones

The primary loading zone for C.A. Jacobs Intermediate is the school parking lot on the corner of West B Street and North Lincoln Street. School staff hope to improve circulation by closing off the school parking lot, which is currently overutilized by parents.

Parents also pick up and drop off students along West B Street, along North Lincoln Street, along Pitt School Road, and at the terminus of the pedestrian path at the intersection of North Almond Street at West C Street. Several students were observed crossing North Lincoln Street to access family vehicles parked in the church parking lot on the north side of Rehrmann Drive.

A crossing guard helping students cross Pitt School Road at Rehrmann Drive

Crossing Guard Location

There is one crossing guard at the intersection of North Lincoln Street at Rehrmann Drive and another crossing guard at the intersection of Rehrmann Drive at Pitt School Road.

Other Plans

The 2004 Solano County Pedestrian Master Plan identifies an undercrossing for the existing at-grade bicycle/pedestrian crossing at West B Street as a priority project. This undercrossing project is also identified as the project of highest priority in the Solano Rail Crossing Inventory and Improvement Plan. The West B Street undercrossing is also given the highest priority level in the Countywide Bicycle Master Plan.

The Countywide Bicycle Master Plan also calls for construction of bike lanes on North Adams Street and on Porter Road as part of a Vacaville-Dixon Bike Route. The bike lanes on North Adams Street have already been implemented.

The 2008 Solano County Safe Routes to School Plan included improvement plans for nearby Linford Anderson Elementary School. Some of the identified improvements have already been implemented; specifically, a curb extension at the intersection of East C Street and North 4th Street.

Completed Projects

During the planning process for the 2013 STA SR2S Plan Update, the City of Dixon approved and completed several projects initially recommended in this report. These projects are listed below.

Pitt School Road 4-way STOP

After approval by the Dixon Transportation Committee and the Dixon City Council, the intersection of Pitt School Road at Rehrmann Drive was converted to a 4-way STOP. Traffic previously was unrestricted on Pitt School Road, with a crosswalk, pedestrian-activated in-pavement flashers, and a crossing guard in the northern leg of the intersection. While the crossing guard remains at this crossing, the in-pavement flashers have been removed and transverse yellow crosswalks have been striped in all for legs of the intersection.

West A Street at North Almond Avenue

The broken in-pavement flashers in the western leg of the intersection have been removed and replaced with pedestrian-activated flashing beacons. This report initially recommended either the repair of these flashers or the installation of a 4-way STOP.

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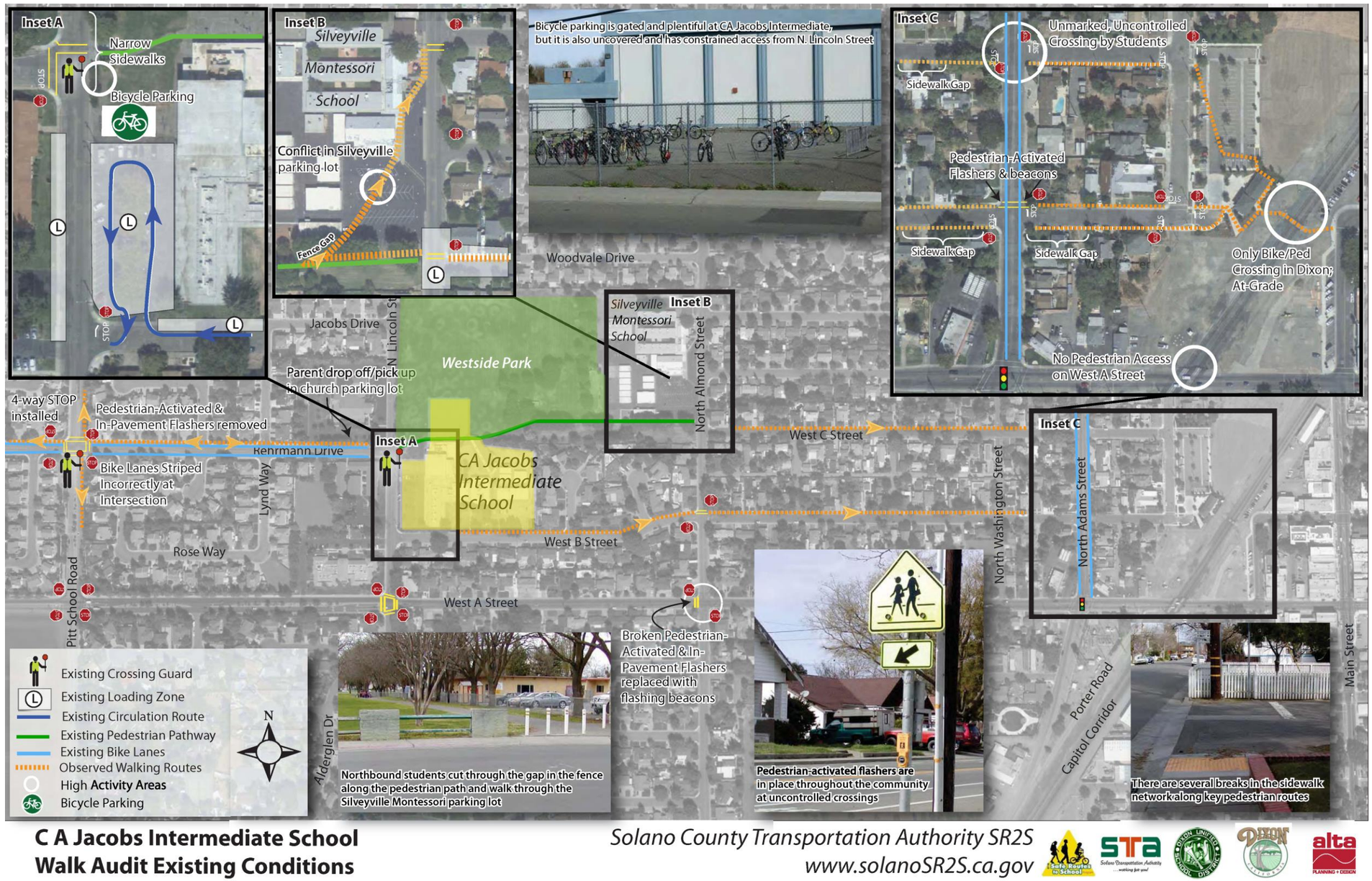

Figure 7-3: C.A. Jacobs Intermediate Existing Conditions

1 School Parking Lot
- Train parent and student volunteers to assist loading
- Consider closing parking lot with orange cones during loading times
- Stripe yellow ladder crosswalk at east leg of N Lincoln St & West B St

2 School Bicycle Parking
- Install overhead covering for bicycle parking
- Install adult-sized inverted-U racks for parents on bicycle

3 Rehrmann Drive at North Lincoln Street
- Construct curb extension along east side of N Lincoln Street
- Replace transverse yellow crosswalks with high-visibility yellow ladder crosswalks
- Restripe bike lanes on Rehrmann Drive for CA MUTCD compliance

4 Pedestrian Pathway
- Install a gate in the fence break along north side of the path, preventing cut-throughs across the Silveyville Montessori parking lot

5 West B Street & West C Street
- Fill in sidewalk gaps on West B Street and on West C Street

6 West C Street at North Adams Street
- Install NO PED CROSSING sign on southwest corner to direct pedestrians to cross at West B Street

7 West B Street Railroad Undercrossing
- Replace at-grade railroad crossing with ped/bike undercrossing

C A Jacobs Intermediate School
*Recommended Improvements**

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 7-4: C.A. Jacobs Intermediate Recommended Improvements

C.A. Jacobs Intermediate Existing Conditions & Recommendations

School Parking Lot

The school parking lot is a loop with entrances and exits on both West B Street and North Lincoln Street. There are three rows of angled parking in the lot and a painted yellow inner-curb beside the school. Parents often arrive early to find a space in the parking lot and line up along the loading curb. School staff discourages use of the parking lot for loading, as parents often double-park in the lot and block other drivers in the angled parking.

Students were observed crossing West B Street at the east leg of a T-intersection with North Lincoln Street. This intersection is STOP controlled on West B Street, but without marked crosswalks.

Recommendations (ID #1)

The District should consider a trial closure of the school parking lot with orange cones to improve circulation. The District should recruit parent and student loading volunteers, should outfit them with florescent vests to increase visibility.

The City should stripe a high-visibility yellow crosswalk at the east leg of the intersection of North Lincoln Street and West B Street. Striping red curb on the north side of West B Street in advance of this crossing from the stop sign to the parking lot driveway is also recommended to improve visibility.

Bicycle Parking

C.A. Jacobs Intermediate has a large, gated bicycle parking area immediately north of the school parking lot. On the day of the walk audit there were approximately 20 bicycles parked in this area, with capacity for additional 30-40 bicycles. The bicycle racks are the substandard "wheel-bender" type. On the day of the walk audit, none of the bikes were locked.

Recommendation (ID #2)

The District should further encourage year-round bicycling at C.A. Jacobs Intermediate by installing an all-weather covering over this bicycle parking area. The District may also consider installing adult-sized inverted-U racks near the school entrance for parents bicycling with students to and from school.

The ample bicycle parking at CA Jacobs is well utilized, but could be improved with overhead weather protection to encourage all-season use

North Lincoln Street at Rehrmann Drive

The sidewalk on the east side of North Lincoln Street from the school parking to the crosswalk at Rehrmann Drive is narrow – approximately 4 feet wide. A fence fronts up against the inner sidewalk edge, while the rolled curb at the outer sidewalk edge provides limited separation from traffic. On the day of the walk audit, the sidewalk became congested with students walking north to the crosswalk at Rehrmann Drive, with students spilling out into the street.

Parents picked up students along both sides of North Lincoln Street in this area. The crossing at Rehrmann Drive is uncontrolled, with yellow transverse crosswalks in both the northern and western legs of the intersection and a crossing guard. The crossing is also the western terminus of the east/west pedestrian path north of C.A. Jacobs (a well-utilized path due to the school and park campus "super block"), and at the eastern leg of the crosswalk is a combined curb ramp/driveway curb cut for a fire access road to Westside Park. Although red curb is striped in all directions from this crossing, enforcement capacity is limited and student visibility is reduced by drivers loading students.

Narrow sidewalks on North Lincoln Street force students to walk in the roadway

The path behind CA Jacobs connects directly to bicycle lanes on Rehrmann Drive, which are faded and could be improved

Connecting with this pathway terminus are bike lanes on Rehrmann Drive, running westward past Pitt School Road and Tremont Elementary School to Evans Road. There is no inner line (also called a "fog line") between the bike lane and parking lane, and striping is faded.

Recommendations (ID #3)

The City should seek funding for a curb extension on the eastern side of North Lincoln Street from the school parking lot to the crosswalk at Rehrmann Drive. The curb along the length of this sidewalk should be painted red. The wider sidewalk afforded by this curb extension would better accommodate the current volume of students walking northward after school and further connect the Rehrmann Drive bike lanes with the east/west Class I pathway. A curb extension at this location would also allow the City to construct an ADA accessible pedestrian curb ramp instead of the existing shared driveway crosswalk landing. Each of the two transverse yellow crosswalks at this intersection should be replaced with high-visibility yellow crosswalks.

The City should also consider restriping the bike lanes on Rehrmann Drive for improved bicycle comfort and safety in compliance with CA MUTCD.

Pedestrian Pathway

There is an east-west pedestrian pathway behind CA Jacobs Intermediate from Rehrmann Drive at North Lincoln Street in the west to West C Street at North Almond Street in the east. At the eastern end is a yellow transverse crosswalk in the northern leg of West C Street at North Almond Street. The pathway has signage stating it is for school-use only during school hours, yet no physical barriers hinder access at other times.

Audit participants noted that many students leaving school from the path passed through a gap in the fence alongside Silveyville Montessori School and cut through the parking lot heading north. While this is a more direct route for students, it puts them into potential conflicts with drivers in the Silveyville Montessori parking lot.

Recommendation (ID #4)

The City and School District should work with Silveyville Montessori School to close the fence along the northern side of the path during pick-up and drop-off hours. This will channel eastbound students all the way out to the sidewalk before they can begin travel northwards, avoiding potential conflicts within the lot.

West B Street & West C Street

Both West B Street and West C Street are the primary routes used by students traveling to school to/from the east. The sidewalks for both streets have varying levels of quality and width, and both streets have gaps in their sidewalk network.

Recommendation (ID #5)

The City should prioritize sidewalk construction along sections of West B Street and West C Street where gaps exist. Where possible, the City should prioritize widening sidewalks to match adjacent sections. Sidewalk widening should be prioritized especially on the northern side of both streets, as crosswalks for both streets are primarily located on the northern legs of intersections.

A sidewalk gap on the south side of West B Street, just east of North Adams Street

West C Street at North Adams Street

There are no marked crossings at West C Street and North Adams Street. During the walk audit, students traveling east from school via the Pedestrian Path were observed crossing this intersection during the walk audit. There is an enhanced crosswalk one block to the south at West B Street and North Adams Street, with pedestrian activated flashing signage.

Recommendations (ID #6)

The City should direct pedestrians to use the existing crosswalk at N Adams Street & W B Street, erecting either railing along the sidewalk on the west side of North Adams Street or signage directing pedestrians to cross at West B Street.

The North Adams St crossing at West B St is preferable to the unmarked crossing at West C Street

West B Street Bicycle/Pedestrian Railroad Crossing

The only dedicated crossing facility for bicycles and pedestrians between Downtown Dixon to the east and the residential neighborhoods to the west is at West B Street and North Jefferson Street. Linfield Anderson Elementary (to the east of this crossing) draws students from the western side of the railroad tracks, and likewise CA Jacobs and Tremont Elementary draw students from the east side. Over 30 people (the majority students) were observed using this at-grade crossing during the walk audit, despite elementary schools having already released students earlier in the day. There are current plans for the construction of an undercrossing at this location for bicyclists and pedestrians, and this project has been given top priority in the

The bicycle & pedestrian railroad crossing is heavily used by both students and Dixon residents

Countywide Bicycle Master Plan, the Countywide Rail Crossing Inventory & Improvement Plan, and the Countywide Pedestrian Master Plan.

Recommendation (ID #7)

The City and STA should continue to prioritize the funding and construction of this undercrossing. As the only pedestrian and bicycle access between the two sides of Dixon, the safety of this crossing - and separation from rail traffic – is critical for students at C.A. Jacobs Elementary, Silveyville Montessori School, and both Tremont and Linfield Anderson Elementary schools.

Summary of Recommendations

Table 7-3 lists the recommended improvements to address safety and circulation issues around CA Jacobs Intermediate; Figure 7-3 maps existing conditions and Figure 7-4 presents an improvement plan of these recommendations. The project IDs in Table 7-3 correspond to those in Figure 7-4. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, feasibility, and school task force feedback.

Cost estimates may not include additional engineering or design work required for some of the recommendations.

Table 7-3: CA Jacobs Intermediate Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	School Parking Lot	• Train parent and student volunteers to assist loading. • Consider closing parking lot with orange cones during loading times. • Stripe yellow ladder crosswalk at east leg of N Lincoln St & West B St.	DUSD	Middle	$500
2	School Bicycle Parking	• Install overhead covering for bicycle parking. • Install adult-sized inverted-U racks for parents on bicycle.	DUSD	Middle/Low	$3,000
3	Rehrmann Drive at North Lincoln Street	• Construct curb extension along east side of N Lincoln Street. • Replace transverse yellow crosswalks with high-visibility yellow ladder crosswalks. • Restripe bike lanes on Rehrmann Drive for CA MUTCD compliance.	City of Dixon	High	$50,000
4	Pedestrian Pathway	• Install a gate in the fence break along north side of the pedestrian path, preventing pedestrian movement through the Silveyville Montessori parking lot.	City of Dixon	Middle/Low	$500
5	West B Street & West C Street	• Consider construction of sidewalks where gaps currently exist on West B Street and on West C Street.	City of Dixon	High	$85,000
6	West C Street at North Adams Street	• Install NO PED CROSSING sign on southwest corner to direct pedestrians to cross at West B Street.	City of Dixon	Low	$200
7	West B Street Railroad Undercrossing	• Replace at-grade bike/ped railroad crossing with planned railroad undercrossing.	STA	High	$6,000,000
Total Cost					**$6,139,200**

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7.7 Tremont Elementary School Travel Plan

Principal: Matt Banuelos
Enrollment: 670
Arrival: K-6, 8:15 AM
Dismissal: Kindergarten, 1:15 PM
1-3, 2:40 PM
4-6, 2:45 PM
Wednesday, 12:10/12:15
Minimum Day 12:30/12:35
Mode Share: N/A
Walk Score[20]: 31/100
Free/Reduced Lunch: 33% in 2011-12,
36% in 2010-11

Tremont Elementary School is located in western Dixon. Despte a local enrollment boundary,students come from all across the city due to the school's high academic performance and a school choice policy

Layout

Tremont Elementary School is located in West Dixon, less than a half mile east of Interstate 80. The school grounds are bounded by Pheasant Run Way on the east, by Rehrmann Drive on the south, and by single family homes to the west and north. West A Street, one block south of school grounds, is the major east-west arterial serving this area of Dixon. Pitt School Road, due east of school grounds, is the major east/west arterial.

This area of Dixon is almost entirely residential, has a complete sidewalk network, and includes an inter-connected bicycle network. For east/west travel, Rehrmann Drive has bike lanes from Evans Road east to N Lincoln Street, and West H Street has bike lanes from Evans Road to Pitt School Road. For north/south travel, Evans Road has bike lanes from West A Street north to West H Street, and Pheasant Run Way has bike lanes from Rehrmann Drive north to West H Street (to complete the grid of bike lanes around the school). Further south, West A Street also has bike lanes from Interstate 80 to Pitt School Road, although is located on an arterial and somewhat away from school trip demand. Much of the striping and signage for this bike lane network, however, is either faded or includes substandard design features.

A fenced-off area for bicycle parking at Tremont Elementary

There is a large, visible, fenced-in bicycle parking area adjacent to the school parking lot loading zone, off of Pheasant Run Way. On the day of the walk audit, it appeared that the bicycle parking area was well-used by students at Tremont Elementary.

[20] See www.walkscore.com for more information.

Tremont Elementary has two access points for students:

- The main entrance at the school parking lot, accessible from Pheasant Run Way; and
- A pedestrian gate that exits onto Rehrmann Drive just west of its intersection with Pheasant Run Way. Another pedestrian gate on the western edge of school grounds has been locked by school staff.

Students leaving Tremont Elementary along a sidewalk on Pheasant Run Way

Site Visit

The project team conducted a walk audit at Tremont Elementary on the afternoon of Thursday, April 19th. Weather was hot and sunny, with no indication that weather impacted normal behaviors. Because the Tremont Elementary walk audit had to be rescheduled from its original date in March due to rain, not all participants were able to attend the walk audit, specifically the chief of police and staff from STA. The principal of the school, a representative Dixon Public Works, a representative from the Dixon Unified School District, a representative from the STA Pedestrian Advisory Board, and a representative from the Dixon Transportation Commission participated in the walk audit.

The sites chosen for observation were along Pheasant Run Way, along Rehrmann Drive, and at the intersection of Rehrmann Drive and Pitt School Road. After the walk audit, several team members visited Patwin Park located a quarter mile north of the school grounds.

Loading Zones

The school closes the parking lot entrance and exit during pick-up and drop-off. A parent volunteer operates a rope at the parking lot entrance, lowering it for shuttle vans and drivers with disabled placards. All other drivers must conduct loading activities on the street. The entry driveway has painted red curb, which transitions to a small area of yellow curb adjacent to the front gate of the school.

The parking lot entrance has a temporary gate set up during loading periods

The majority of student loading occurs along Pheasant Run Way and Rehrmann Drive. On the day of the walk audit, drivers were observed parking or idling on both sides of the street before and during the pick-up period. Stakeholders said that drivers seek out parking on Rehrmann Drive from approximately Carpenter Court in the west to Fuller Lane in the east, while drivers on Pheasant Run Way generally seek out parking south of Ingrid Drive.

During the walk audit, some students were picked up further to the north of Ingrid Drive on Pheasant Run Way

Crossing Guard Location

There are two crossing guards at Tremont Elementary. One crossing guard is posted at the intersection of Rehrmann Drive at Pheasant Run Way. The other crossing guard is located at the intersection of Pitt School

Road at Rehrmann Drive. Both crossing guards were observed allowing student bicyclists to ride their bikes through the crosswalk rather than dismounting before proceeding.

Completed Projects

During the planning process for the 2012 STA SR2S Plan Update, the City of Dixon approved and completed several projects initially recommended in this report. These projects are listed below.

Pitt School Road 4-way STOP

After approval by the Dixon Transportation Committee and the Dixon City Council, the intersection of Pitt School Road at Rehrmann Drive was converted to a 4-way STOP. Traffic previously was unrestricted on Pitt School Road, with a crosswalk, pedestrian-activated in-pavement flashers, and a crossing guard in the northern leg of the intersection. While the crossing guard remains at this crossing, the in-pavement flashers have been removed and transverse yellow crosswalks have been striped in all for legs of the intersection.

Red Curb at Tremont Elementary

Recommended re-striping of red curb around Tremont Elementary, contained in initial drafts of the plan, has been completed by the Dixon Public Works Department prior to the plan's adoption.

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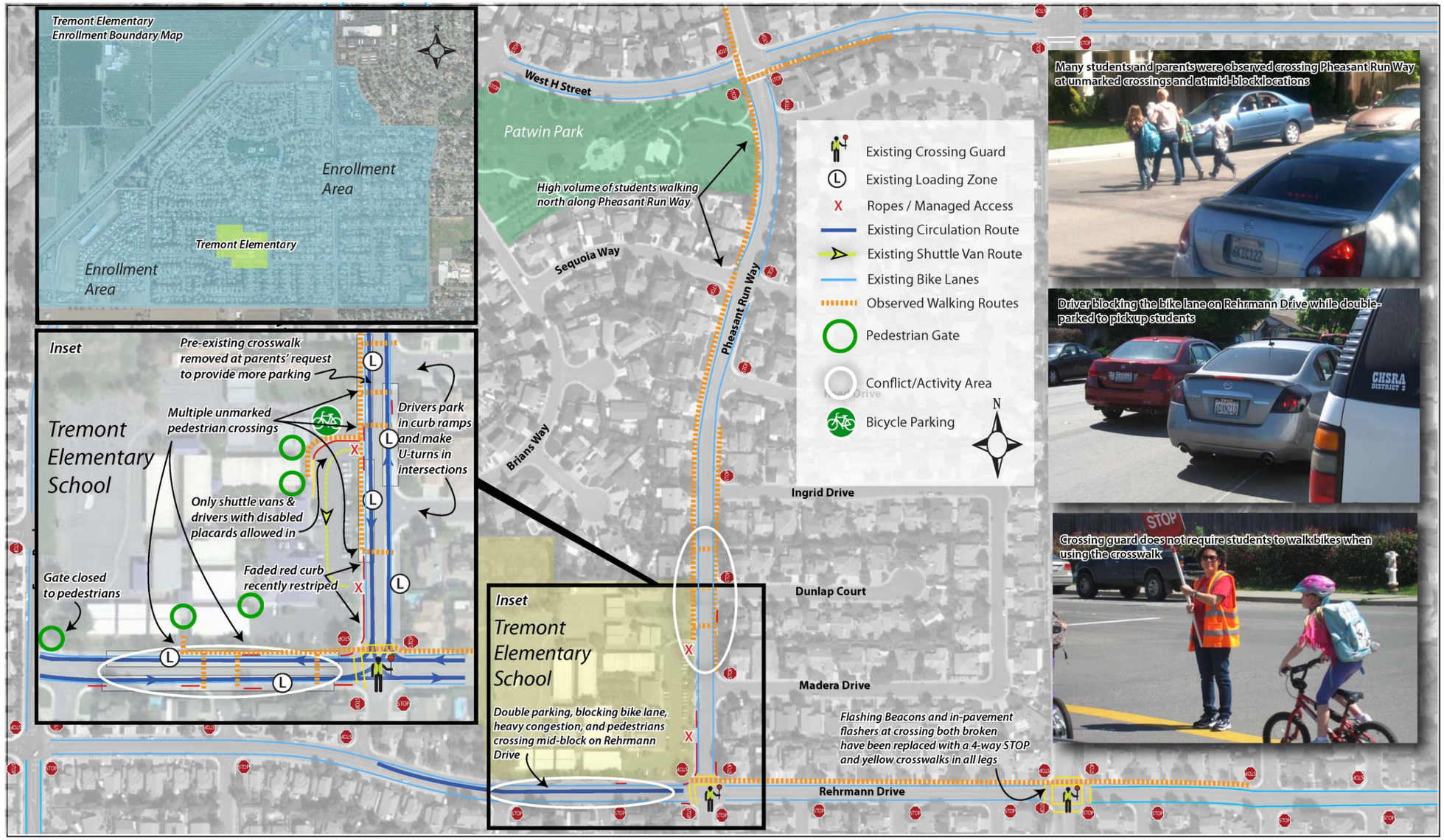
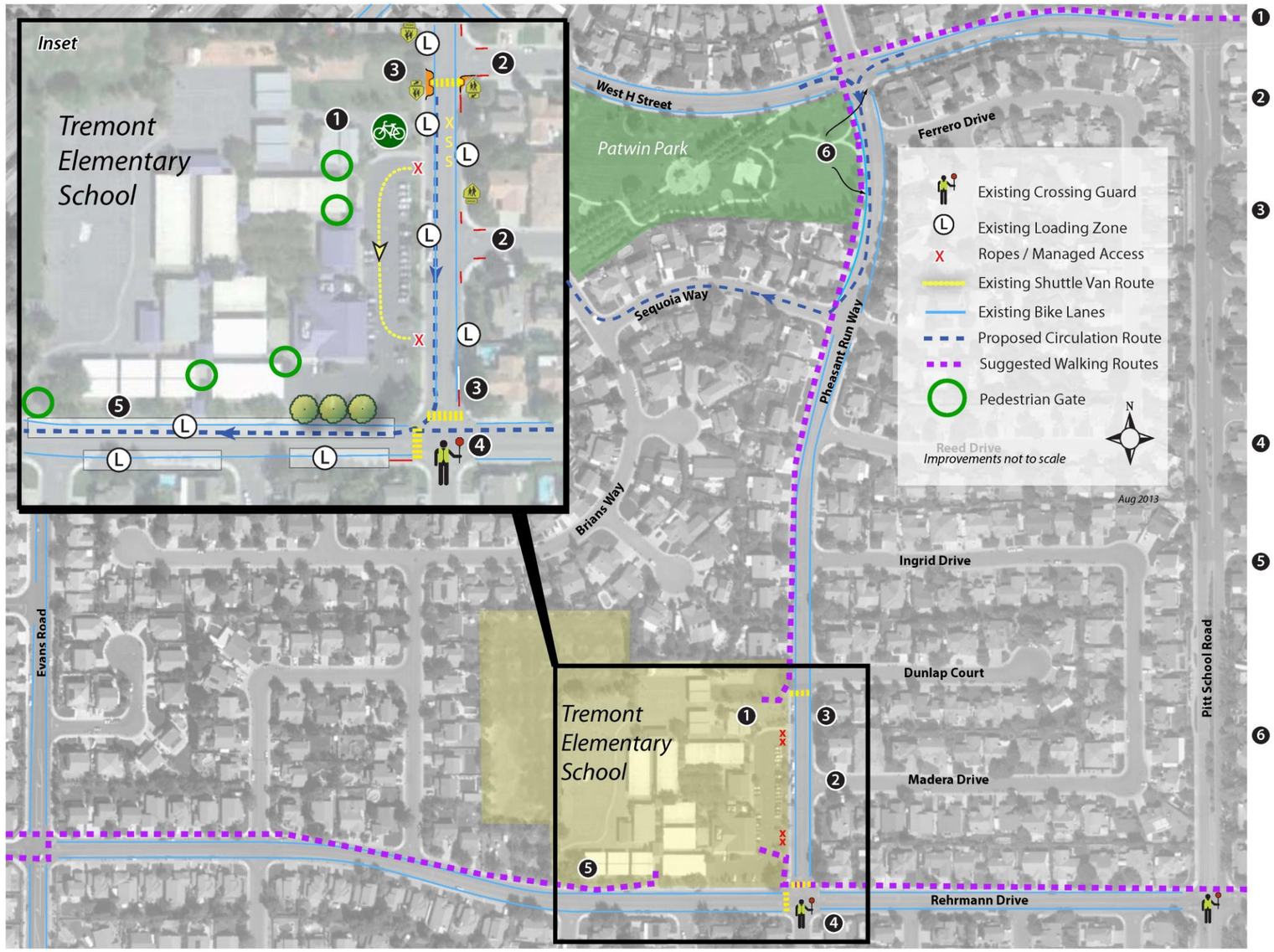


Figure 7-5: Tremont Elementary Existing Conditions



1 Traffic Skills/Bicycle Skills Training
- Conduct Traffic Safety Assemblies and Bicycle Rodeos at Tremont Elementary

2 Dunlap Court & Madera Drive
- Stripe red curb at all curb ramps on both streets along Pheasant Run Way
- Work with Dixon PD to discourage parking in front of curb ramps adjacent to the school

3 Pheasant Run Way at Dunlap Court
- Stripe new high-visibility yellow crosswalk in southern leg of intersection
- Construct a curb extension on each end of the crosswalk to increase pedestrian visibility and channel pedestrians towards the crossing
- Install Assembly B signage at the crossing, and Assembly D signage & SLOW SCHOOL CROSSING pavement markings in advance of the crossing
- Consider red curb removal in other areas to make up for lost parking from curb extension (if built)

4 Pheasant Run Way at Rehrman Drive
- Replace existing yellow transverse crosswalks
- Provide additional training for crossing guards to manage the movements of students, requiring student bicyclists to dismount before crossing

5 Rehrmann Drive
- Open gate at the southwestern end of school grounds, assign staff or a volunteer to oversee
- Inform parents in school newsletter about newly opened gate to encourage loading further west on Rehrmann Drive
- Plant trees along Rehrmann Drive to improve walking environment

6 Patwin Park at Pheasant Run Way / West H Street
- Designate Patwin Park as a remote "Park and Walk" location, and promote as a potential meeting spot for a neighborhood Walking School Bus
- Consider revising the northbound intersection approach to expand curbside parking at Patwin Park and improve bicycle lane configuration. Options include combining the northbound bike lane and right turn lane ('combined bike lane/turn lane') or replacing the southbound bike lane segment north of Sequoia Way with sharrows

Tremont Elementary School Recommendations*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 7-6: Tremont Elementary Recommendations

Tremont Elementary Existing Conditions and Recommendations

Traffic Skills & Bicycle Training

On the day of the walk audit, participants observed students crossing mid-block in many locations along both Pheasant Run Way and Rehrmann Drive, oftentimes not looking for traffic before stepping out into the street. Participants also observed students riding bicycles without helmets and riding through crosswalks instead of walking their bicycles. At the time of this Plan, Tremont Elementary has not participated in educational traffic safety assemblies or bicycle rodeos offered by the STA Safe Routes program.

Bicycle safety education and skils training should be a priority at Tremont Elementary

Recommendation (ID #1)

The District should work with STA and the County Public Health Department to schedule regular traffic safety assemblies and bicycle rodeos at the school. Due to the City's strong commitment to bicycling and the existing/potential student bicycle commuting rates, the District should also consider integrating traffic safety education and training into school curriculum, through both in-classroom lessons and skills-based physical education activities (see "Carried Over Recommendations" above for more detail).

Pheasant Run Way

The parking lot and loading zone access for Tremont Elementary comes exclusively from Pheasant Run Way. Both the entry to and exit from the school parking lot has red curb striped for approximately ten (10) feet on both sides of the driveway. The red curb on the southern side of the parking lot exit extends all the way to the intersection of Pheasant Run Way at Rehrrmann Drive. On the day of the walk audit, some drivers were observed encroaching upon the red curb.

Parents parking on the east side of Pheasant Run Way regularly block existing curb ramps

Both Dunlap Court and Madera Drive dead-end onto the east side of Pheasant Run Way in this area. Both streets have curb ramps at their intersections with Pheasant Run Way. There are no red curbs adjacent to these curb ramps, and drivers were observed parking in the curb ramps, blocking pedestrian access.

Recommendations (ID #2)

The City should stripe additional red curb on the east side of Pheasant Run Way on both sides of the existing curb ramps. The City should also work with Dixon PD, and the school should include regular communication with parents, to discourage drivers from parking in the curb ramps and blocking pedestrian access.

Pheasant Run Way at Dunlap Court

During the walk audit, participants observed many students and parents crossing Pheasant Run Way at multiple mid-block locations. The school principle told staff that there once was a crosswalk striped across Pheasant Run Way at Dunlap Court, but that it was removed due to parent complaints and a desire for more street parking. The crosswalk stencil has been ground out. The SLOW SCHOOL XING pavement markings have also been ground out, though less completely than the crosswalk (the markings for southbound drivers are especially visible). Participants observed students sometimes spilling out onto the street from the sidewalk in this area due to the narrowness of the sidewalk and the high volume of pedestrians.

Parents and students currently cross Pheasant Run Way at many mid-block locations

Despite its removal in the past, a crosswalk (with additional improvements) is recommended for this location

When asked about reinstalling a crosswalk at this location, school staff expressed reservations about the loss of street parking from the accompanying red curb. Public works staff expressed reservations about providing a dedicated crossing on a street where any of the other unmarked crossings are just as viable as the existing unmarked crossing at Pheasant Run Way & Dunlap Court. If a crosswalk were to be reestablished, the City would need to demonstrate that the crossing identified was the safest and most useful off all crossing options on the street.

Recommendation (ID #3)

Despite its prior removal, a yellow high-visibility crosswalk in the southern leg of the intersection of Pheasant Run Way at Dunlap Court is recommended. This location is preferred over other intersections due to the proximity to the school entrance, spacing from adjacent crossing locations, lower volume of traffic (Dunlap Court is a short cul-de-sac, whereas Madera and Ingrid Drive connect to additional housing), and the presence of existing red curb on the school-side of the intersection.

As envisioned, the City would install a curb extension on the eastern end of the crosswalk with bi-directional curb ramps and a much smaller turning radius, which has the benefit of extending the length of curb along Pheasant Run Way (and reducing potential parking loss). This curb extension may also discourage U-turn movements by drivers – another issue noted during the walk audit. On the west (school) side, the City would also construct a curb extension and new curb ramp to shorten the crossing distance and help channelize (consolidate) student crossings at this location by virtue of the expanded sidewalk space. These changes would make a crosswalk at Pheasant Run Way and Dunlap Court far preferable to jaywalking and other crossing locations.

To address parent concerns about street parking, the City could reduce the length of unnecessarily long red curb segments elsewhere on Pheasant Run Way to replace lost parking. Specifically, some of the red curb on

the east side of Pheasant Run Way, north of the intersection with Rehrmann Drive could be converted to street parking. Opportunities to improve the loading efficiency on Rehrmann Drive, detailed below, could also be considered to provide a balanced solution for improved school access for all modes.

If the crosswalk is provided, the City should install Assembly B signage at the crossing and Assembly D signage in advance of the crossing on Pheasant Run Way. The SLOW SCHOOL XING pavement markings should also be restored, and as an optional measure a "Yield to Pedestrians in Crosswalk" in-street sign paddle (R1-6) could be installed in the center of the crosswalk.

Pheasant Run Way at Rehrmann Drive

There are yellow transverse crosswalks in the northern and western legs of the intersection of Pheasant Run Way at Rehrmann Drive. This intersection is managed by a crossing guard. On the day of the walk audit, the crossing guard often allowed students to ride bikes in the crosswalks.

Recommendation (ID #4)

The City should upgrade the existing yellow transverse crosswalks with high-visibility yellow markings. The District may also consider additional training for the crossing guard at this location, requiring students to dismount from their bicycles if they wish to travel through the crosswalk. (Note: A crossing guard training video and manual, developed by STA and the Suisun City and Fairfield Police Departments for use throughout the County, should be available for use at the time this Plan is finalized.)

Rehrmann Drive

Rehrmann Drive is a primary east-west corridor in Dixon, and during the walk audit a high volume of drivers was observed, including parents lining up on both sides of Rehrmann Drive from Pheasant Run Way to Carpenter Court. Some drivers were observed double parking in the bike lane, as well as loading students while double parked. Participants also observed students and parents crossing Rehrmann Drive mid-block, despite the nearby crosswalk at Pheasant Run Way.

Students access Rehrmann Drive from a gate at the staff parking lot and another gate that exits directly out to the street. There is another gate in the southwest corner of the school which is locked. The stretch of Rehrmann Drive fronting the school has little tree-cover, and participants observed that the sidewalk was an uncomfortable location to wait for drivers.

Recommendation (ID #5)

The City and District should attempt to make Rehrmann Drive work more efficiently as a loading zone, as well as make Rehrmann Drive a more pleasant place for students to wait for pick-up. The District should open up the gate in the southwest corner, allowing students to enter and exit here. By spreading students further west along Rehrmann Drive, the District can reduce congestion by expanding their loading zone. If opened, the new school access gate should be overseen by a staff member or parent volunteer to limit campus safety concerns. Publicizing this new drop-off area with parents will help increase its usage.

The District should work with the City to install a row of street trees alongside the school on the sidewalk. This activity may also provide a hands-on learning experience for students, if their involvement with the planting or the installation of educational signage can be coordinated. More street trees will provide shade during the warm fall and spring months of school, making the loading area much more pleasant for students.

Patwin Park at West H Street

Patwin Park is located less than a quarter mile north of the school, and includes a northern border with West H Street and an eastern border at Pheasant Run Way. In addition to having on-street parking and a central children's play area, the park is along a suggested walking route to school identified by the STA Mapping Project. During the school walk audit, participants observed many students walking past the park on their way home after school.

The northbound approach to West H Street on Pheasant Run Way includes a combined through/left turn lane, a dedicated right turn lane, and a curbside bike lane. Parking is restricted in the southbound direction for approximately 150 feet adjacent to the park to accommodate this configuration, which includes a southbound travel lane and curbside bike lane. South of the intersection approach, the second northbound vehicle lane goes away to provide room for parking on both sides of the street.

A curbside bike lane adjacent to a dedicated right turn lane is not a recommended configuration, due to the potential for "right hook" collisions.

Recommendation (ID #6)

The District should work with the City and the Tremont Elementary PTA to designate and promote Patwin Park as a remote "Park and Walk" location, the opportunity for which is identified on the school's newly developed Suggested Route to School Map. This designation could help reduce school frontage congestion, particularly if drivers were encouraged to loop back to West H Street via Sequoia Way (instead of continuing south on Pheasant Run Way). The 'Park and Walk' designation may also help student families driving from further away participate in the final leg of a neighborhood Walking School Bus, if and when one is organized.

To support both concepts, additional on-street parking immediately south of West H Street on Pheasant Run Way could be provided by reconfiguring the adjacent intersection. Options include combining the dedicated northbound right turn lane and bicycle lane and shifting over the travel lanes[21], or removal of the southbound curbside bicycle lane segment on Pheasant Run Way (which could be replaced by shared lane markings, or sharrows, in the vehicle lane). In all scenarios, the northbound bicycle lane should be improved for safety – either by installing the 'combined right turn lane and bike lane' or by relocating the bike lane to the left of the right turn lane.

Summary of Recommendations

Table 7-4 lists the recommended improvements to address safety and circulation issues around Tremont Elementary; Figure 7-5 maps existing conditions and Figure 7-6 presents an improvement plan of these recommendations. The project IDs in Table 7-4 correspond to those in Figure 7-6. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some of the recommendations.

[21] For more information see http://nacto.org/cities-for-cycling/design-guide/intersection-treatments/combined-bike-laneturn-lane/

Table 7-4: Tremont Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	Traffic Skills/Bicycle Skills Training	• Conduct Traffic Safety Assemblies and Bicycle Rodeos at Tremont Elementary.	DUSD	High	N/A
2	Dunlap Court & Madera Drive	• Stripe red curb at all curb ramps on both Dunlap Court & Madera Drive along Pheasant Run Way. • Work with Dixon PD to discourage parking in front of curb ramps adjacent to the school.	City of Dixon	Low	$500
3	Pheasant Run Way at Dunlap Court	• Stripe new high-visibility yellow crosswalk in southern leg of intersection. • Construct a curb extension on each end of the crosswalk to increase pedestrian visibility and channel pedestrians towards the crossing. • Install Assembly B signage at the crossing, and Assembly D signage & SLOW SCHOOL CROSSING pavement markings in advance of the crossing. • Consider red curb removal in other areas to make up for lost parking from curb extension (if built).	City of Dixon	Middle	$35,000
4	Pheasant Run Way at Rehrmann Drive	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks. • Provide additional training for crossing guards to manage the movements of students, requiring student bicyclists to dismount before crossing.	City of Dixon	Middle	$2,000
5	Rehrmann Drive	• Plant trees along Rehrmann Drive to improve walking environment	City of Dixon	Middle	$3,000
6	Patwin Park	• Designate Patwin Park as a remote "Park and Walk" location, and encourage formation of a Walking School Bus that meets at this location. • Improve the bicycle lane configuration at Pheasant Run Way and West H Street, and consider changes that expand curbside parking adjacent to the park.	City of Dixon	Middle	$2,500
Total Cost					**$43,000**

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8 Fairfield

8.1 SR2S Community Task Force

The Fairfield SR2S Community Task Force selected three schools for walk audits as part of the 2013 STA SR2S Plan Update process: Rolling Hills Elementary, B. Gale Wilson K-8, and Tolenas Elementary. A fourth school, Center Elementary, also received a walk audit based on recommendations from Travis Unified School District (TUSC) and City of Fairfield staff. Both Tolenas Elementary (Fairfield-Suisun Unified School District) and Center Elementary are located just outside the city limits, but have circulation issues and recommended improvements primarily within the City of Fairfield. The membership of the Fairfield Community Task Force, which is a special meeting of the City of Fairfield "3 E's" Committee, is shown in **Table 8-1**.

Table 8-1: Fairfield Community Task Force Membership

Name	Position
Garland Wong	City of Fairfield, Traffic
Trudy Ball	City of Fairfield, Traffic
Kim Van Gundy	Fairfield-Suisun Unified School District, Facilities
Robert Marin	City of Fairfield Police Department
Matt Bloesch	City of Fairfield Police Department
David Florez (ad hoc member)	Travis Unified School District
Kelly Hatcher (ad hoc member)	Travis Unified School District

8.2 Walkshed and Collision Maps

Figure 8-1 through **Figure 8-4** on the following pages display the locations of schools, the locations of parks, and the walkshed for each school. A walkshed shows how far a student could walk from school in a given amount of time. The maps display outer boundaries for both a ten-minute and twenty-minute walkshed, assuming an average walking speed of 2.8 feet/second. **Figure 8-5** shows the approximate locations and

volume for all collisions involving pedestrians or bicyclists from 2005-2010, as documented by the California Highway Patrol SWITRS (Statewide Integrated Traffic Records System).

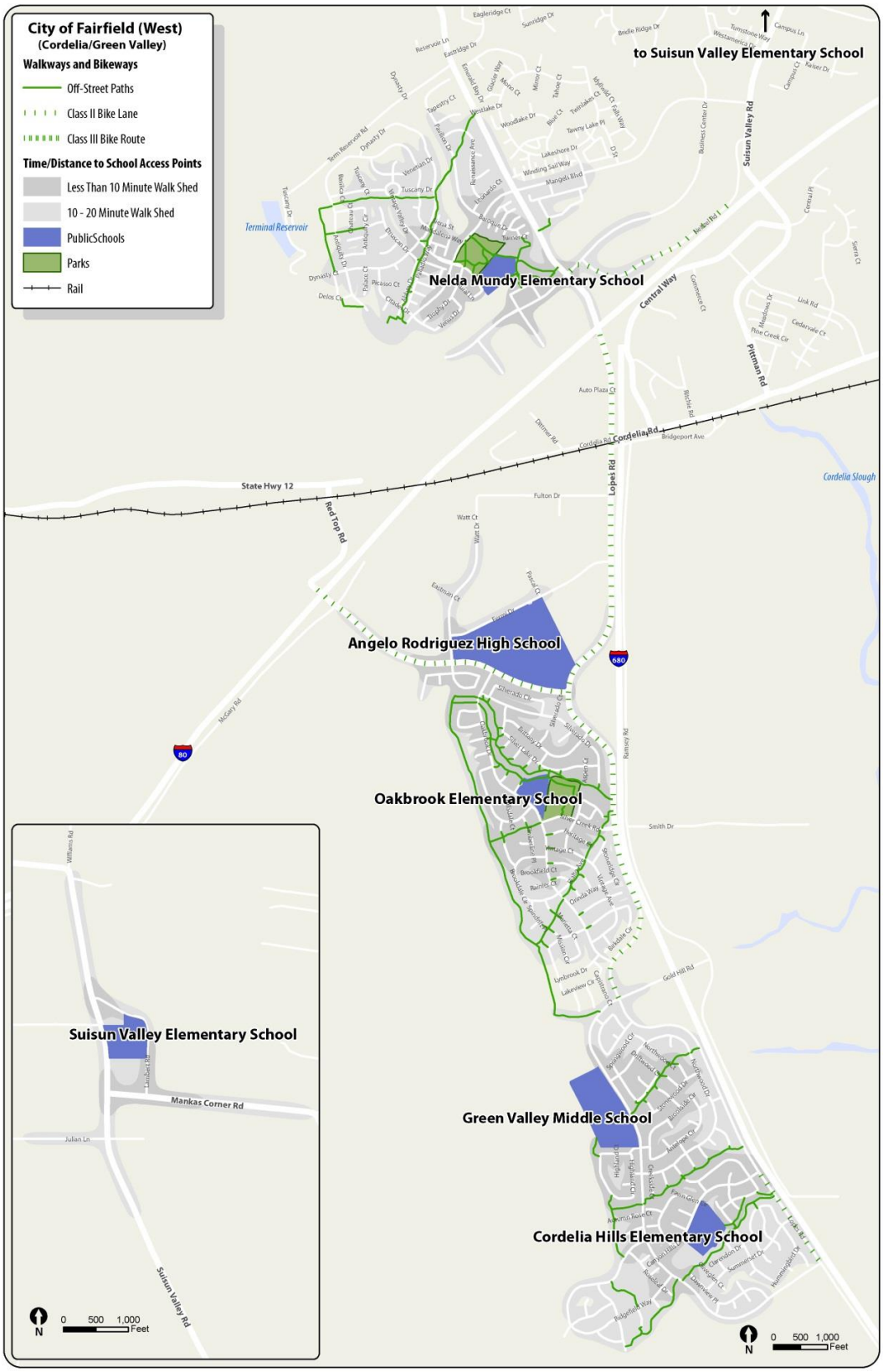


Figure 8-1: Cordelia/Green Valley schools, parks, and walksheds

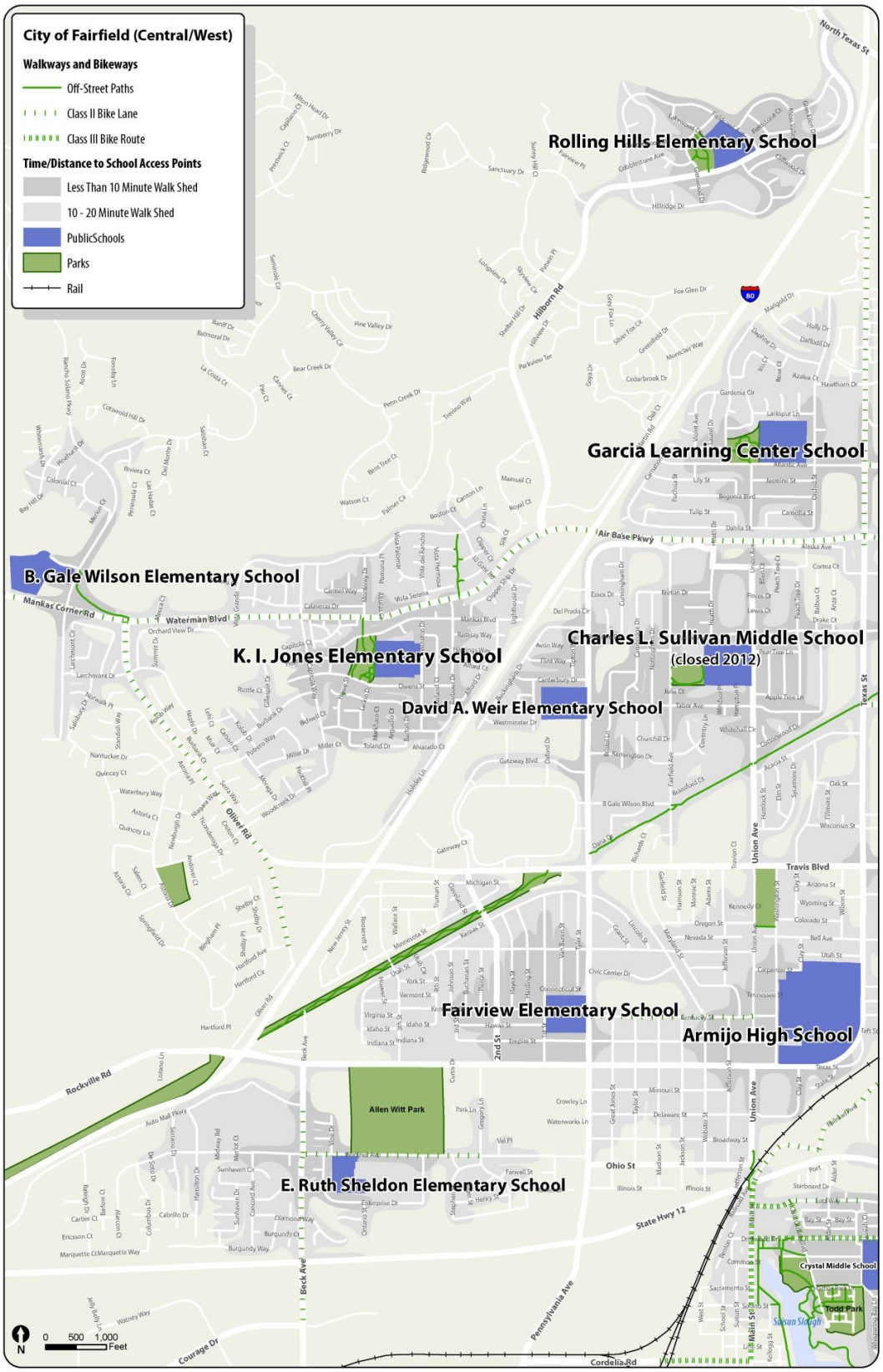


Figure 8-2: Central/West Fairfield schools, parks, and walksheds

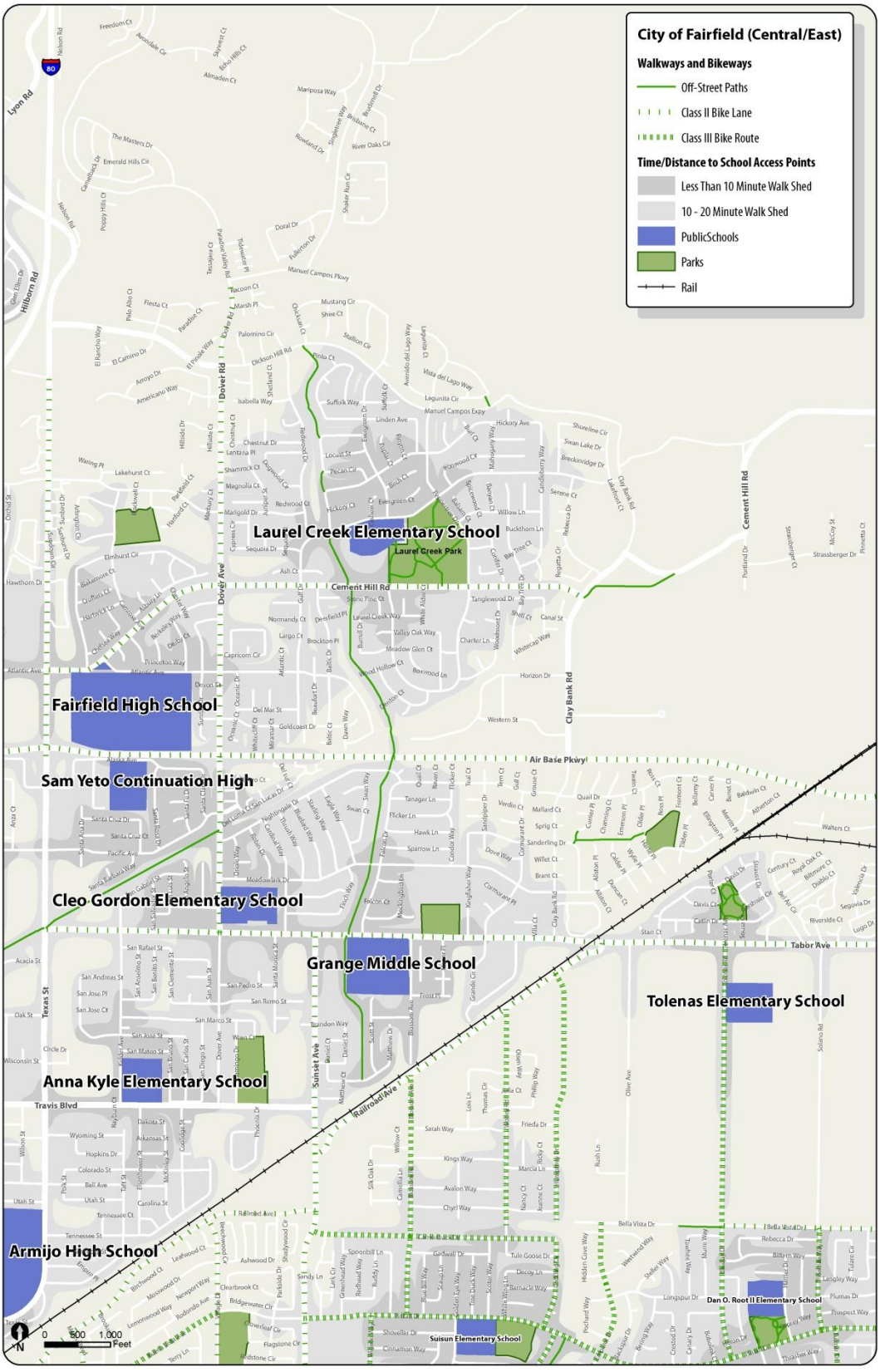


Figure 8-3: Centra/East Fairfield schools, parks & walksheds

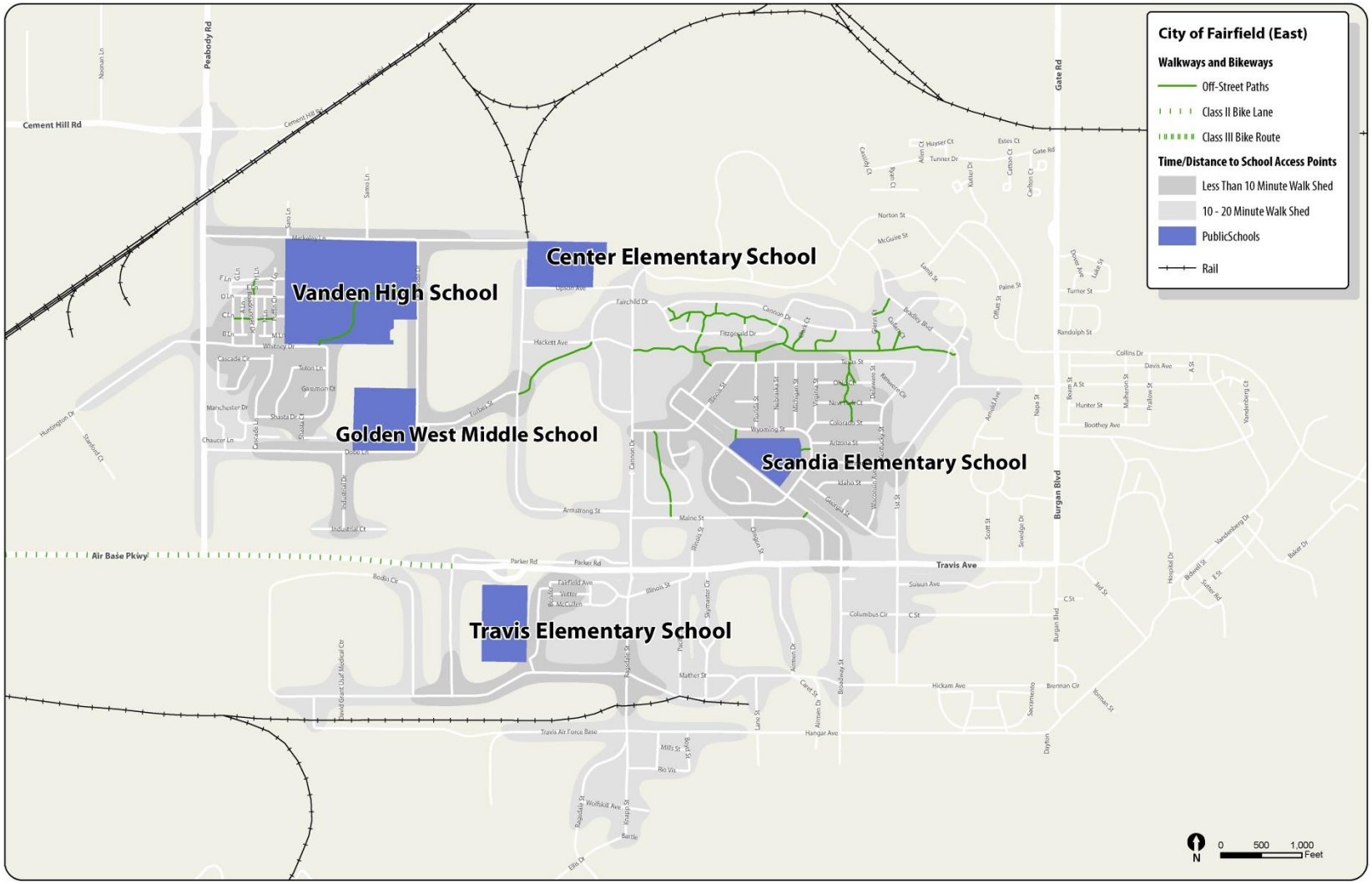


Figure 8-4. East Fairfield/Travis Air Force Base schools, parks, and walksheds

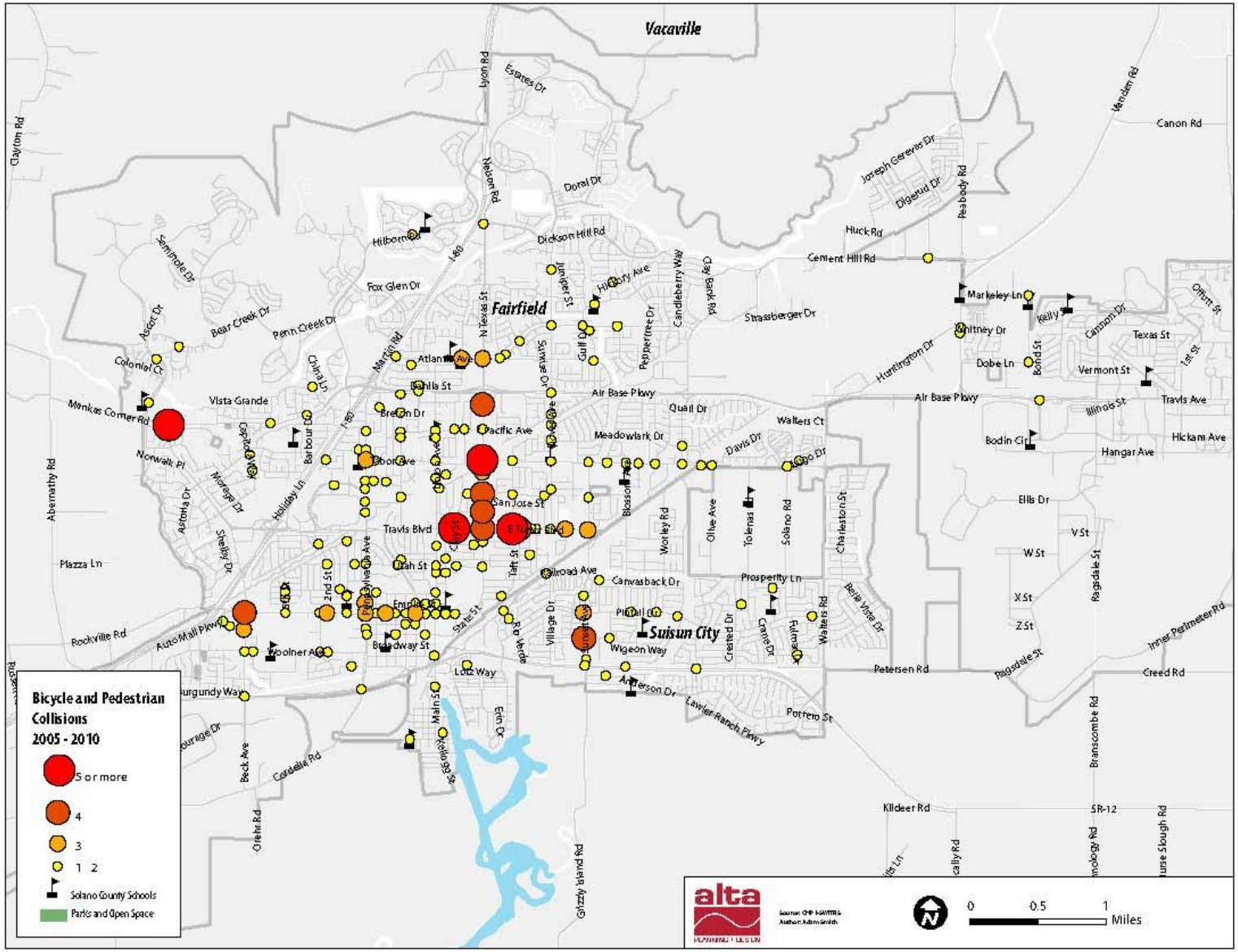


Figure 8-5: Fairfield Bicyclist & Pedestrian Collisions, 2005-2010 (Source: CHP-SWITRS database)

8.3 2008 STA SR2S Plan

During the 2008 STA SR2S Plan, a consultant-led walk audit was conducted at Anna Kyle Elementary in the City of Fairfield. Recommendations were also developed for David Weir Elementary, E Ruth Sheldon Elementary, Laurel Creek Elementary, Nelda Mundy Elementary, and Vanden High School (Travis Unified). None of the recommended improvements at Anna Kyle Elementary or at E Ruth Sheldon Elementary were implemented at the time this report was developed. Out of 25 recommended projects, 8 projects were implemented.

David Weir Elementary

Two related projects were implemented at David Weir Elementary. At the intersection of Tabor Avenue and Pennsylvania Avenue, the school painted a "stop here" line before the crosswalk to deter pedestrians from spilling out into the street while waiting for the light to change. Also at this intersection, the City installed advance stop bars to reduce the instances of drivers encroaching on the crosswalks.

Laurel Creek Elementary

Three recommended projects were completed at Laurel Creek Elementary. The City relocated a bus stop on Gulf Drive while painting more of the curb on the south side of the street for vehicle loading. The City also increased the visibility of crosswalks on Cement Hill Road at its intersections with Gulf Drive and Peppertree Drive. Finally, the City striped new yellow transverse crosswalks on all legs of the intersection of Peppertree Drive at Gulf Drive.

Nelda Mundy Elementary

The only project recommended for Nelda Mundy Elementary in the 2008 Plan was implemented. The City constructed ADA-accessible curb ramps at the crosswalk at the southern end of Vintage Valley Drive.

Vanden High

The 2008 STA SR2S Plan supported a series of engineering plans already in place for the high school. This included a new traffic signal at the intersection of Peabody Road at Dobe Lane, the construction of a median barrier at the intersection of Peabody Road at Markeley Lane, building a new road on the western edge of the school campus (Whitney Drive), and a new student parking lot on the eastern side of DeRonde Road.

Programmatic Achievements[22]

Enforcement

In 2011, the Fairfield Police Department carried out a joint enforcement grant with the Suisun City Police Department. While the Suisun City PD side of the grant funded a School Safety Officer and development of a crossing guard training manual, Fairfield PD received funds for dedicating a police officer to enforce safe driving habits around schools during pick-up and drop-off periods.

[22] For a review of programmatic achievements for Travis Unified School District schools, see separate Travis Unified local plan section.

Education

Six schools in Fairfield have participated in a Safety Assembly between 2010 and 2012. Five schools have hosted a bike rodeo between 2010 and 2012.

Encouragement

Six schools have participated in Walk & Roll to School Day between 2010 and 2012. Six schools have expressed interest in participating in the STA's forthcoming Walking School Bus program, including two schools (Anna Kyle Elementary and B Gale Wilson) who have already started regular walking school buses at the time this report was in development.

Evaluation

Since 2008, twelve Fairfield schools have participated in student travel hand tally counts. Five of those schools are regular participants, having conducted at least 4 student hand tallies over the last four years.

8.4 Carried-Over Recommendations

Anna Kyle Elementary

There are three recommendations from the 2008 STA SR2S Plan, at Anna Kyle Elementary, that have been refined to improve pedestrian conditions along and across Travis Boulevard. These recommendations include adding lighting and signal upgrades at the intersection to improve overall visibility and safety. The 2013 STA SR2S Plan Update recommends a comprehensive corridor study along Travis Boulevard from N. Texas Street to Sunset Drive (see 'Additional Projects').

8.5 2013 Plan Walk Audit Recommendations

Pedestrian access and safety improvements at the crossing of the UPRR railroad corridor along E Tabor Avenue is a priority recommendation for Tolenas Elementary School

Tolenas Elementary

Recommendations at Tolenas Elementary focus on improving internal campus vehicle circulation as well as pedestrian connectivity and safety for students traveling to and from west of the railroad tracks along E Tabor Avenue. The report recommends the potential closure of existing sidewalk gaps and the widening of existing sidewalks on observed student walking routes, as well as bus stop changes/improvements considering the large enrollment area and travel distances to school.

Relocation of rail signal gates and associated conduits may be necessary on Tabor Avenue. Further negotiations with Union Pacific Railroad would be necessary to establish liability. The City will not accept additional liability at the railroad crossing.

Rolling Hills Elementary

Recommendations for Rolling Hills Elementary focus on improving vehicle circulation in front of the school and promoting remote locations for pick-up/drop-off and as gathering locations for walking school buses. The report also recommends enhanced crossings (consistent with the CA MUTCD policies and guidelines or best practices as established by the FHWA) of Hilborn Road, the major thoroughfare for the community served by Rolling Hills Elementary.

Center Elementary

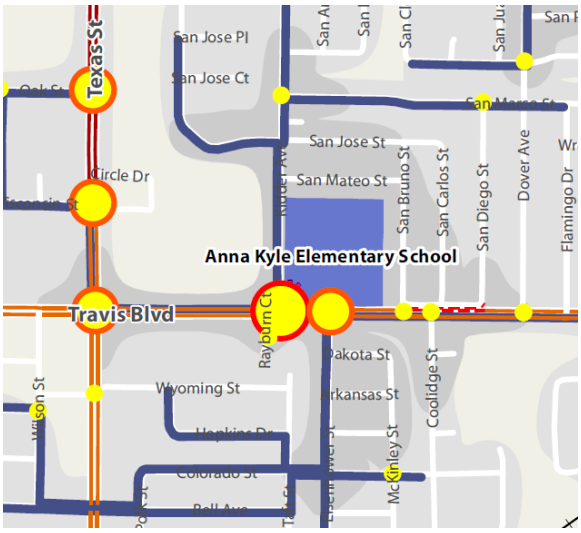
Recommendations for Center Elementary focus on two sets of improvements. The first is located directly around the school and consists of formalizing the informal crossing of Markeley Lane at the school entrance and providing dedicated pedestrian access to the cul-de-sac beside the school entrance that functions as a parent pick-up/drop-off location. The second set of improvements is meant to improve bicycle and pedestrian connectivity for parents and students coming from the neighborhood immediately to the west. This includes extending bike lanes on Whitney Drive and completing the sidewalk network on Markeley Lane and Peabody Road. Some improvements will be funded through the Fairfield/Vacaville Train Station project on Peabody Road. Other improvements along Markeley Lane will be the responsibility of developers.

B Gale Wilson K-8

Due to site constraints and other difficulties with modifying the current roadway circulation and layout, walk audit recommendations for B Gale Wilson focus primarily on non-infrastructure solutions to addressing chronic traffic congestion and safety concerns along Waterman Boulevard/Mankas Corner Road and at Rancho Solano Parkway/Cherry Hills Court. These recommendations include the identification of remote "Park & Walk" locations in conjunction with formation of regular walking school buses from various neighborhoods.

8.6 Additional Priority Projects

Three additional projects were identified based on assessment of pedestrian route suitability (developed as part of the suggested walking routes to school mapping process), review of 2005-2010 crash locations, City staff input, and consideration of other plans/designations including the STA East Fairfield Community-Based Transportation Plan and City of Fairfield Priority Development Areas (PDA's). These projects are anticipated to be highly competitive for outside grant funding, and require additional analysis to confirm concept feasibility, cost estimates, and potential phasing strategies.



Pedestrian suitability, suggested routes, and crash data map for Central/East Fairfield (see Appendix A for full map and legend). A total of 70 bicycle/ pedestrian collisions were recorded within ½ mile of Anna Kyle Elementary between 2005-2010, including 19 injury-inducing non-motorized crashes involving a minor just on E. Travis Boulevard and E Tabor Avenue (between N Texas Street and E Sunset Avenue)

Travis Boulevard Corridor Study & Improvements

A corridor study along Travis Boulevard between N. Texas Street and Sunset Avenue is recommended to explore and define school travel and other non-motorized improvement concepts along this critical arterial corridor. Funding should be included to support recommended improvements, which may include striping, signal, and signage modifications as well as upgraded curb ramps and sidewalks.

Widening and improving the sidewalk on the northeast corner of E. Tabor Avenue and Dover Avenue could improve student walking conditions without significant impacts to vehicle access or traffic capacity

E. Tabor Avenue Corridor Study & Improvements

E Tabor Avenue is an important access route for several schools in Fairfield, including Grange Middle School, Cleo Gordon Elementary, Tolenas Elementary, and Anna Kyle Elementary; and became even more critical in 2012 with the expansion of the Grange Middle catchment area as a result of the closure of Sullivan Middle School. As part of a comprehensive corridor improvement and traffic study, the City should consider a suite of bicycle and pedestrian improvements and supportive vehicle safety and traffic calming measures. These changes may include: a 'road diet,' or reduction in travel lanes, to improve pedestrian crossings and bicycle facilities on E Tabor Avenue from N Texas Street to approximately Sunset Avenue; the reconstruction and widening of the northeast corner of the intersection of Dover Avenue at E Tabor Avenue; curb extensions with reduced curb radii and improved curb ramps at key intersections, bus stop access and shelter upgrades, and sidewalk gap closure recommendations associated with Tolenas Elementary and Cleo Gordon Elementary.

Laurel Creek Elementary

Laurel Creek Elementary is in the process of converting from a K-5 school to a K-8 school, with an associated increase in enrollment. The City should pursue strategies to reduce illegal parking on streets near the school entrance, especially Cashew Court. Other potential improvements include upgrading pick-up/drop-off points on school grounds, walking path upgrades, and upgrading existing crosswalks. The school should establish a walking school bus program to encourage walking and reduced drive alone trips.

Comprehensive Safety and Access Upgrades – Various Schools

Due to ongoing changes to school facilities and enrollment boundaries for both the Fairfield Suisun Unified and Travis Unified school districts, a comprehensive program of modest school access improvements is recommended to address future anticipated (but currently unidentified) needs. Recent examples of these changes include the closure of Sullivan Middle School and expansion of enrollment at Laurel Creek noted above, as well as more recent modifications to high school enrollment boundaries. This general category of improvements shall cover the installation of curb ramps, school zone flashers, speed feedback signs, upgraded crossings, and updated signage and striping as identified by the City of Fairfield and school partners.

Table 8-2: Fairfield Priority Engineering Projects

Fairfield - Safe Routes to School Priority Capital Project List

Total Project Costs Identified	**$1,854,300**	**Total Priority Projects**	**$1,440,000**	**Grants (Reasonable Anticipated, 5 years)**	**$500,000**

School District	School Name	Project ID #	Project Description	Overall Funding Priority	Lead Agency	Cost Estimate[23]
Fairfield/Suisun City Unified	Anna Kyle Elementary	Mapping/Task Force	• Corridor study ($50,000) with funding to implement high priority school travel recommendations. Potential improvements include: ○ Bus stop, and other streetscape improvements ○ Signage, striping, signal operations, and other upgrades at key crossings (such as at Eisenhower Street)	High	City of Fairfield	$500,000
Fairfield/Suisun City Unified	Anna Kyle Elem/ Cleo Gordon Elem/ Grange Middle School	Mapping/Task Force (see also Tolenas Elementary #3)	• Develop a Tabor Avenue corridor feasibility study ($150,000) with funding to implement high priority feasible improvements. Study to consider the following issues/concepts: ○ Study a 4-3 road diet or comparable roadway changes on E. Tabor Ave from N. Texas St to Dover Ave/Sunset Ave ○ Reconstruct northeast leg of Dover Ave/Tabor Ave at Cleo Gordon with widened sidewalk, reduced curb radii, landscape buffer ○ Various pedestrian/bicycle improvements along E Tabor Avenue to Grange Middle School ○ Complete missing sidewalk segment on north side of Tabor Avenue; install necessary rail crossing devices ○ Consider widening the existing sidewalk at the approach to Clay Bank Road	High	City of Fairfield	$600,000

[23] Cost estimates not generated by City of Fairfield staff. May not be representative of all associated costs of project delivery, including right-of-way improvements, drainage & utility relocation, signal modifications, etc.

School District	School Name	Project ID #	Project Description	Overall Funding Priority	Lead Agency	Cost Estimate[23]
			○ Complete the missing sidewalk segment on the south side of E Tabor Avenue from Grand Circle to the east side of Clay Bank Road; tie construction of sidewalk segment to development of adjacent parcel, subject to available right-of-way			
Fairfield/Suisun City Unified	Laurel Creek Elementary	Mapping/Task Force	• Improvements to pick-up/drop-off areas • Upgrade existing crosswalks • Consider crosswalk consolidation where underused • Upgrade existing walking paths	High	City of Fairfield	$90,000
Fairfield/Suisun City Unified	TBD	Mapping/Task Force	• Comprehensive school access and safety improvements due to ongoing issues with closures, facility and enrollment changes. Improvements to include accessible curb ramps, speed feedback signs or school zone flashers, enhanced crossings and updated signage /striping	High/Medium	City of Fairfield	$125,000
Fairfield/Suisun City Unified	Rolling Hills Elementary	2, 3 & 4	• Refresh existing yellow crosswalks at Moss Valley Drive • Refresh existing yellow crosswalks at Hilborn Road at Fieldcrest Avenue • Organize a Walking School Bus from Rolling Hills Community Park & Peacock Park, to be used as a remote pick-up and drop-off areas • Construct sidewalk from the intersection of Hilborn Road and Hillridge Drive to the parking lot entrance for Peacock Park (Peacock Park Capital Project)	Medium/High	City of Fairfield	$65,000
Travis Unified School District	Center Elementary	5	• Stripe bike lanes from Peabody Road to entrance to School Walking Path. • Construct sidewalk on northern side of street to close gap near Peabody Road (driven by new development).	Medium/High	City of Fairfield	$25,000
Fairfield/Suisun City Unified	Tolenas Elementary	1	• Expand and improve loading/parking capacity by removing existing portable buildings and repaving/reconfiguring the middle parking lot area. • Replace parking closest to school with a pedestrian waiting zone, and re-assign staff parking lot assistants • Install all-weather covering and replace “toaster” style racks with inverted-U racks or similar	Medium/High	FSUSD	$35,000

8.7 Center Elementary School Travel Plan

Principal:	Mark Pennington
Enrollment:	K-6, 409
Arrival:	Kindergarten AM 8:05 AM, Kindergarten PM 11:25 AM, Grades 1-5 8:15 AM
Dismissal:	Kindergarten AM 11:25 AM, Grades 1-3 2:30 PM, Grades 4-6 2:40 PM, Kindergarten PM 2:45 PM, Wednesday 1-6 1:05 PM
Mode Share:	3% Walk/Bike (May 2011)
Walk Score[24]:	25/100
Free/Reduced Lunch:	32% in 2011-2012, 26% in 2010-2011

Conditions were drizzly and cold on the day of the walk audit at Center Elementary

Layout

Center Elementary is located just outside of the Fairfield City Limits (unincorporated county). An extended driveway, owned by the school, was built from Markeley Lane in Fairfield out to the rear area of the school, which was reconfigured as the school entrance. This roadway has bike lanes on both sides and a sidewalk on the southern side of the street. The raised curb segment is specially designed to allow endangered species to cross, as the roadway is built through environmentally sensitive habitat.. There is open space to the north of the school, and to the west and south is former base housing that has been converted into recreational training grounds. Air Force base housing and a day care center are located to the east.

The most immediate neighborhood is located to the west of the school, inside the Fairfield City Limits. There is a dedicated walking path through this neighborhood from Whitney Drive/Viking Lane to Center Elementary, passing through the playing fields for Vanden High School. The route of this path is marked with newts stenciled onto the pavement, recalling the newt-sensitive sidewalks on the road out of Center Elementary.

Site Visit

The project team conducted a walk audit at Center Elementary on February 7, 2012 during afternoon pickup. Conditions were rainy, though precipitation was light during the pickup period. Principal Pennington, staff from STA, the Travis Unified School District, the City of Fairfield, and the Fairfield Police Department participated in the walk audit. The audit consisted of traffic observations at the school loading zone, on Markeley Lane, and the pedestrian paths linking Whitney Drive with De Ronde Road. Afterwards, staff visited sites along Peabody Road, Viking Lane, Whitney Drive, and Dobe Drive.

Loading Zones

The school parking lot has one bus-only lane and one formal loading lane for parents. The entry to the bus-only lane in the school parking lot is clearly delineated with pavement markings. There is a raised crosswalk through the bus-only lane to a fenced sidewalk along the loading zone for parent drivers. There is a crosswalk

[24] See www.walkscore.com for more information.

from this loading sidewalk out to a small parking lot for parents. A separate staff parking lot is coned off during loading periods.

Center Elementary has two separated loading loops, one for cars and one for buses

Center Elementary's crossing guard covers multiple locations

Center elementary has a small loading area. Two teachers manage the loading zone; one teacher assists students into vehicles and one teacher manages the crosswalk through the bus-only lane. More than 6 buses serve Center elementary, and the bus-only lane provided ample loading area when three buses all arrived at once.

A small cul-de-sac beside the school entrance, and controlled by the District, is used as a park-and-walk lot, though some parents idle in the cul-de-sac and wait for students to walk out to them. Parents were observed occasionally using the bike lane along Markeley Lane as an impromptu loading zone. Because this area is owned and maintained by the school district, Fairfield Police cannot provide enforcement.

There is one crossing guard, independently paid for out of school funds. This crossing guard manages student movement across the bus lane to the loading zone at the start of pickup. Once two teachers show up to manage this crossing and the loading zone, the crossing guard moves out to the school entrance. From there, the crossing guard manages students and parents crossing to the cul-de-sac beside the school entrance used by parents for parking.

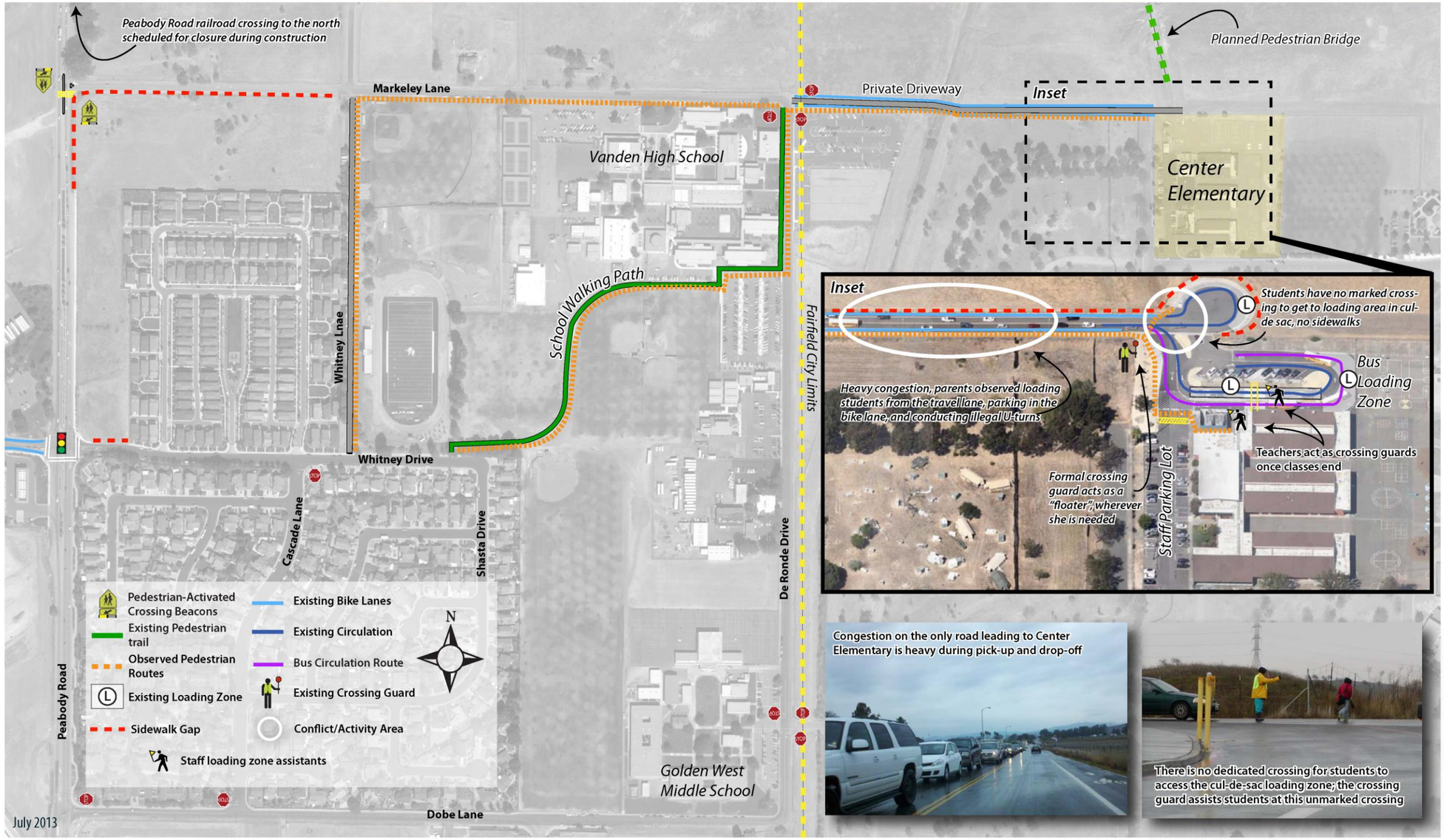
Other Plans

As part of the Fairfield/Vacaville Train Station Project and the Jepson Parkway Project, a multi-modal transit station and housing development is planned for Peabody Road and Vanden Road. The first stage in this project is a railroad grade separation on Peabody Road, which will necessitate closure of Peabody Road. This road closure may significantly impact drivers and students coming to Center Elementary from north of the railroad tracks. The City, however, is working closely with the Travis Unified School District to provide free busing to students/parents from points north via an access road. The closure is expected to last one year.

There is a railroad right-of-way to the north of the school that STA plans to eventually convert to a pedestrian trail, which will connect to communities to the north on Peabody Road, Vanden Road, and the future Canon Road, as dictated in the City's Northeast Area Specfic Plan. Infrastructure improvements will occur on Peabody Road in 2013/2014 as part of the Fairfield/Vacaville Train Station Project. Jepson Parkway is in design and is contingent upon funding. Full build-out of the specific area is planned over the next 15-20 years.

Enforcement Limitations

Center Elementary is outside the city limits of Fairfield, whose east/west boundary lies at the intersection of Markeley Lane and De Ronde Drive. Fairfield PD has no jurisdiction to police turning movements and driver behavior between this point and Center Elementary, as the driveway belongs to the school district and is considered private property.



Center Elementary
Existing Conditions

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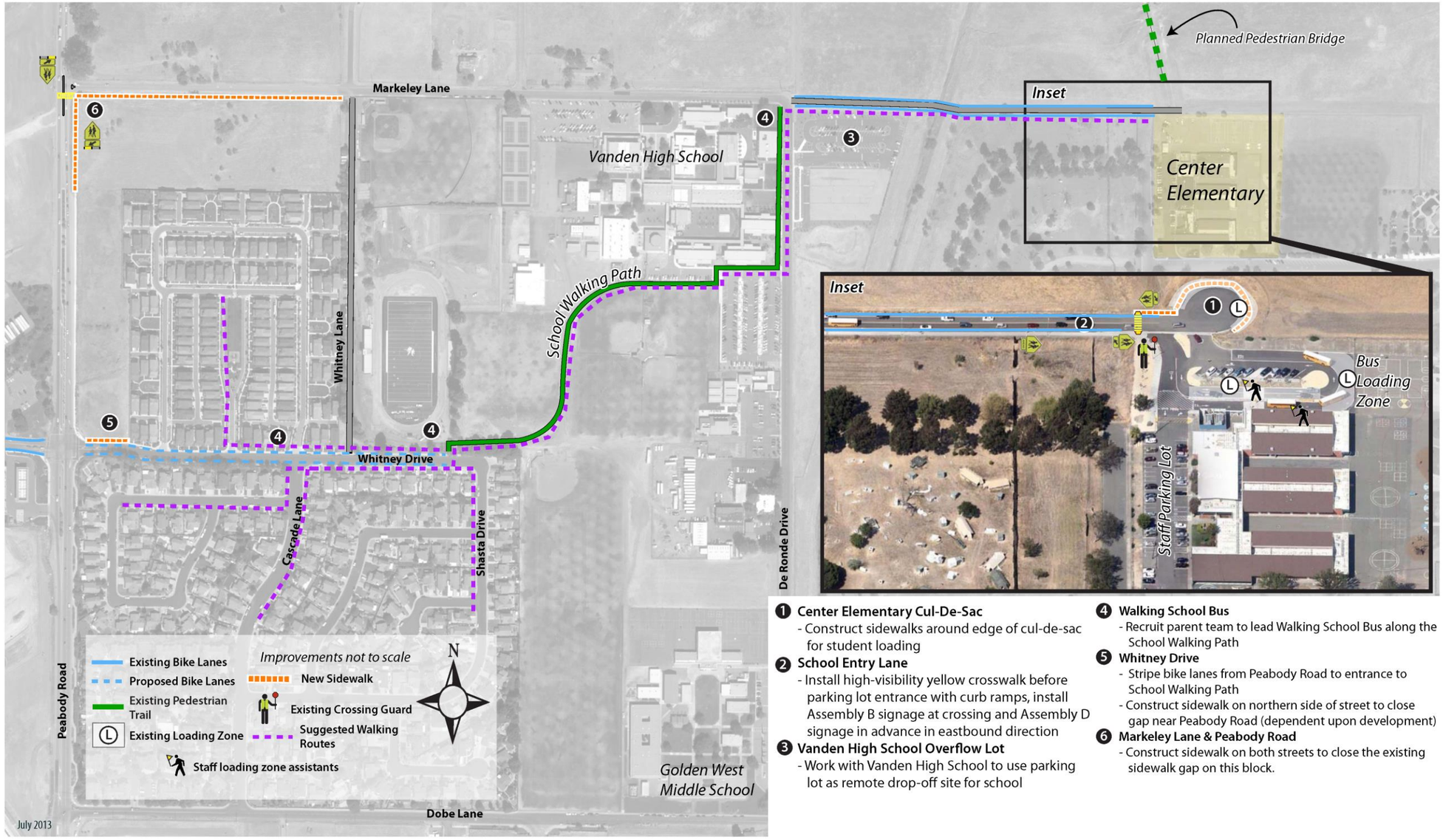
www.solanosr2s.ca.gov

Figure 8-6: Center Elementary Existing Conditions



1 Center Elementary Cul-De-Sac
- Construct sidewalks around edge of cul-de-sac for student loading

2 School Entry Lane
- Install high-visibility yellow crosswalk before parking lot entrance with curb ramps, install Assembly B signage at crossing and Assembly D signage in advance in eastbound direction

3 Vanden High School Overflow Lot
- Work with Vanden High School to use parking lot as remote drop-off site for school

4 Walking School Bus
- Recruit parent team to lead Walking School Bus along the School Walking Path

5 Whitney Drive
- Stripe bike lanes from Peabody Road to entrance to School Walking Path
- Construct sidewalk on northern side of street to close gap near Peabody Road (dependent upon development)

6 Markeley Lane & Peabody Road
- Construct sidewalk on both streets to close the existing sidewalk gap on this block.

Center Elementary Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

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www.solanosr2s.ca.gov

Figure 8-7: Center Elementary Recommended Improvements

Center Elementary Existing Conditions and Recommendations

School-adjacent Cul-de-Sac & Markeley Lane

The cul-de-sac beside the school entrance is used by parents as a parking area from which they walk onto school grounds or idle while waiting for students to walk out of school. The turnaround is owned by the District. There are no sidewalks around the edges of the cul-de-sac, and there is no established route for students or parents to cross Markeley lane from the school. The crossing guard manages traffic at the school entrance, in part, to assist students and parents crossing Markeley Lane. Once the street is queued up with traffic, it is difficult for drivers to reach the cul-de-sac. On the day of the walk audit, the cul-de-sac never reached full capacity of vehicles. Walk audit participants told staff that some drivers pull out of the queue into the opposite lane of traffic to access the cul-de-sac.

There are sidewalks in the cul-de-sac

Markeley Lane is the only road which can access Center Elementary. Between De Ronde Road and Center Elementary, the street has one lane of travel in each direction, bike lanes, and a sidewalk on the south side of the street. The length of Markeley Lane between the school and De Ronde Road are fitted with non-standard "NO PARKING/BIKE LANE" signs, which appear to be retrofitted from tradition "NO PARKING" signs.

A non-standard bike lane sign on the school driveway

Students were observed on the day of the walk getting picked up by parents along Markeley Lane. These parents would either load students from where they were queued in the travel lane, or they would block the eastbound bike lane when pulling up to the sidewalk. Parents were observed conducting unsafe U-turns on Markeley Lane after loading students.

Recommendations (IDs #1 & #2)

The District should provide a safe route for students and parents to walk from the school to the cul-de-sac parking area. The District should construct a sidewalk around the rim of the cul-de-sac, extending approximately 20-30 feet west on Markeley Lane. **(ID #1)**

A parent loading a student from the bike lane on Markeley Lane

The District should also establish a marked crossing for students and parents accessing the cul-de-sac. The District should install a high-visibility crosswalk across Markeley Lane immediately before the entrance to the school parking lot. This crosswalk should line up with the end of the sidewalk constructed on the north side of Markeley Lane in **ID #1**. The District should construct curb ramps

The crossing guard helping a student across the school driveway

with yellow truncated domes at both ends of the crosswalk. Additionally, the District should install Assembly B signage at the crosswalk in both directions and Assembly D signage in advance of the crossing for eastbound drivers. **(ID #2)**

Because the school driveway is privately owned, the school would need to either assign staff or recruit parents to enforce proper driving behavior on the driveway.

Vanden High School Parking Lot

Vanden High School has a secondary parking lot on the eastern side of De Ronde Road, which is almost never fully utilized by students. Walk audit participants told staff that a few parents use this space as a remote loading site for students at Center Elementary

Recommendation (ID #3)

Center Elementary should work with Vanden High School and District staff to establish this parking lot as a formalized remote loading area for the elementary school. Center Elementary should seek to learn and address parent concerns about use of the Vanden High parking lot before implementation. This parking lot could also serve as the final stop for a Walking School Bus **(ID #4)** on the way to Center Elementary. Coning off an area within the parking lot as a waiting zone could help ensure students stay out of the way of vehicles while waiting for the Walking School Bus before school or waiting for pick-up after school. Such a waiting zone may require adult supervision from a school staff member or parent volunteer.

The pedestrian walking path, at Vanden High School

Walking School Bus/Pedestrian Path

There is a pedestrian path which travels from Center Elementary, to De Ronde Road, to Whitney Drive via a pathway network through Vanden High. From De Ronde Road to Whitney Drive, the path travels through the Vanden High playing fields. The length of the route is marked with small newts stenciled on the pavement. The entrance on Whitney Drive is near Shasta Drive. Walk audit participants expressed concern about elementary school students using the path being subjected to harassment by high school students.

Recommendation (ID #4)

The District should work in cooperation with the Center Elementary PTA to organize a Walking School Bus from the Whitney Park neighborhood to Center Elementary. The pedestrian path offers a safe, off-street route for the neighborhoods to the west of Center Elementary. By organizing a Walking School Bus, the District could reduce automobile congestion on Markeley Drive. Volunteers for the walking school bus should be outfitted with florescent vests or other high-visibility equipment.

Whitney Drive

The western terminus of the pedestrian path is located near the eastern end of Whitney Drive. Whitney Drive becomes Huntington Drive at its intersection with Peabody Road to the west, where bike lanes continue on Huntington Drive for over a mile to the southwest where Huntington Drive meets Air Base Parkway.

There is a small sidewalk gap of approximately 130 feet on the north side of Whitney Drive between the Whitney Park development and Peabody Road.

Recommendation (ID #5)

The City should install bike lanes on Whitney Drive, creating a network connection between the pedestrian path to the east and the bike lanes on Huntington Drive to the west. Whitney Drive appears to have sufficient road width to accommodate bicycle lanes without any roadway reconfigurations.

The City will require future development to install approximately 130 feet of sidewalk on the north side of Whitney Drive to close the existing gap just east of Peabody Road, where a vacant lot currently exists.

Whitney Drive at the western terminus of the pedestrian pathway

Peabody Road at Markeley Lane

There is a newly constructed median and traffic island at the intersection of Markeley Lane and Peabody Road, consisting of a raised median on Peabody Road prohibiting left turns onto Markeley Lane and a splitter island on Markeley Lane to prohibit left turns onto Peabody Road. There is a high-visibility yellow continental crosswalk on the southern leg of the intersection with pedestrian-activated flashing signs (which is set to be removed as part of the Fairfield/Vacaville Train Station Project). There are no sidewalks on either street at this intersection. Walk audit participants told staff that drivers proceed past the median on Peabody Drive southbound to make illegal U-turns to access Markeley Lane.

There are no sidewalks at either end of the crosswalk at Peabody Road at Markeley Lane

Markeley Lane, from Peabody Road to Whitney Lane has no sidewalks on either side of the street. Peabody Road, from Markeley Lane to Whitney Drive, has no sidewalks on its western side and a sidewalk gap of approximately 340 feet on the eastern side of the street.

Recommendation (ID #6)

The City will require the installation of sidewalks on the south side of Markeley Lane as part of future development on adjacent property. When construction begins on the railroad crossing of Peabody Road to the north, the City will extend the sidewalk network to the north to Cement Hill Road. The Fairfield/Vacaville Train Station Project will include a sidewalk on the east side of Peabody Road from the station to Markeley Lane, as well as bike lanes on Peabody Road.

Summary of Recommendations

Table 8-3 lists the recommended improvements to address safety and circulation issues around Center Elementary; Figure 8-6 maps existing conditions and Figure 8-7 presents an improvement plan of these recommendations. The project IDs in Table 8-3 correspond to those in Figure 8-7. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost

estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates are planning-level only and may not include additional engineering or design work required for some of the recommendations.

Table 8-3: Center Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost[25]
1	Center Elementary Cul-de-sac	• Construct sidewalks around edge of cul-de-sac for student loading.	TUSD	Low	$27,500
2	School Entry Lane	• Install yellow crosswalk at parking lot entrance with curb ramps, install Assembly B signage at crossing and Assembly D signage in advance in eastbound direction.	TUSD	Low/ Middle	$7,300
3	Vanden High School Overflow Lot	• Work with Vanden High School to use parking lot as remote drop-off site for school.	TUSD	Low	N/A
4	Walking School Bus	• Recruit parent team to lead Walking School Bus along the School Walking Path.	TUSD	Middle/Low	N/A
5	Whitney Drive	• Stripe bike lanes from Peabody Road to entrance to School Walking Path. • Construct sidewalk on northern side of street to close gap near Peabody Road as part of new development.	City of Fairfield	Middle/ High	$25,000
6	Markeley Lane at Peabody Road	• Construct sidewalk on both streets to close the existing sidewalk gap on this block as part of new development. • Sidewalk on east side of Peabody Road from Markeley Lane to Cement Hill Road, and bike lanes on both side of road, part of Fairfield/Vacaville Train Station Project.	City of Fairfield	Low/ Middle	$235,000
Total Cost					**$294,800**

[25] Cost estimates not generated by City of Fairfield staff. May not be representative of all associated costs of project delivery, including right-of-way improvements, drainage & utility relocation, signal modifications, etc.

8.8 Rolling Hills Elementary School Travel Plan

Principal: Robin Stewart
Enrollment: K-5, 682
Arrival:
Dismissal:
Mode Share: 10% (Oct. 2010)
Walk Score[26]: 40/100
Free/Reduced Lunch: 29% in 2011-12, 22% in 2010-11

Rolling Hills Elementary is located in northern Fairfield

Layout

Rolling Hills Elementary is located in northern Fairfield. Interstate 80 is located approximately a quarter mile southeast of the school. The enrollment area which Rolling Hills draws from extends to the north and to the east. The enrollment area also encompasses some of the communities to the south of the school, west of Interstate 80. The school is bounded by Hilborn Road to the south, Fieldcrest Avenue to the east, single family homes fronting Glenwood Drive to the north, and the Rolling Hills Neighborhood Park to the west. Hilborn Road is the major thoroughfare for the community, providing access to Interstate 80 and to the rest of the City of Fairfield. Hilborn Road has two lanes of travel in each direction, no parking, landscaped medians, and turn pockets at some intersections. Peacock Park is immediately south of Rolling Hills Elementary, on the other side of Hilborn Road.

There is only one access point to Rolling Hills Elementary: Fieldcrest Avenue. Both the bus loading bay and the parent pick-up and drop-off areas are located on Fieldcrest Avenue, as is access to the school's bicycle parking. There is no school access for drivers or pedestrians from Hilborn Drive. There are also informal remote pick-up and drop-off sites at Rolling Hills Neighborhood Park and at Peacock Park, though they are currently underutilized.

Fieldcrest Avenue is the primary loading area

Site Visit

The project team conducted a walk audit at Rolling Hills Elementary School in the City of Fairfield on February 10, 2012 during the afternoon pick-up period. Conditions were sunny, with no indications that extraneous circumstances impacted traffic circulation. In addition to the project team, the walk audit was attended by Principal Stewart, staff from STA, Solano Public Health, the City of Fairfield, the Fairfield Police Department, and the Fairfield-Suisun City Unified School District. The walk audit consisted of observations along the school's entrance on Fieldcrest Avenue, at the corner of Hilborn Road & Fieldcrest Avenue, and at the corner of Glenwood Drive & Fieldcrest Avenue. Afterward, staff visited the school-adjacent Rolling Hills Neighborhood Park and Peacock Park.

[26] See www.walkscore.com for more information.

Crossing guard at Hilborn Road & Fieldcrest Avenue

Loading Zones

There is one formal loading zone for drivers and one formal loading zone for buses at Rolling Hills Elementary, both of which are along Fieldcrest Avenue. The driver loading zone is immediately east of Moss Valley Drive, along the street curb. The bus loading zone is just west of the intersection with Moss Valley Drive, and is separated from the street and sidewalk by a landscaped median. The school parking lot adjacent to this loading zone is coned-off by staff before pick-up or drop-off begins, and students wander freely through the parking lot during pick-up and drop-off periods. Up to three teachers manage the loading area along Fieldcrest Avenue during loading periods. These teachers wear no identifying clothing, such as florescent vests, but do carry whistles. Parents approach the loading zone from Glenwood Drive in the west and from Moss Valley Drive in the north. There is a staff parking lot south of the school parking lot, with a single driveway onto Fieldcrest Avenue, which is also closed to parents during loading periods.

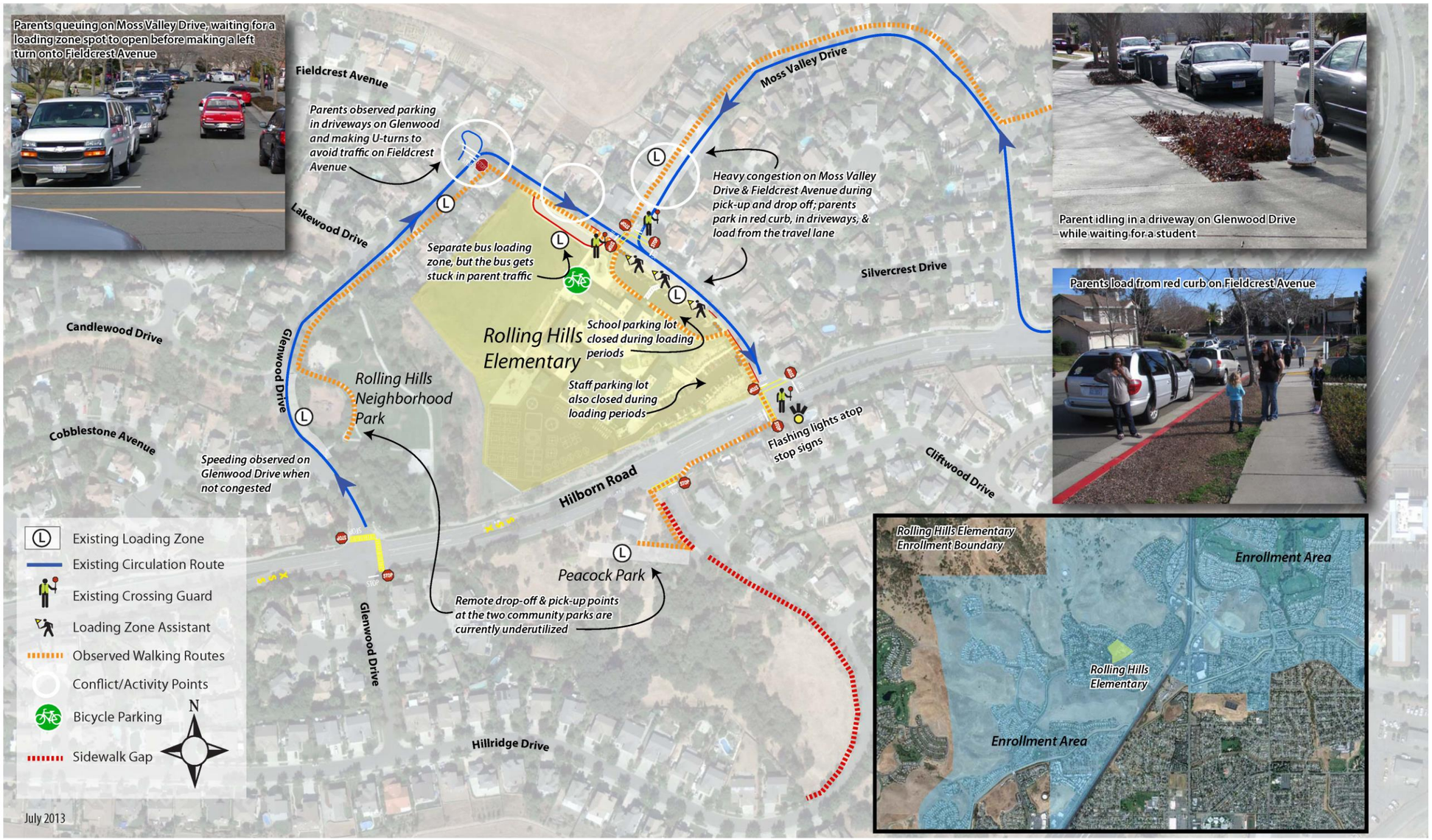
The two parks adjacent to Rolling Hills Elementary, Rolling Hills Neighborhood Park and Peacock Park, serve as remote pick-up locations afterschool. These sites are primarily used by older students, and were sparsely utilized on the day of the walk audit.

There are two crossing guards during the morning, and three in the afternoon. One crossing guard is stationed at the intersection of Hilborn Road & Fieldcrest Avenue. The intersection of Fieldcrest Avenue & Moss Valley Drive has one crossing guard in the morning and two crossing guards in the afternoon.

Other Plans

Peacock Park Capital Project

The **Peacock Park Capital Project** will add amenities to the Peacock Park, across Hilborn Road from the school. Planned improvements include an expansion of the existing parking lot in the park, the construction of a secondary parking lot, and building sidewalks along the edge of Peacock Park on Hillridge Drive. The project is set to go out to bid in 2013.



Rolling Hills Elementary School
Existing Conditions

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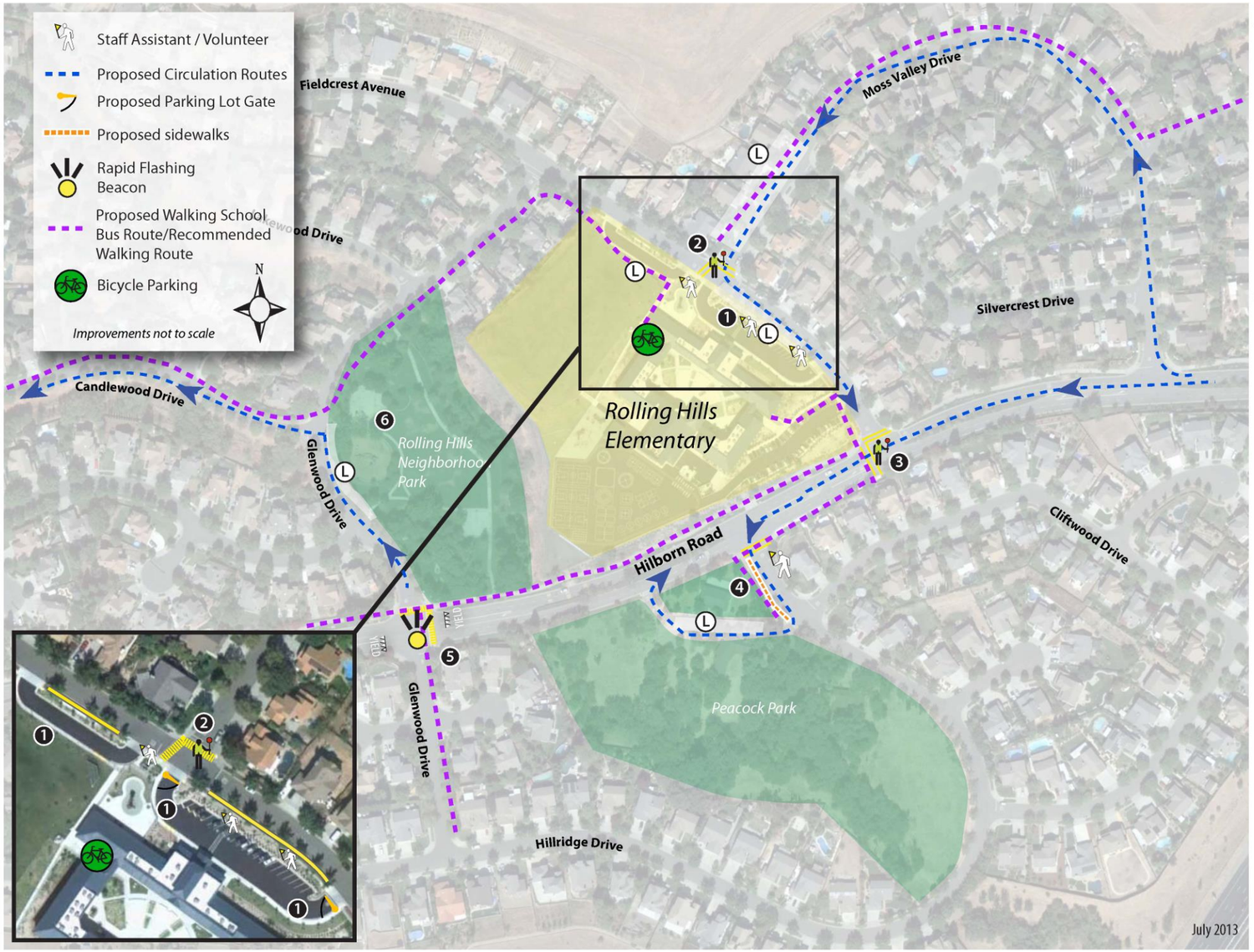
Figure 8-8: Rolling Hills Elementary Existing Conditions



1 Rolling Hills Loading Zones
- Stripe yellow curb along Fieldcrest Avenue in parent vehicle loading zones
- Equip teachers managing traffic with florescent vests, recruit student & parent volunteers
- Install gate arms or other temporary barriers in visitor parking lot entrance/exit to discourage use during loading

2 Moss Valley Drive at Fieldcrest Avenue
- Refresh existing transverse yellow crosswalks
- Ensure crossing guard is trained to emphasize the platooning of students through the crossing

3 Hilborn Road at Fieldcrest Avenue
- Refresh existing yellow transverse crosswalks

4 Peacock Park at Hilborn Road
- Organize a Walking School Bus meeting point and/or promote as a remote "Park and Walk" location
- Ensure the upcoming Peacock Park Capital Project includes a sidewalk on the west side of Hillridge Drive from Hilborn Road to the Peacock Park parking lot driveway entrance
- Work with school and PTA to provide an additional staffer/volunteer at Peacock Park to assist with a proposed Walking School Bus from this location.

5 Glenwood Drive at Hilborn Road
- Upgrade crosswalk with pedestrian-actuated rapid flashing beacon and YIELD pavement markings, or consider removing crosswalk and encouraging families to walk on Hilridge Drive and cross at Fieldcrest Avenue

6 Rolling Hills Neighborhood Park
- Organize a Walking School Bus meeting point and/or promote as a remote "Park and Walk" location; encourage drivers to circle back via Candlewood Drive to avoid Fieldcrest Avenue

Rolling Hills Elementary School
Recommended Improvements

Solano County Transportation Authority SR2S
www.solanosr2s.ca.gov

Figure 8-9: Rolling Hills Elementary Recommended Improvements

Rolling Hills Elementary Existing Conditions and Recommendations

Fieldcrest Avenue Loading Zone

The visitor parking lot between the school entrance and Fieldcrest Avenue is coned off during loading periods, forcing parents to load on Fieldcrest Avenue. This allows students and parents to safely walk through this parking lot in a traffic-free environment. Parents occasionally will move the cones to drive into this parking lot. The District is planning to install "No Parking/No Access during drop-off" signage at the entrance to the visitor parking lot.

The loading area along Fieldcrest Avenue has posted signage for loading, but no striping along the curb. Parents queue for long distances on Moss Valley Drive and on Fieldcrest Avenue north of Moss Valley Drive in their wait for a spot in the loading zone in front of the school. This queuing impedes through traffic in all directions, and some drivers were observed driving in the opposite lane of traffic to bypass queued vehicles. The queuing surrounding this loading area is the largest cause of congestion and the largest cause of unsafe driver behavior.

Existing loading signage

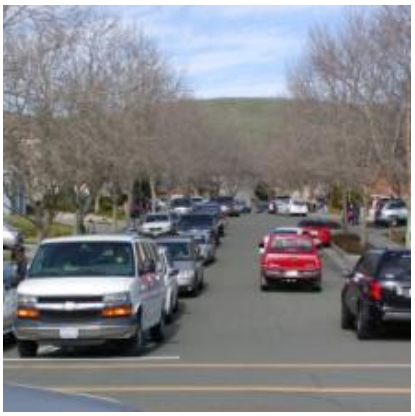
There is a bus loading zone pull out on Fieldcrest Avenue, separated from traffic by the sidewalk and a strip of landscaping. The curb in this loading zone is painted red.

Recommendation (ID #1)

School staff assisting in valet drop-off should be outfitted with florescent vests to increase their visibility.

The District should consider the construction of a more permanent barrier to the visitor parking lot to keep parents out during loading periods. Students move around in this parking lot unsupervised during loading periods; making it more difficult for drivers to access this lot during loading periods would significantly improve student safety.

The District should recruit parent volunteers and student valets to assist the staff members who currently help students load along the curb on Fieldcrest Avenue. The District should also outfit all valets helping students load at the curb with florescent yellow vests.



A backup on Moss Valley Drive at Fieldcrest Avenue

Moss Valley Drive at Fieldcrest Avenue

The intersection, managed by two crossing guards, saw the most congestion on the day of the walk audit. Parents complained that the crossing guards do not platoon children crossing the street, causing undue backups of drivers trying to move through the intersection.

Parents were observed queuing on Moss Valley Drive to turn left onto Fieldcrest Avenue and the loading zone at the school. These queued parents would wait at the intersection, despite the travel lane being open, waiting for the end of the loading zone to open up.

The crossing guards at Fieldcrest Avenue at Moss Valley Drive

Pedestrians crossing Hilborn Road at Fieldcrest Avenue

Recommendation (ID #2)

The District should provide additional training to the crossing guards at Rolling Hills Elementary. Crossing guard training should emphasize platooning groups of crossing students. The City should refresh the existing yellow crosswalks in the intersection.

Hilborn Road at Fieldcrest Avenue

There are yellow crosswalks in the northern and eastern legs of this intersection, which is managed by a crossing guard. The intersection is STOP controlled in all directions, and the stop signs for drivers on Hilborn Road have a red light that flashes during all hours.

Recommendation (ID #3)

The City should refresh the existing yellow crosswalks when they are deemed to be in need of maintenance.

Peacock Park

Peacock Park lies directly south of school grounds, across Hilborn Avenue. There is a small parking lot in Peacock Park that serves as a remote loading zone for students and parents, with an ingress point on Hillridge Drive and a right-only egress point on Hilborn Road. Students were observed on the day of the walk audit crossing Hilborn Road at Fieldcrest Avenue, with the assistance of the crossing guard, to access the park. There is a key sidewalk gap on Hillridge Drive between Hilborn Road and the Peacock Park parking lot. Currently, students cross Hillridge Drive mid-block at the parking lot entrance to access the loading zone.

The Peacock Park Capital Plan calls for the expansion of the current parking lot, the construction of a second parking lot, and the construction of sidewalks on Hillridge Drive alongside the park.

Recommendation (ID #4)

The circulation plan for the school should encourage parents to use Peacock Park as remote loading zone along Hillridge Drive. Parents could drop-off and pick-up in the Peacock Park parking lot, exiting via Hilborn Road. The school should organize a walking school bus from this location in addition to using the parking lot as a "Park and Walk" location.

As the Peacock Park Capital Project progresses, the District should stay involved to ensure the project provides ample and safe pedestrian access. The School should consider adding a staff person to facilitate a walking school bus from this location. A walking school bus facilitator could also help manage drop-off activities in the parking lot before leaving for the school.

Glenwood Drive at Hilborn Road

The intersection of Glenwood Drive at Hilborn Road is located due west of the school, just south of Rolling Hills Neighborhood Park. Many parents turn off of Hilborn here in order to approach the school loading zone from the curb-side direction.

The intersection is currently STOP controlled for traffic on Glenwood Drive, with free movement on Hilborn Road. There are yellow crosswalks in the northern and eastern legs of the intersection.

Recommendation (ID #5)

The City should take steps as needed to improve crossing safety, in accordance with Caltrans and FHWA best practices, at this uncontrolled intersection. If such a treatment is infeasible, the City should consider removing the crosswalk (while posting a public notice in accordance with the California Vehicle Code) and work with the District to encourage students and parents to instead utilize the STOP controlled crosswalk at Hilborn Road at Fieldcrest Avenue.

Rolling Hills Neighborhood Park

Rolling Hills Neighborhood Park, immediately west of the Rolling Hills Elementary, is used by a small number of students and parents as a remote loading zone.

Recommendation (ID #6)

The District should encourage parents to use Rolling Hills Neighborhood Park as a remote loading zone and work with the PTA to organize a walking school bus from Rolling Hills Elementary to this location. Even though the park is a short distance from school, organizing a walking school bus may help alleviate parent concerns for younger students. The District should encourage parents using Rolling Hills Neighborhood Park as a remote loading zone to turn off of Glenwood Drive at Candlewood Drive. This will route parents quickly back to Hilborn Road and reduce the amount of traffic moving through Fieldcrest Avenue.

Summary of Recommendations

Table 8-4 lists the recommended improvements to address safety and circulation issues around Rolling Hills Elementary; Figure 8-8 maps existing conditions and Figure 8-9 presents an improvement plan of these recommendations. The project IDs in Table 8-4 correspond to those in Figure 8-9. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates are planning-level only and may not include additional engineering or design work required for some of the recommendations.

Table 8-4: Rolling Hills Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost[27]
1	Rolling Hills Loading Zones	• Stripe yellow curb along Fieldcrest Avenue in parent vehicle loading zones • Equip teachers managing traffic with florescent vests, recruit student & parent volunteers • Install gate arms or other temporary barriers in visitor parking lot entrance/exit to discourage use during loading	FSUSD	Middle	$3,500
2 & 3	Moss Valley Drive at Fieldcrest Avenue	• Refresh existing yellow crosswalks at Moss Valley Drive • Refresh existing yellow crosswalks at Hilborn Road at Fieldcrest Avenue	City of Fairfield	Middle	$2,000
4	Peacock Park at Hilborn Road	• Organize a Walking School Bus meeting point and/or promote as a remote "Park and Walk" location (district) • Construct sidewalk on the west side of Hillridge Drive from the intersection of Hilborn Road south to the park driveway entrance (Peacock Park Capital Project) • Consider additional staff member at parking lot to facilitate drop-off and a walking school bus (district)	City of Fairfield/ FSUSD	Middle/ High	$60,000
5	Glenwood Drive at Hilborn Road	• Upgrade crosswalk according to Caltrans and FHWA best practices, or • Consider removing crosswalk if recommendation infeasible and encouraging families to walk on Hilridge Drive and cross at Fieldcrest Avenue	City of Fairfield	Middle/ Low	$54,000
6	Rolling Hills Neighborhood Park	• Organize a Walking School Bus meeting point and/or promote as a remote "Park and Walk" location; encourage drivers to circle back via Candlewood Drive to avoid Fieldcrest Avenue	City/ District	Middle	N/A
	Total Cost				**$119,500**

[27] Cost estimates not generated by City of Fairfield staff. May not be representative of all associated costs of project delivery, including right-of-way improvements, drainage & utility relocation, signal modifications, etc.

8.9 Tolenas Elementary School Travel Plan

Principal: Suzanne Barbarasch
Enrollment: K-5, 758
Arrival: 7:55 AM
Dismissal: 2:20 PM; Wednesday, 1:10 PM
Mode Share: N/A
Walk Score[28]: 37/100
Free/Reduced Lunch: 76% in 2011-2012, 61% in 2010-2011

Tolenas Elementary is located just east of Fairfield in unincorporated Solano County

Layout

Tolenas Elementary is located just beyond the eastern edge of Fairfield in unincorporated Solano County. The school is on Tolenas Road, just off Tabor Avenue. The Union Pacific railroad runs diagonally southwest/northeast across Tabor Avenue approximately 2,000 feet west of the school. The area directly around the school has a low population density, with residential areas to the north and to the west.

Tolenas Park is just to the north of the school, and many students walk to and through the park to walk home, get picked up, and/or to access an ice cream truck. Students that live west of the railroad tracks, particularly in Grande Circle, typically cross Tabor Avenue at Clay Bank Road or at Grande Circle, walk on the north side of Tabor Avenue, and cross back again at Tolenas Road.

Tolenas Elementary has a single access point, from Tolenas Road. Parents dropping off or picking up students drive through the parking lot to a loading zone behind the school. Students who walk or bicycle can use the front entrance. Several of the streets around the school do not have sidewalks; the key sidewalk gaps are on the south side of Tabor Avenue from Villa Court to Railroad Avenue and on the north side of Tabor Avenue from Olive Avenue to just west of the railroad tracks. There is a gated bicycle parking area in front of the school.

Participants before the walk audit

Site Visit

The project team conducted a walk audit at Tolenas Elementary during the afternoon of Tuesday, March 27th. Conditions were rainy, which likely decreased the numbers of students walking or bicycling, although Principal Barbarasch indicated that pick-up behaviors appeared normal. Participating in the walk audit was Principal Barbarasch, representatives from the Fairfield Police Department, the City of Fairfield Public Works Department, and the Solano Transportation Authority. Solano County Public Works was notified, but not present at the meeting. Participants observed traffic and pedestrians in the loading zone and parking lot, in front of the school, at Tolenas Road and Tabor Ave, and at Tolenas Road and Catlin Drive.

[28] See www.walkscore.com for more information.

Loading Zones

Loading for Tolenas Elementary students occurs behind the school. Drivers navigate around the school parking lot, directed by staff members, to pick up their students at the east side of the lot and loop around to exit from the same driveway.

The pick up process involves many teachers and two formal crossing guards

Students who walk and bicycle exit through the front of the school. The bus for special education children pulls up in front of the school, but no parents are allowed to use that entrance.

There is a crossing guard at the intersection of Tabor Avenue and Tolenas Road, at the railroad crossing on Tabor Avenue, and at the school driveway. Teachers are deployed in the parking lot and at the loading area.

Other Plans

The Countywide Bicycle Master Plan calls for construction of bike lanes on two nearby streets: on Railroad Avenue from Sunset Avenue to E. Tabor Avenue and on Walters Road from Air Base Parkway to E. Tabor Avenue as part of the Jepson Parkway Project.

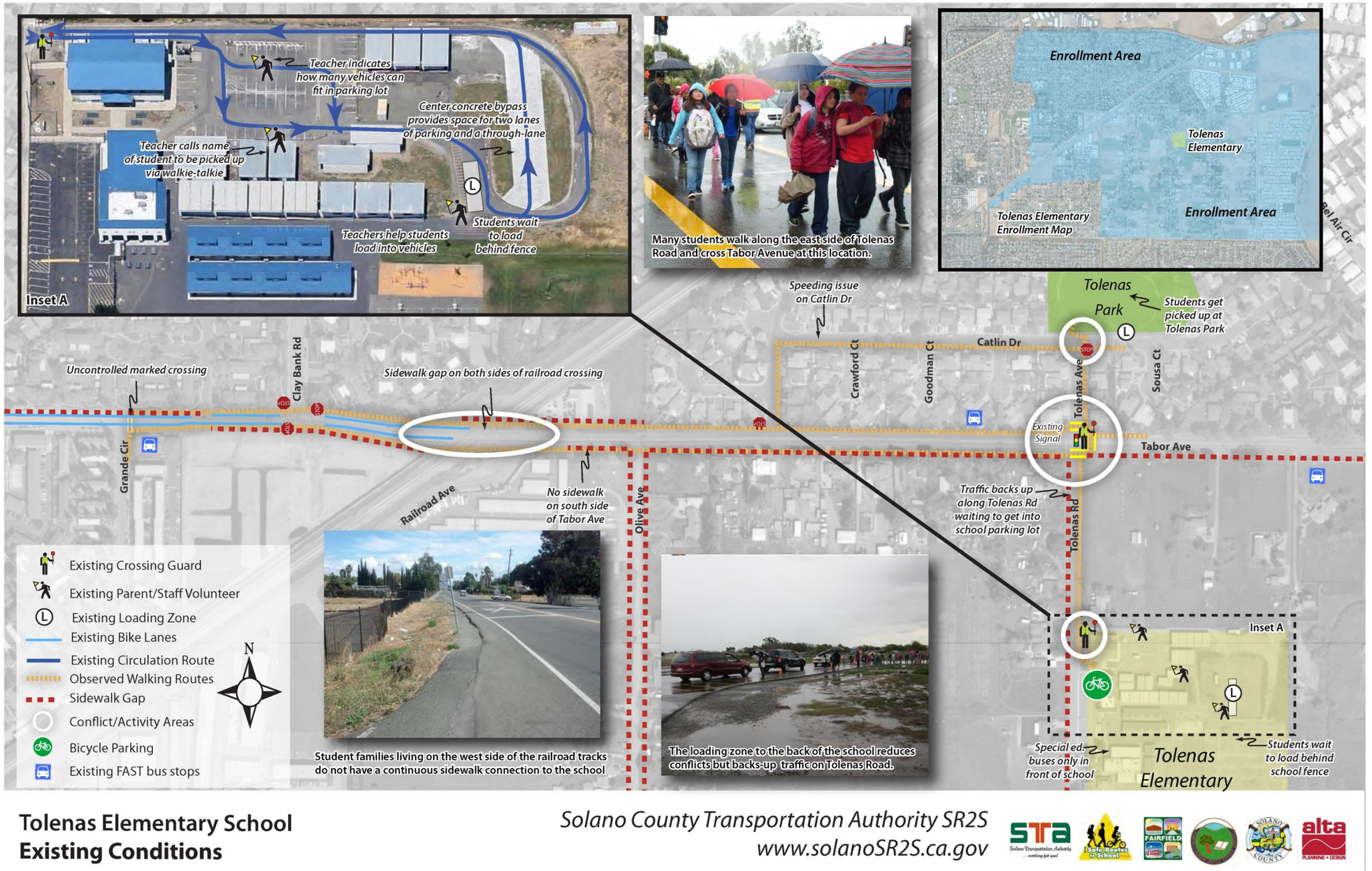
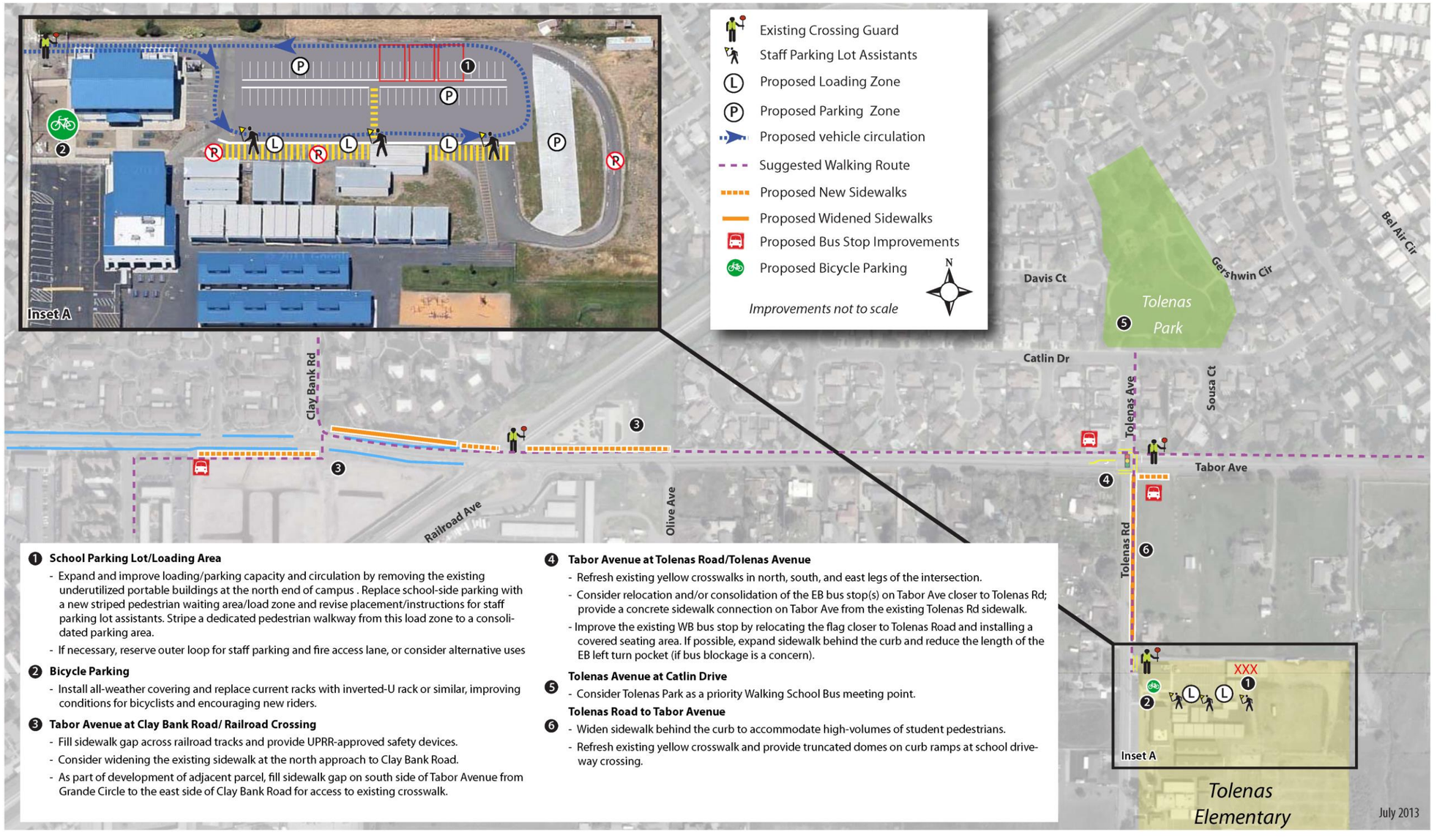


Figure 8-10: Tolenas Elementary Existing Conditions



❶ **School Parking Lot/Loading Area**
- Expand and improve loading/parking capacity and circulation by removing the existing underutilized portable buildings at the north end of campus . Replace school-side parking with a new striped pedestrian waiting area/load zone and revise placement/instructions for staff parking lot assistants. Stripe a dedicated pedestrian walkway from this load zone to a consolidated parking area.
- If necessary, reserve outer loop for staff parking and fire access lane, or consider alternative uses

❷ **Bicycle Parking**
- Install all-weather covering and replace current racks with inverted-U rack or similar, improving conditions for bicyclists and encouraging new riders.

❸ **Tabor Avenue at Clay Bank Road/ Railroad Crossing**
- Fill sidewalk gap across railroad tracks and provide UPRR-approved safety devices.
- Consider widening the existing sidewalk at the north approach to Clay Bank Road.
- As part of development of adjacent parcel, fill sidewalk gap on south side of Tabor Avenue from Grande Circle to the east side of Clay Bank Road for access to existing crosswalk.

❹ **Tabor Avenue at Tolenas Road/Tolenas Avenue**
- Refresh existing yellow crosswalks in north, south, and east legs of the intersection.
- Consider relocation and/or consolidation of the EB bus stop(s) on Tabor Ave closer to Tolenas Rd; provide a concrete sidewalk connection on Tabor Ave from the existing Tolenas Rd sidewalk.
- Improve the existing WB bus stop by relocating the flag closer to Tolenas Road and installing a covered seating area. If possible, expand sidewalk behind the curb and reduce the length of the EB left turn pocket (if bus blockage is a concern).

❺ **Tolenas Avenue at Catlin Drive**
- Consider Tolenas Park as a priority Walking School Bus meeting point.

❻ **Tolenas Road to Tabor Avenue**
- Widen sidewalk behind the curb to accommodate high-volumes of student pedestrians.
- Refresh existing yellow crosswalk and provide truncated domes on curb ramps at school driveway crossing.

Tolenas Elementary School Recommended Improvements*

*Funding for recommeded improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 8-11: Tolenas Elementary Recommended Improvements

Tolenas Elementary Existing Conditions and Recommendations

School Parking Lot/Loading Area

Tolenas Elementary teachers have the option of helping with recess or with pick up/drop off, resulting in significant teacher assistance during loading. Almost all traffic turns onto Tolenas Road from Tabor Avenue. A crossing guard directs drivers into the school parking lot and assists students crossing the driveway, as well as discourages drivers from making illegal left turns onto Tolenas Road from the school parking lot.

A teacher stands at the entrance to the parking lot and directs drivers to line up either on the south side of the parking lot or in the middle of the lot. Both lines are condensed at the southeast corner of the lot, where another teacher directs drivers though a narrow driveway. This teacher asks the name of the student the driver is picking up, and uses a walkie-talkie to call to teachers standing with students behind a fence to the south of the driveway loop. On the day of observation, three teachers assisted students loading into vehicles at the loading zone. Drivers exited the area using the loop drive and taking a right turn on Tolenas Road.

Cones are placed on the parking lot north exit, encouraging drivers to drive around the loop, past the loading area.

In advance of dismissal, parents are allowed to park in the main school parking lot, and they are directed to exit around the loop drive. Cones are placed to discourage cutting through the parking lot. Parents also park along a concrete driveway that provides an alternative to the loop drive. This has space for two parking lanes as well as a through travel lane.

Only five cars are able to load at one time in the loading area. The school discourages drivers pulling around the outside of other loading vehicles, so all five cars must be loaded before another five can take their place. Teachers keep the narrow driveway and area to the east of the parking lot clear. Drivers waiting to get into the loading zone back up on Tolenas Road past Tabor Avenue. Drivers who want to continue south along Tabor Avenue sometimes drive in the northbound lane to get around the waiting traffic.

Recommendations (ID #1)

Current loading practices effectively reduce traffic safety hazards for students, but require substantial supervision and create queuing on Tolenas Road. The middle leg of the parking lot loop is not well-used, aside from the cars that park there in advance of dismissal. The existing portable buildings near the north edge of campus adjacent to the parking loop are also underutilized/closed according to District staff. Removal of these buildings, in conjunction with paving and striping changes, may allow for an expansion/simplification of loading and consolidation of parking to improve overall circulation. As part of these changes, existing parking closest to school buildings would be converted to a pedestrian waiting area, and instructions/placement of staff parking lot assistants would be modified accordingly. If necessary, the outer parking and circulation loop could be retained for additional staff parking and fire access, or converted to other uses.

Bicycle Parking

Tolenas Elementary has a bicycle rack in front of the school, with capacity for 8 to 10 bicycles. On the day of the walk audit, which was quite rainy, two bicycles were parked in this area. The bicycle rack is the substandard "toaster" type and is not sheltered from inclement weather.

Bicycle parking has no protection from inclement weather

Recommendation (ID #2)

The District should encourage year-round bicycling by installing an all-weather covering over this bicycle parking area. By providing a covered space for bicycles (in conjunction with participation in bicycle education and skills training) the school may encourage more student ridership, which in turn may help reduce traffic congestion. The District may also consider installing adult-sized inverted-U racks in case parents chose to bicycle with their children to and from school.

East Tabor Avenue at Clay Bank Road/Railroad Crossing

Many students walk home along E. Tabor Avenue to access houses on the west side of the railroad tracks. UPRR, to address the collision rate associated with the rail system, has replaced vehicle warning and gate devices adjacent in advance of the crossing, but no corresponding pedestrian improvements were made. Because of school closures and a enrollment boundary realignment in 2010, a crossing guard was located at the railroad tracks to assist students in crossing the tracks on the north side, while crossing on the south side is strongly discouraged. On the west side of the tracks, students either enter the neighborhood north of E. Tabor Avenue via Clay Bank Road, or cross E. Tabor Avenue at the white transverse crosswalk. This route from Clay Bank Road to the Grande Circle neighborhood currently lacks a sidewalk on the south side of the street; Principal Barbarasch indicated that many students live in the Grande Circle area, and they tend to walk on the south side of E. Tabor Avenue.

The sidewalk on the north side of Tabor Avenue ends in advance of the railroad tracks.

Students from Grange Middle School also walk on the south side of E. Tabor Avenue from the west and cross the railroad across from where the crossing guard assists student crossings.

Recommendation (ID #3)

The County and City should work together to complete the missing sidewalk segment on the north side of E. Tabor Avenue across the railroad tracks and include UPRR-approved safety devices as necessary. Although this project will require extensive design and coordination, and thus is expected to be expensive, this sidewalk gap closure is critical to providing a dedicated pedestrian connection from nearby neighborhoods and encouraging shifts from driving along to other modes of travel to school.

In conjunction with the above recommendations, the City may also consider widening the existing sidewalk behind the curb from approximately 100 feet west of the railroad crossing to Clay Bank Road. The City should also require closure of the sidewalk gap on the south side of E. Tabor Avenue from Grande Circle to Clay Bank Road when adjacent development occurs. This would provide a continuous pedestrian path from Grande Circle neighborhood to the all-way STOP-controlled intersection and crosswalk at Clay Bank Road.

East Tabor Avenue at Tolenas Road/Tolenas Avenue

This intersection is signalized and yellow crosswalks are provided on the north, east, and south legs. A crossing guard assists students crossing on the eastern leg of this intersection. A "TURNING TRAFFIC MUST YIELD TO PEDESTRIANS" sign is placed facing southbound traffic on the southeast corner of the intersection.

Most students cross Tabor Avenue on the east side of Tolenas Road/Avenue

This pedestrian crossing is used heavily by Tolenas Elementary students. The majority of students cross at the eastern leg with the crossing guard, but several cross the southern leg to travel west along E. Tabor Avenue, which does not have a sidewalk. There are bus stops on E. Tabor Ave in both directions, but the westbound bus stop is set back approximately 200 feet from the intersection and the eastbound stop approximately 400 feet from the intersection. There is no sidewalk linking the eastbound bus stop to the intersection.

The intersection of Catlin Drive at Tolenas Avenue has no marked crossings.

Recommendation (ID #4)

The City should improve visibility of pedestrians crossing at this intersection by refreshing the existing yellow crosswalks. The City should relocate the two bus stops on E. Tabor Avenue closer to the intersection with Tolenas Road. For the eastbound bus stop, the City should construct additional sidewalk on E. Tabor Avenue out from the intersection to the location of the bus stop. The City should, if right-of-way permits, move the westbound bus stop closer to the intersection and install covered seating for patrons. The City should also consider expanding the sidewalk here to accommodate the covering and consider shortening the length of the eastbound left turn pocket to preclude buses blocking the travel lane while loading.

Narrow sidewalks on Tolenas Road

Tolenas Avenue at Catlin Drive

Several students walk on the east side of Tolenas Avenue to Catlin Drive, where they disperse. Some students cross Catlin to walk into the park or walk along the north side, while others cross Tolenas Road at this location. Some parents use Catlin Drive as an alternative pick-up location. Residents in this area have complained about students misbehaving in the neighborhood after school.

Recommendation (ID #5)

Tolenas Park at Caitlin Drive is an excellent location for a walking school bus or a remote drop-off location. The District should work with parents to find a parent champion willing to lead a walking school bus from this location.

Tolenas Road to East Tabor Avenue

Most students who walk or bicycle exit Tolenas Elementary from the front door and cross the school driveway with the crossing guard's assistance. The sidewalks on the east side of Tolenas Road are four feet wide and students tend to walk on the adjacent property rather than in the street.

No sidewalk is provided on the west side of Tolenas Road, although few students cross Tolenas mid-block. Some students get picked up along Tolenas Road, primarily from cars in the northbound travel lane. Some drivers were observed making U-turns on Tolenas Road, although the majority of drivers waited in line to be let into the school driveway to use the formal loading zone.

Recommendations (ID #6)

The County should widen the sidewalk on the east side of Tolenas Road to accommodate the students who walk there. The crosswalk across the school driveway should be refreshed, and the curb ramps should include truncated domes to accommodate ADA access.

Summary of Recommendations

Table 8-5 lists the recommended improvements to address safety and circulation issues around Tolenas Elementary; Figure 8-10 maps existing conditions and Figure 8-11 presents an improvement plan of these recommendations. The project IDs in Table 8-5 correspond to those in Figure 8-11. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates are planning-level only and may not include additional engineering or design work required for some of the recommendations.

Table 8-5: Tolenas Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost[29]
1 & 2	School Parking Lot/Loading Area	• Expand and improve loading/parking capacity by removing existing portable buildings and repaving/reconfiguring the middle parking lot area. • Replace parking closest to school with a pedestrian waiting zone, and re-assign staff parking lot assistants • Install all-weather covering and replace "toaster" style racks with inverted-U racks or similar	FSUSD	Middle/High	$35,000
3	Tabor Avenue at Railroad Crossing to Clay Bank Road	• Complete missing sidewalk segment on north side of Tabor Avenue; install necessary rail crossing devices • Consider widening the existing sidewalk at the approach to Clay Bank Road • Complete the missing sidewalk segment on the south side of Tabor Avenue from Grand Circle to the east side of Clay Bank Road; tie construction of sidewalk segment to development of adjacent parcel.	City of Fairfield	High/ Middle	$175,000[30]
4	Tabor Avenue at Tolenas Road/ Tolenas Ave	• Refresh existing yellow crosswalks. • Relocate and/or consolidate the EB bus stop(s) on Tabor Avenue closer to Tolenas Rd; provide a concrete sidewalk connection on Tabor Ave from the existing Tolenas Rd sidewalk. • Improve the existing WB bus stop by relocating the flag closer to Tolenas Road and installing a covered seating area. If necessary, expand sidewalk behind the curb and reduce the length of the EB left turn pocket (if bus blockage is a concern).	Solano County	Middle	$35,000
5	Tolenas Avenue at Caitlin Drive	• Consider Tolenas Park as a potential Walking School Bus meeting point.	FSUSD	Low	N/A
6	Tolenas Road to Tabor Avenue	• Widen sidewalk behind the curb to accommodate high-volumes of student pedestrians • Refresh existing yellow crosswalk and provide truncated domes on curb ramps at school driveway crossing	Solano County	Middle	$55,000
Total Cost					**$300,000**

[29] Cost estimates not generated by City of Fairfield staff. May not be representative of all associated costs of project delivery, including right-of-way improvements, drainage & utility relocation, signal modifications, etc.
[30] Preliminary estimate- coordination with UPRR and relocation of utilities will likely increase estimate.

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9 Rio Vista

9.1 SR2S Community Task Force

The Rio Vista Task Force selected D.H. White Elementary for a walk audit during the 2012 STA SR2S Plan Update. The Rio Vista Task Force also selected additional projects for two other schools for consideration in the plan and provided feedback on project prioritization. The membership of the Rio Vista Task Force is shown in Table 9-1: Rio Vista Task Force Membership.

Table 9-1: Rio Vista Task Force Membership

Name	Position
Jan Vick	Mayor
Constance Boulware	City Council Member
Rick Hennes	Superintendent, River Delta Unified
Joseph M. Tanner	Interim City Manager, City of Rio Vista
David Melilli	Director of Public Works, City of Rio Vista
Tom Myers	Interim Fire Chief, City of Rio Vista
Greg Bowman	Chief of Police, City of Rio Vista
Armando Orozco	River Delta Unified
Sarah Donnelly	Trustee, River Delta Unified

9.2 Walkshed and Collision Maps

Figure 9–1 on the following page displays the locations of schools, the locations of parks, and the walkshed for each school in Rio Vista. A walkshed shows how far a student could walk from school in a given amount of time. The map displays outer boundaries for both a ten-minute and twenty-minute walkshed, assuming an average walking speed of 2.8 feet/second. Figure 9–2 shows the approximate locations and volume for all collisions involving pedestrians or bicyclists from 2005-2010, as documented by the California Highway Patrol SWITRS (Statewide Integrated Traffic Records System).

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Figure 9-1: Rio Vista schools, parks, and walksheds

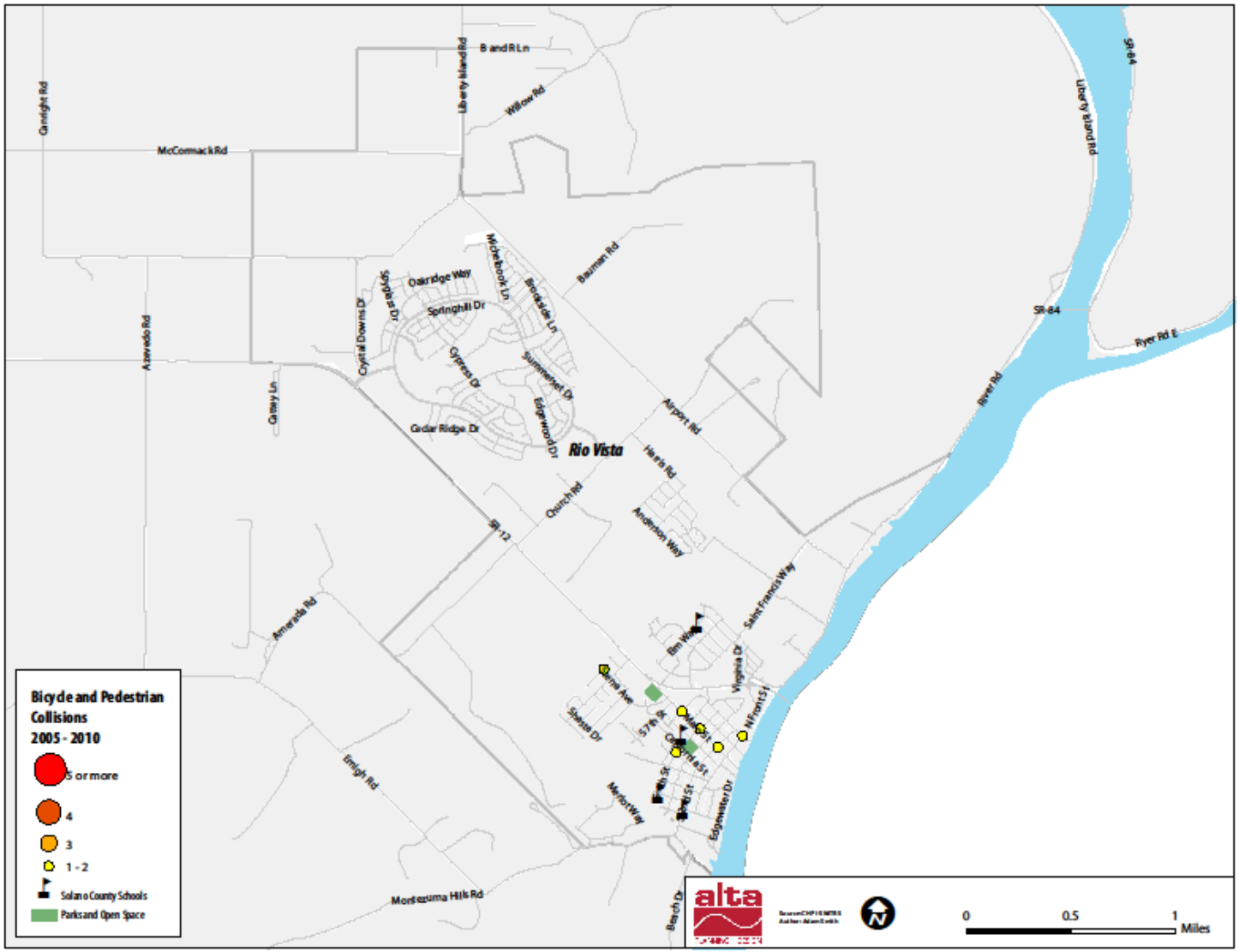

Figure 9-2: Rio Vista Bicyclist & Pedestrian Collisions, 2005-2010

9.3 2008 STA SR2S Plan

The 2008 STA SR2S Plan had a single walk audit in Rio Vista, at Riverview Middle School. The plan also contained priority projects for D.H White Elementary. Several of the recommended priority projects for Riverview Middle School were completed, including a speed feedback sign and updated School Zone signage on 2nd Street. The recommendation for a pedestrian path study, linking D.H. White Elementary to the Riverwalk housing development north of the school, was also completed (a pedestrian path will be a part of Riverwalk Phase 2, once constructed).

Programmatic Achievements

Rio Vista continues to work with their police department to provide enforcement around select schools, a key recommendation for the City in the 2008 STA SR2S Plan.

9.4 Carried-Over Recommendations

One of the priority projects at D.H. White Elementary is carried over into the 2012 STA SR2S Plan Update. This priority project is the reconfiguration of the intersection of Elm Street at Linda Vista Way to provide increased pedestrian visibility and normalize drivers turning movements. Several projects for Riverview Middle school are also carried over.

Montezuma Road sees high speeds coming into Rio Vista and lacks sidewalks from adjacent residential developments

Riverview Middle School

One project will be along Montezuma Hills Road/2nd Street. Current traffic coming into town on Montezuma Hills Road does so at high speeds, and presents a safety hazard for pedestrians despite the presence of a radar speed feedback sign and advance warning signage on 2nd Street. Signage may be too close to school to adequate warn northbound traffic, and thus the City should consider installing "School Zone Ahead" signage (S1-1 and W16-9P) at or near the intersection of Montezuma Road at Beach Drive for the northbound direction.

Another project is paving sidewalks along the northern side of Montezuma Hills Road. The project would stretch from Marina Drive in the east to Tuscany Way in the west. This sidewalk project would connect the school to the residential development off of Tuscany Way to the west. Montezuma Hills Road is the only route students can take to reach Riverview Middle from this residential development.

The City should also upgrade the transverse yellow crosswalk at the intersection of 2nd Street at Hamilton Avenue to a high-visibility yellow crosswalk and retrofit the west "midblock" receiving area with an ADA curb ramp.

The crosswalk at Hamilton Ave is the only marked crossing of 2nd St in the immediate school area yet is not fully accessible

9.5 2013 Plan Walk Audit Recommendations

DH White Elementary

The walk audit held at DH White Elementary led to eight recommended projects, which are detailed in the DH White Elementary Travel Plan. The recommendations focus on improvements on school grounds, improvements immediately surrounding the school grounds, and improvements on well-used walking routes.

Recommendations for improving the school grounds include a reconfiguration of the loading loop and parking lot for the school, reducing the number of curb cuts and reducing vehicle conflicts. Another project recommends a rear gate entry to the school so parents can use the adjacent Val de Flores Park as a remote drop-off area. Recommended improvements near school grounds focus primarily on Elm Street. Recommendations include upgrading the crosswalks, signage and striping on Elm Street and reconfiguring the intersection of Elm Street at Linda Vista Way to improve pedestrian visibility and safety.

Safety improvements on the walking routes to school focus on safe access to and across State Route 12 (SR-12), which is a key barrier to increased walking and biking to DH White Elementary. High priority recommendations include closing sidewalk gaps along SR-12 and substantial upgrades to the crossing at Gardiner Way. These recommendations for SR-12 are expected to be highly competitive for outside grant funding – either through Caltrans' Safe Routes to School or State Highway Operation and Protection Program (SHOPP) grant programs.

9.6 Additional Projects

4th Street at Bruning Avenue

Rio Vista High School

This project will be at the offset intersection of 4th Street at Bruning Avenue. The intersection currently has two transverse crosswalks, in the western and northern legs. None of the corners have curb ramps. The City should restripe these crosswalks as high-visibility yellow and retrofit the curb ramps for ADA compliance to provide better access to students traveling to school from the southeast.

Table 9-2: Rio Vista Priority Engineering Projects

Rio Vista - Safe Routes to School Capital Project List

Total Project Costs Identified	**$393,700**	**Total Priority Projects**	**$250,000**	**Grants (Reasonable Anticipated, 5 years)**	**$250,000**

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
River Delta Unified	D H White Elementary	7	• Construct sidewalk on the south side of State Route 12 and the north side of Main Street to close gaps east of the Main Street/Hillside Terrance intersection. • Construct sidewalk on the north side of State Route 12 to close the gap east of Hillside Terrace	High	City of Rio Vista/ Caltrans	$135,000
River Delta Unified	D H White Elementary	6	• Replace existing white transverse crosswalk with high visibility white crosswalk across State Route 12. • Relocate or remove advance Main Street traffic signal warning for westbound drivers to reduce conflicting signals • Replace in-pavement flashing lights with RRFBs or HAWK signal and W11-2 signage. • Construct sidewalk on the south side of State Route 12 from the Gardiner Way crossing to N 5th Street • Consider a raised pedestrian median island in the SR 12 crosswalk if median approved by Caltrans • Prohibit parking and/or stripe a narrow shoulder on the west side of N 5th Street to improve pedestrian access	High	City of Rio Vista/ Caltrans	$115,000

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
River Delta Unified	D H White Elementary	4	• Reduce curb radii, improve vehicle sight distances, and provide queuing area from parking lot (see Option B) by striping a hatched area in the northeast corner and relocating stop signs and stop bars. Prohibit right turns from Elm Way, installing soft hit posts if necessary to ensure compliance. • Relocate crosswalk across Linda Vista Way at north leg; re-stripe south leg as high visibility yellow crosswalk	Medium/High	City of Rio Vista	$3,000
River Delta Unified	D H White Elementary	8	• Conduct warrant study for 2-way STOP control	Medium/High	City of Rio Vista	$5,000
River Delta Unified	Rio Vista High	Task Force	Bruning and 4th: • Stripe high visibility crosswalk across west leg of intersection • Upgrade east leg curb ramps • Upgrade other two crosswalks to high-visibility	Medium	City of Rio Vista	$6,000
River Delta Unified	Riverview Middle	Task Force	Montezuma Hills Road - east: • Install School Zone Ahead Signage (S1-1 with W16-9P) • Install upgraded high-visibility crosswalk at west leg of intersection at S. 2nd Street and Hamilton • Install new curb ramp at north approach to west leg of intersection.	Medium	City of Rio Vista	$12,000
River Delta Unified	Riverview Middle	Task Force	Montezuma Hills Road – west: • Construct sidewalks on the northern side of the street from Marina Dr to Tuscany Way	Medium	City of Rio Vista	$100,000
River Delta Unified	D H White Elementary	1	• Replace yellow curb along loading loop with white curb. • Refresh red curb on opposite side of loading loop. • Recruit student and parent volunteers for managing loading loop, out t volunteers with florescent vests. Option A • Install “no left turn” signage at loading loop exit. Option B • Reverse travel direction in parking lot, directing parking lot and loading loop traffic to exit on Linda Vista Way. • Close loading loop exit on Elm Way, construct sidewalk • Install “no left turn” signage at parking lot exit	Medium	City of Rio Vista	$1,200 (option A)

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
River Delta Unified	D H White Elementary	2	• Restripe crosswalks as high-visibility yellow and install curb ramps at Thereza Way & Laurel Way; re-align Laurel Way crosswalk to match school entrance sidewalk. • Stripe red curb at east corner of Elm & Thereza Way. • Install missing Assembly D signage on Elm Way. • Study STOP warrants for both Thereza Way & Laurel Way	Medium/Low	City of Rio Vista	$9,000
River Delta Unified	D H White Elementary	3	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks • Install "no u-turn" signage for eastbound drivers • Construct curb ramp in western corner	Medium/Low	City of Rio Vista	$6,500
River Delta Unified	D H White Elementary	5	• Encourage parents to use parking lot for remote drop-off • Build a gate between school yard and Val de Flores Park	Medium/Low	RDUSD	$1,000

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9.7 DH White Elementary School Travel Plan

Principal: Laura Uslan
Enrollment: K-5, 472
Arrival:
Dismissal: K-5, 3:00 PM
Wednesday, 1:45 PM
Mode Share: 11% (Oct. 2011),
12% (May 2011)
Walk Score[31]: 62/100
Free/Reduced Lunch: 52% in 2011-2012,
54% in 2010-2011

DH White Elementary is located in a residential community on the edge of Rio Vista

Layout

DH White Elementary School is located in northern area of Rio Vista's urban core, in a gridded suburban-style residential neighborhood. To the north is open space and to the east is a dedicated floodway that remains dry for the majority of the year. State Route 12 (SR-12) passes within ½ mile of DH White Elementary both to the south and to the west on its route through Rio Vista. SR-12 has a limited number of marked crossings and acts as a major barrier to walking and biking between the two sides of Rio Vista. The majority of Rio Vista's urban core lies on the other side of SR-12 from DH White Elementary.

An isolated housing development is located immediately north of the school, which is the first part of a planned seven-phase subdivision development. For "Riverwalk" the second phase in the development, the developer has agreed to construct a pedestrian path from the development to DH White Elementary. The schedule for construction on the second phase is unknown. There is a larger isolated development further to the north, but because it is a senior citizen community, there is little demand for direct access to DH White Elementary.

DH White Elementary has two access points for students:

- The main entrance on Elm Way; and
- A bus loading zone side entrance on Linda Vista Way

Walk audit participants gathering at the school entrance before dismissal

Site Visit

The project team conducted a walk audit at DH White Elementary on the afternoon of November 14th, where they observed the pick-up period after dismissal. Conditions were sunny and temperate, with no indications that the day's pick-up period represented anything out of the ordinary. Participating in the walk audit was Principal Uslan, representatives from the River Delta Unified School District, from the City of Rio Vista, from the Rio Vista Police Department, and from the Solano Transportation Authority. Participants observed traffic and pedestrians at multiple points

[31] See www.walkscore.com for more information.

along Elm Way, on Linda Vista Way, at the intersection of Gardiner Way at SR-12, and at the intersection of Hillside Terrace at SR-12. Participants convened afterwards to discuss their findings.

The driver loading zone for DH White is a loop located on Elm Way

A bus entering the bus loading zone on Linda Vista Way

Loading Zones

There is one formal loading zone for drives and one formal loading zone for buses at DH White Elementary. The formal automobile loading zone is a driveway loop along Elm Way at the front entrance to the school. The public parking lot for the school is often used for loading students. The entrance to the parking lot is on Linda Vista Way, near the intersection with Elm Way and the exit for the parking lot is shared with the exit for the formal automobile loading loop on Elm Way.

The formal bus loading zone is a separate loop off of Linda Vista Way, which also provides staff parking. Bus access is particularly important at DH White Elementary, as there is a robust bussing program that delivers students from the delta/islands region of the school district. Some buses are ferried from islands in the delta, with no other direct route for these students to get to school.

Parents at DH White Elementary use the length of Elm Way, as well as Laurel Way and Thereza Way near their intersections with Elm Way, as informal loading zones.

There are no formal crossing guards at this school, although a member of the Rio Vista Police Department occasionally oversees pick-up periods to reinforce safe driver behavior. The police officer is often posted at the intersection of Elm Way and Linda Vista Way.

Other Plans

State Route 12 East Rio Vista Bridge Relocation Study

The SR 12 East Rio Vista Bridge Relocation Study recommends a number of realignment options for SR-12 and the East Rio Vista Bridge, only one of which would keep the current alignment of bridge and highway in place. The realignment of SR-12 could remove significant barriers to walking and biking in this community. If the current alignment stays in place, there are opportunities for capital upgrades to the roadway to address existing hazardous conditions for pedestrians and bicyclists.

Countywide Bicycle Master Plan Projects

The Countywide Bicycle Master Plan calls for a separated Class I bike path, the "Rio Vista Loop," to be built along the length of SR-12 in Rio Vista, alongside the length of Gardiner Way and Saint Francis Way, and alongside the section of Rolling Green Drive between these two streets. The Rio Vista Loop is listed as a fully

planned project in the Countywide Bicycle Master Plan, but has been given the lowest level of priority for implementation.

State Route 12 Corridor Study

The State Route 12 Corridor Study, conducted by Caltrans, is expected to be completed in May of 2012. Recommendations will include improvement strategies that will address safety, access, and mobility concerns.

State Route 12 Corridor Improvements Strategy

The Corridor Improvements Strategies Technical Memorandum recommends sidewalk improvements and bike-friendly shoulder facilities along the length of SR-12 in Rio Vista as part of any roadway improvement.

Volume-based State Route 12 Improvements

If SR-12 reaches an ADT of 22,000 vehicles, Caltrans is required to provide a raised median between directions of traffic. SR-12, in its path through Rio Vista, currently has no barriers between directions of travel. The current vehicle volume on SR-12 through Rio Vista is approximately 18,000 ADT.

2008 STA SR2S Plan

The 2008 STA SR2S Plan identifies four project priorities at DH White Elementary. The projects center around the school frontage on Elm Street: create signed and striped loading zones on Elm Street between Laurel Way and Virginia Way; study pedestrian path connections to the developments to the north (Riverwalk); convert the rolled curbs on Elm Street to vertical curbs, and; study intersection improvements at the intersection of Elm Street at Linda Vista Way.

The pedestrian path to developments north of school grounds has been incorporated into the second phase of the Riverwalk development, fulfilling the second priority project. A redesign of the intersection of Elm Street at Linda Vista Way is a recommendation made in more detail in this plan **(ID #4)**.

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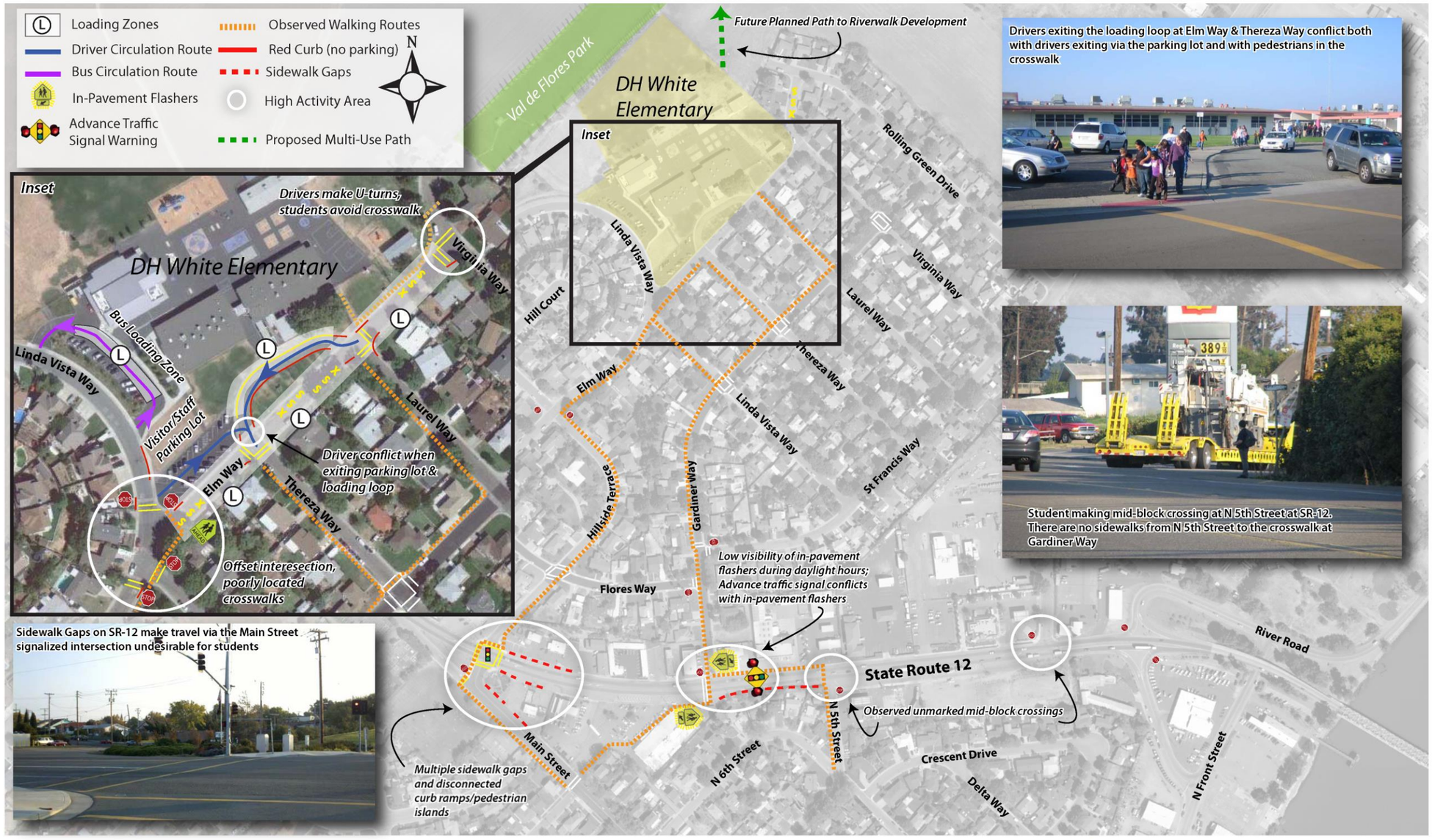
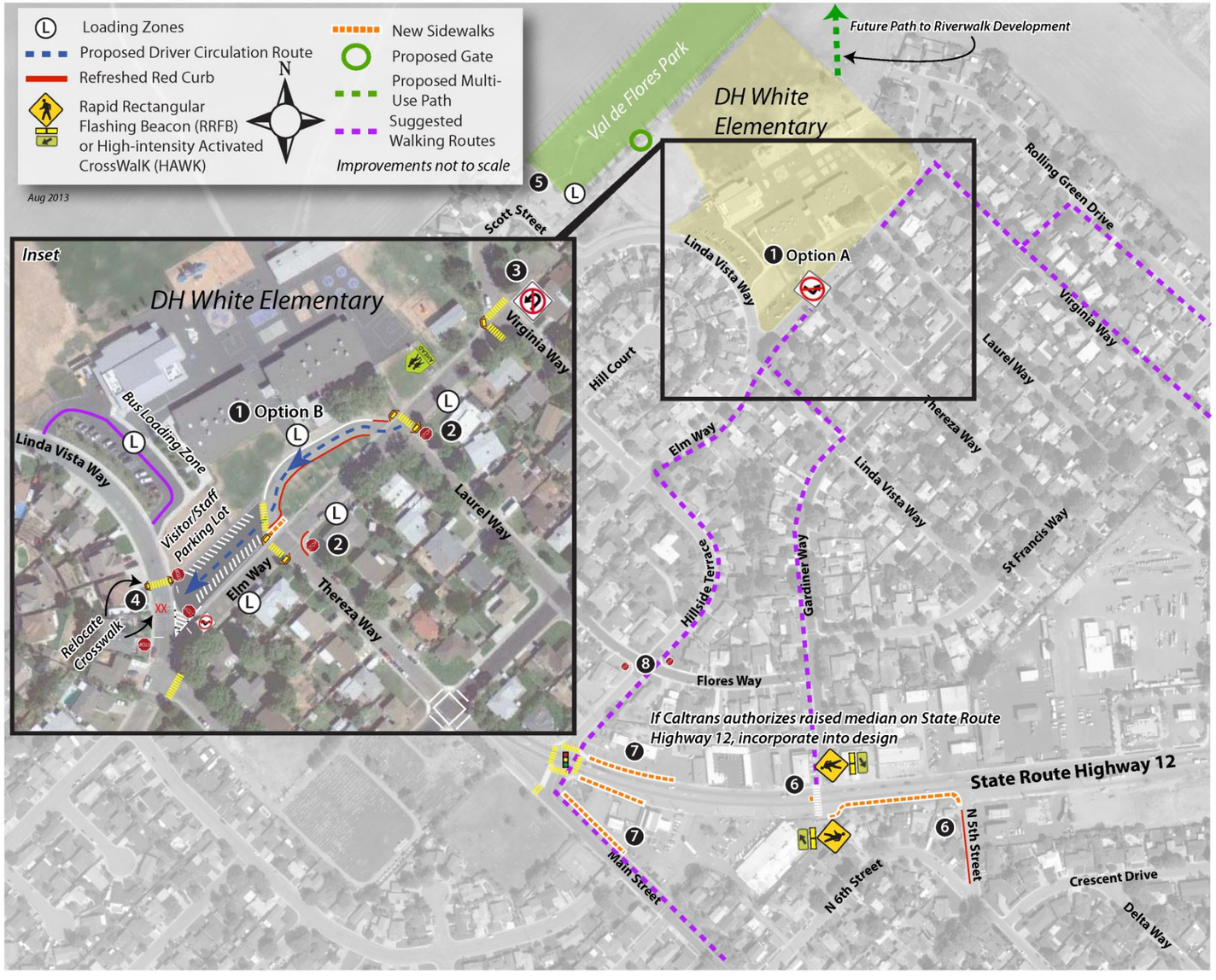


Figure 9-3: DH White Elementary Existing Conditions



1. **DH White Loading Loop & Parking Lot**
   - Replace yellow curb along loading loop with white curb.
   - Refresh red curb on opposite side of loading loop.
   - Recruit student and parent volunteers for platoon in loading loop, outfit volunteers with florescent vests.

   Option A
   - Install "no left turn" signage at loading loop exit.

   Option B
   - Reverse travel direction in parking lot, directing parking lot and loading loop traffic to exit on Linda Vista Way.
   - Close loading loop exit on Elm Way, construct sidewalk
   - Install "no left turn" signage at parking lot exit
2. **Elm Way**
   - Restripe crosswalks as high-visibility yellow and install curb ramps at Thereza Way & Laurel Way; re-align Laurel Way cross-walk to match school entrance sidewalk.
   - Stripe red curb at eastern corner of Elm Way & Thereza Way.
   - Install Assembly D signage for westbound drivers in advance of Laurel Way.
   - Study STOP warrants for both Thereza Way & Laurel Way.
3. **Elm Way at Virginia Way**
   - Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks
   - Install "no u-turn" signage for eastbound drivers
   - Construct curb ramp in western corner
4. **Elm Way at Linda Vista Way**
   - Tighten up intersection, improve vehicle sight distances, and provide queuing area from parking lot (see Option B) by striping a hatched area in the northeast corner and relocating stop signs and stop bars. Prohibit right turns from Elm Way, installing soft hit posts if necessary to ensure compliance.
   - Relocate the crosswalk at Linda Vista Way to the north; re-stripe south leg as high visibility yellow crosswalk.
5. **Val de Flores Park**
   - Encourage parents to use parking lot for remote drop-off
   - Build a gate between school yard and Val de Flores Park
6. **Gardiner Way to N 5th Street SR12 Crossing**
   - Replace existing white transverse crosswalk with high-visibility white crosswalk.
   - Relocate or remove advance Main Street traffic signal warning.
   - Replace in-pavement flashing lights with Rapid Flashing Beacons (RFBs) and W11-2 signage.
   - Incorporate pedestrian island if Caltrans builds median.
   - Construct sidewalk on the south side of State Route 12 from the Gardiner Way crossing to N 5th Street.
   - Prohibit parking and/or stripe a narrow shoulder on the west side of N 5th Street to improve pedestrian conditions.
7. **State Route 12 / Main Street Sidewalk Gap Closure**
   - Construct sidewalk on the south side of State Route 12 and the north side of Main Street to close gaps east of the Main Street/Hillside Terrance intersection.
   - Construct sidewalk on the north side of State Route 12 to close the gap east of Hillside Terrace
8. **Flores Way at Hillside Terrace**
   - Study a 2-way STOP warrant at this intersection for Flores Way

DH White Elementary School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Safe Routes to School
www.solanosr2s.ca.gov

Figure 9-4: DH White Elementary Recommended Improvements

DH White Elementary Existing Conditions and Recommendations

School Loading Loop & Parking Lot

The school loading loop is fairly small, being able to accommodate approximately 6-7 cars at a time. Participants told staff that parents often show up early to get a spot in the loading loop before dismissal. The loop became congested during pick-up on the day of the walk audit, with many drivers choosing to park or pick-up students off of school grounds. One staff member oversees pick-up from the loading loop but wears no identifying clothing. There is no system to manage the loading loop, and parents were observed double-parking in the travel lane and blocking through traffic while picking up students. The curb on the school-side of the loading loop is painted yellow and is faded. The curb on the far side of the loading loop is painted red, with accompanying NO PARKING signage, but is also faded.

The loading loop and the parking lot share the same exit driveway on Elm Way, which is also the location of a well-used crosswalk

Parents were also observed using the school parking lot for pick-up of students. When these drivers exit the parking lot, they come into conflict with drivers exiting the loading loop, as they share the same exit point on Elm Way. Another driver on the day of the walk audit was observed exiting the school parking lot from the wrong direction, on Linda Vista Way. Drivers from both the lot and the loop attempting to exit through the same driveway on Elm Way was one cause of congestion around the school on the day of the walk audit, which would be further exacerbated when a driver would attempt to make a left turn from the exit onto Elm Way.

Recommendations (ID #1)

The school should consider training parent and student volunteers to act as valets at the loading zone to improve traffic flow and regularize pick-up and drop-off procedures. Volunteers should be outfitted with florescent vests to increase visibility. The school may consider coning-off the loading area of the loop to institute a drop-off platoon, fully utilizing the length of the loading loop.

Two options are presented for the school to address the congestion at the loading loop/parking lot exit. The first option is the installation of No Left Turn signage and pavement markings at the exit onto Elm Way to regularize the flow of exiting traffic onto the street.

The second option for the loading loop/parking lot is more robust, requiring a greater commitment from the school district. In the second option, the school would reconfigure the parking lot as an extension of the loading loop. The driveway currently used as the exit for the loading loop and parking lot would be closed, with a sidewalk built over the curb cut. The direction of travel in the parking lot would reverse, with drivers exiting at Linda Vista Way; drivers seeking to access the parking lot would drive first through the loading loop. This reconfiguration may allow for the extension of curb space available in the loading zone. The school

should also stripe a high-visibility yellow crosswalk across the transition between the loading zone and the parking lot to line up with an existing crosswalk across Elm Way.

If the second option for the loading zone and parking lot is adopted, it should be implemented in conjunction with Recommendation ID #4 to improve traffic flow, visibility, and safety at the proposed exit on Linda Vista Way.

Elm Way is the primary frontage for DH White Elementary

The Laurel Way crosswalk doesn't meet properly with the sidewalk on the loading loop

Elm Way

As the primary frontage street for DH White Elementary, parents use both sides of Elm Way for loading students. A number of enforcement issues were observed on the day of the walk audit, with students loading from the drivers' side of vehicles, parents and students crossing Elm Way outside of established crosswalks, and parents parking in red-curb zones and at crosswalk landings.

Elm Way at Thereza Way

There are yellow transverse crosswalks on the southwest and southeast legs of the intersection of Elm Way and Thereza Way. This intersection is also the exit point for the loading loop and the school parking lot. There is red curb at the crosswalk landing on the school-side of Elm Way. At the southern corner of this intersection is a fire hydrant and stretch of red curb. There is no red curb on the eastern corner of this intersection, and drivers parking along this corner during loading periods reduce pedestrian visibility.

Assembly D signage is located in advance of this intersection to the southwest on Elm Way and on Thereza Way. SLOW SCHOOL XING pavement markings are installed in all directions in advance of this crossing.

Elm Way at Laurel Way

There are yellow transverse crosswalks on the northeast and southeast legs of the intersection of Elm Way and Laurel Way. This intersection is close to the ingress point for the loading loop and the crosswalk across Elm Way is offset from where the sidewalk along the loading loop meets Elm Way, creating an awkward path for students exiting the school. There is red curb painted at both ends of the crosswalk across Elm Way and there is red curb at the fire hydrant adjacent to the southern corner of this intersection. SLOW SCHOOL XING pavement markings are installed in all directions in advance of this crossing.

Recommendations (ID #2)

The City should replace exiting yellow transverse crosswalks along observed pedestrian routes and on routes suggested for students. The City should implement high-visibility crosswalks in the southwestern leg of the Elm Way at Thereza Way intersection and in the northeastern leg of the Elm Way at Laurel Way intersection.

Additionally, the City should realign the crosswalk at Elm Way and Laurel Way so it lines up with the sidewalk along the school loading loop. Both crosswalks should have curb ramps with truncated domes built into the rolled curbs on Elm Way.

The City should consider the feasibility of STOP warrants at both intersections for drivers traveling northwest on Thereza Way and Laurel Way. As Assembly D signage is already in place for eastbound drivers, the City should install accompanying Assembly D signage for westbound drivers in advance of the Laurel Way crosswalk.

Additional red curb should be striped at the eastern corner of the intersection of Elm Way and Thereza Way to discourage drivers from parking in the crosswalk landing and reducing pedestrian visibility. The City may consider additional enforcement of parking and loading along Elm Way.

Additional red curb will help improve driver sightlines crosswalks adjacent to DH White

Elm Way at Virginia Way

There are yellow transverse crosswalks in the southwestern and northwestern legs of this intersection. The curb at the western corner of this intersection is vertical, rather than the rolled curbs observed in the majority of the surrounding neighborhood. This vertical curb, a landing point for both crosswalks, has no curb ramps.

During the walk audit, drivers were frequently observed engaging in U-turns at this intersection on Elm Way. Possibly because of the frequent U-turns in the middle of the intersection, pedestrians were observed traveling north on Virginia Way before crossing the street at a mid-block location rather than at the crosswalk

Recommendation (ID #3)

The City should replace the existing yellow transverse crosswalks with high-visibility yellow crosswalks, as well as construct a bi-directional curb ramp with truncated domes on the western corner of the intersection. The City should also install "No U-turn" signage at this intersection, making the crosswalks more inviting for pedestrians.

Elm Way at Linda Vista Way

Elm Way at Linda Vista Way is offset intersection with oblique angles for drivers. The intersection is STOP controlled in all four directions. Red curb precedes each STOP sign for approximately 10 feet, but only on that side of the street. There are yellow transverse crosswalks on the northern, western, and southern legs of this intersection. The western side of Linda Vista Way has vertical curbs, and there are no curb ramps for the two crosswalks that reach to this side of the street.

The Elm Way at Linda Vista Way intersection is broad and offset

There is a misplaced curb ramp at the northern corner of this intersection, which does not match up with the positioning of the crosswalk in the northern leg. Furthermore, the crosswalk as striped pulls away from the intersection on the western side, increasing the chance that drivers on Linda Vista Way will not see crossing pedestrians. This intersection was identified as a priority project in the 2008 STA SR2S Plan and by current stakeholders.

Recommendations (ID #4)

The curb on the left of this photograph is where a hatched area surrounded by bollards could shorten pedestrian crossing distances

This intersection is overly broad. The City should take steps to "square off" this intersection by bringing the northern leg of the intersection closer to the rest of the STOP controls, improving visibility of cross-traffic.

To move this leg of the intersection, the City should stripe a hatched area, protected by soft-hit bollards, in the northern corner of this intersection, bringing the STOP signs on Elm Way and Linda Vista Way at this end of the intersection closer together. Moving the STOP sign on Linda Vista Way further south will create a queuing area for drivers making left turns out of the school parking lot. This reconfiguration will require the erection of "No Right Turn" signage for drivers traveling westbound on Elm Way.

The northern crosswalk should be moved further north to eliminate conflicts with drivers leaving the parking lot. The transverse yellow crosswalk in the southeastern leg of the intersection should be re-striped as a high-visibility yellow crosswalk to reinforce its use as a suggested route for students traveling south to cross SR-12.

School Yard & Pedestrian Connections

Val de Flores Park sits directly behind the play yard for DH White Elementary. There is a parking lot for Val de Flores Park off of Scott Street which is currently underutilized during loading periods.

Recommendation (ID #5)

The District should work with the City to use the Val de Flores Park parking lot as a remote drop-off site. If the District were to construct a rear gate in the play yard, connecting to Val de Flores Park, students dropped off at this remote-site could walk to school through the park. A staff member or parent volunteer should supervise this gate during periods it is unlocked.

A student crossing SR-12

Gardiner Way at State Route 12

Gardiner Way is a well-used pedestrian route for students to cross SR-12. There is a white transverse crosswalk at this uncontrolled intersection, with pedestrian-activated in-pavement flashers. Pedestrian-crossing signage is erected in both directions on SR-12.

Drivers travel at high speeds through Rio Vista on SR-12, especially westbound drivers coming down the ramp from the adjacent bridge. There are no marked crossings on SR-12 to the east of Gardiner Way and there is a stoplight-controlled crossing one block to the west at Hillside Terrace/Main Street. SR-12 has one travel lane in each direction with a two-way left-turn center lane. At the intersection with Gardiner Way, there is an area of additional roadway pavement on the south side of SR-12, most of which is hatched with paint for trucks to unload at the adjacent supermarket.

Approximately 20 feet east of the intersection is an overhead flashing sign to alert motorists of a red-light signal phase at the intersection with Hillside Terrace/Main Street further to the west. The positioning of this warning for the stoplight, so close to the crosswalk, presents drivers with conflicting signals. Participants observed a very low yield rate for crossing pedestrians.

Students were observed crossing SR-12 at unmarked crossings

Students from both DH White Elementary and from Riverview Middle School were observed using this crossing. Students traveling to or from Main Street to the south were observed cutting through the parking lot of adjacent Lira's Supermarket to access the Gardiner Way crossing rather than traveling further west to the Hillside Terrace/Main Street signalized crossing.

Students were also observed crossing SR-12 further to the east, where no marked crossings exist. A sidewalk gap exists on the south side of SR-12 between the Gardiner Way crossing and N 5th Street, where multiple students were observed making crossings. The sidewalk on the west side of N 5th Street is very narrow between SR-12 and N 6th Street.

Participants observed a low rate of yielding by drivers at crossings of SR-12

Recommendation (ID #6)

The visibility and effectiveness of this key pedestrian crossing needs to be improved. The white transverse crosswalk should be replaced with a high-visibility white crosswalk. The advance flashing sign for the signalized intersection at Hillside Terrace/Main Street is confusing in its current position, and either should be moved east to the bridge ramp or should be removed. The City/Caltrans should install pedestrian-activated Rapid Rectangular Flashing Beacons (RRFBs), or a High-intensity Activated crossWalK (HAWK), replacing the existing in-pavement flashers. If possible, these improvements should be incorporated into any future plans for SR-12.

Moving the advance signal warning signage would remove conflicting directions for drivers

The City/Caltrans should construct a sidewalk on the south side of SR-12 between Gardiner Way and N 5th Street to close the current gap. Providing sidewalk here would encourage pedestrians to travel to Gardiner Way rather than crossing SR-12 at N 5th Street. The City should also consider widening the sidewalk on N 5th Street, possibly by restricting street parking on one side of the street to create enough right-of-way for the sidewalk expansion.

The City should also consider improvements that could be made if Caltrans installs a median on SR-12. This should include the incorporation of a pedestrian refuge island in the crossing at Gardiner Way.

State Route 12, Gardiner Way to Hillside Terrace/Main Street

Sidewalks on State Route 12 are in poor condition

The southwest corner of SR 12 at Main Street/Hillside Terrace intersection has no sidewalk connections on either side

Many sidewalk gaps exist along SR-12 between Gardiner Way and the Hillside Terrace/Main Street signalized intersection. These gaps are especially problematic around the signalized intersection because the crosswalk landing spot in the southeastern corner of the intersection does not connect to any sidewalks. Pedestrians seeking to cross SR-12 to access Main Street must circuitously make two or three crossings to finally reach a sidewalk on Main Street.

The signalized intersection at Hillside Terrace/Main Street and SR-12 has yellow transverse crosswalks in all four legs. The landing for the southwestern corner of the intersection is a pedestrian island, with a free-right travel lane for eastbound drivers on SR-12 turning onto Main Street. There is a yellow transverse crosswalk from this pedestrian island across the free-right travel lane to the sidewalk on Main Street.

The largest sidewalk gaps exist on both the north and south sides of SR-12 directly east of the signalized intersection, as well as on the north side of Main Street immediately after the signalized intersection. The sidewalk gaps are varied in nature. Some gaps are unpaved areas, some gaps are overly broad/duplicative curb cuts to surface parking lots, and some gaps are paved shoulder areas that do not differentiate between the roadway, the sidewalk, and adjacent surface parking lots.

Recommendation (ID # 7)

The City/Caltrans should close these three sidewalk gaps to improve pedestrian connectivity between the northern and southern areas of Rio Vista's urban core. When possible, curb cuts and parking lot entrances/exits should be consolidated to minimize interruption of the sidewalk path.

Flores Way at Hillside Terrace

This intersection currently has no STOP controls, with white transverse crosswalks and all legs of the intersection. This intersection is position immediately before a downhill segment traveling west, making visibility of pedestrians for eastbound drivers difficult.

Recommendation (Id #8)

The City should study the feasibility of a two-way STOP warrant at this intersection for cross-traffic on Flores Way.

Summary of Recommendations

Table 9-3 lists the recommended improvements to address safety and circulation issues around DH White Elementary; Figure 9–3 maps existing conditions and Figure 9–4 presents an improvement plan of these recommendations. The project IDs in Table 9–3 correspond to those in Figure 9–4. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some recommendations.

Table 9-3: DH White Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	School Loading Loop and Parking Lot	• Replace yellow curb along loading loop with white curb. • Refresh red curb on opposite side of loading loop. • Recruit student and parent volunteers for managing loading loop, outfit volunteers with florescent vests. *Option A* • Install "no left turn" signage at loading loop exit. *Option B* • Reverse travel direction in parking lot, directing parking lot and loading loop traffic to exit on Linda Vista Way. • Close loading loop exit on Elm Way, construct sidewalk. • Install "no left turn" signage at parking lot exit.	RDUSD	Middle	$1,200 (Option A)
2	Elm Way	• Restripe crosswalks as high-visibility yellow and install curb ramps at Thereza Way & Laurel Way; re-align Laurel Way crosswalk to match school entrance sidewalk. • Stripe red curb at eastern corner of Elm Way & Thereza Way. • Install Assembly D signage for westbound drivers at Elm Way & Laurel Way. • Study STOP warrants for both Thereza Way & Laurel Way.	City of Rio Vista	Middle/Low	$9,000
3	Elm Way at Virginia Way	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks. • Install "no u-turn" signage for eastbound drivers. • Construct curb ramp in western corner.	City of Rio Vista	Middle/Low	$6,500
4	Elm Way at Linda Vista Way	• Reduce curb radii, improve vehicle sight distances, and provide queuing area from parking lot (see Option B) by striping a hatched area in the northeast corner and relocating stop signs and stop bars. Prohibit right turns from Elm Way, installing soft hit posts if necessary to ensure compliance. • Relocate or remove crosswalk across Linda Vista Way at north leg; re-stripe south leg as high visibility yellow crosswalk.	City of Rio Vista	High	$3,000

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
5	Val de Flores Park	• Encourage parents to use parking lot for drop-off. • Build a gate between school yard and Val de Flores Park.	RDUSD	Middle/Low	$1,000
6	Gardiner Way to N 5th Street, State Route 12 Crossing	• Replace existing white transverse crosswalk with high-visibility white crosswalk at SR-12. • Relocate or remove advance Main Street traffic signal warning for westbound drivers to reduce driver confusion. • Replace or complement in-pavement flashing lights with Rapid Rectangular Flashing Beacons (RRFBs) or a High-intensity Activated crossWalK (HAWK) and W11-2 signage. • Construct sidewalk on the south side of SR 12 from the Gardiner Way crossing to N 5th Street. • Prohibit parking and/or stripe a narrow shoulder on the west side of N 5th Street to improve pedestrian to/from south.	City of Rio Vista/ Caltrans	High	$115,000
7	State Route 12/ Main Street Sidewalk Gap Closure	• Construct sidewalk on the south side of SR-12 and the north side of Main Street to close gaps east of the Main Street/Hillside Terrance intersection. • Construct sidewalk on the north side of SR-12 to close the gap east of Hillside Terrace.	City of Rio Vista/ Caltrans	High	$135,000
8	Flores Way at Hillside Terrace	• The City should study a two-way STOP warrant	City of Rio Vista	Middle	$5,000
Total Cost					**$275,700**

10 Suisun City

10.1 SR2S Community Task Force

The Suisun City Community Task Force selected two schools for walk audits as part of the 2012 STA SR2S Plan Update: Crescent Elementary and Crystal Middle School. The Task Force also provided feedback on project prioritization. The membership of the Suisun City Community Task Force is shown in **Table 10–1.**

Table 10-1: Suisun City Task Force Membership

Name	Position
Mike Hudson	Council Member
Jane Day	Council Member
Tim Mattos	Commander, City of Suisun Police Department
Rodney Nelson	Facilities Planner, Fairfield-Suisun Unified
Kathy Marianno	Board Member, Fairfield-Suisun Unified
Judi Honeychurch	Board Member, Fairfield-Suisun Unified
Dan Kasperson	Public Works Director, City of Suisun City
Nick Lozano	Public Works Engineer, City of Suisun City

10.2 Walkshed and Collision Maps

Figure 10–1 on the following page displays the locations of schools, the locations of parks, and the walkshed for each school in Suisun City. A walkshed shows how far a student could walk from school in a given amount of time. The map displays outer boundaries for both a ten-minute and twenty-minute walkshed, assuming an average walking speed of 2.8 feet/second. **Figure 10–2** shows the approximate locations and volume for all collisions involving pedestrians or bicyclists from 2005-2010, as documented by the California Highway Patrol SWITRS (Statewide Integrated Traffic Records System).

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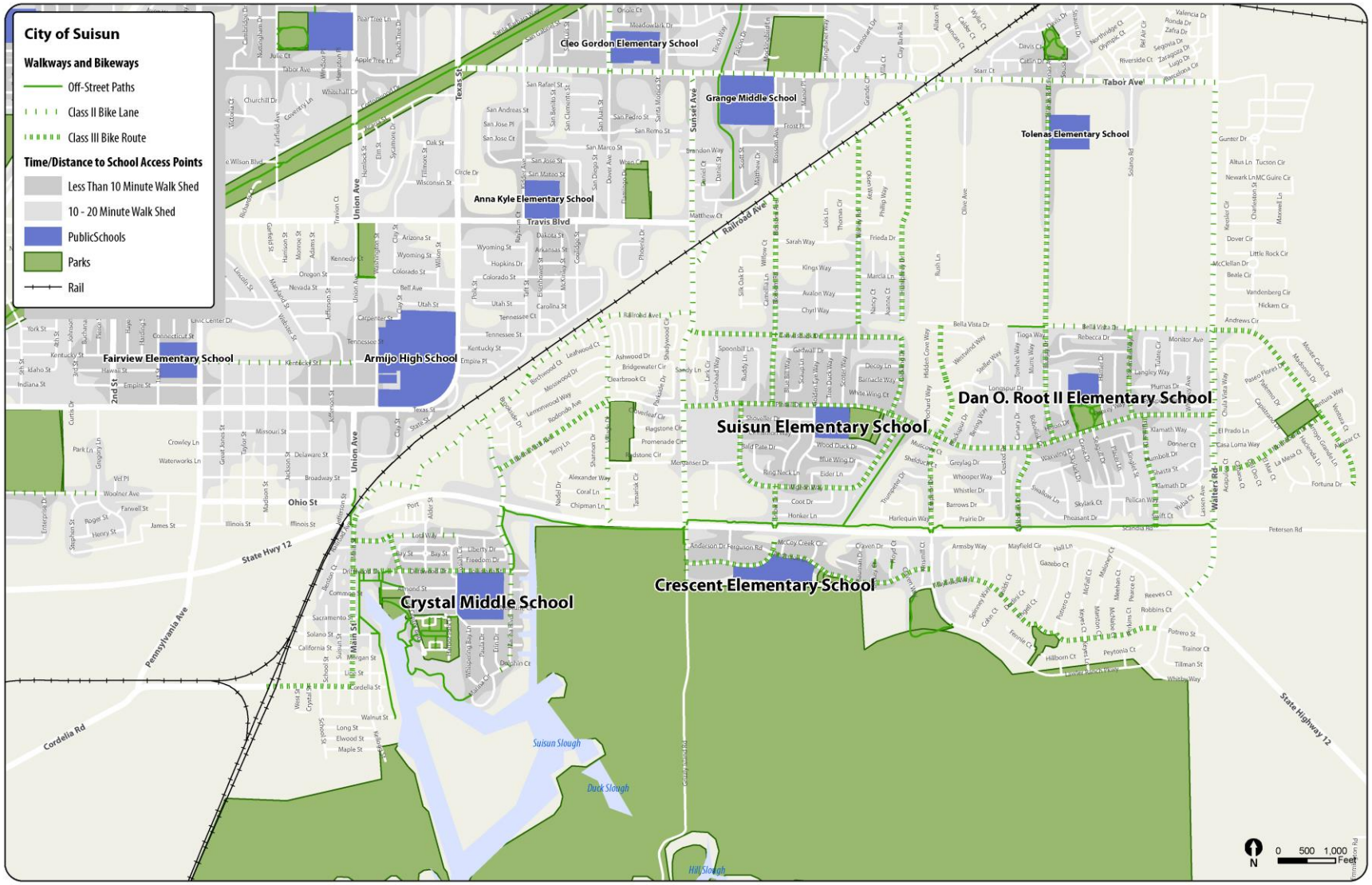


Figure 10-1: Suisun City Schools, Parks & Walksheds

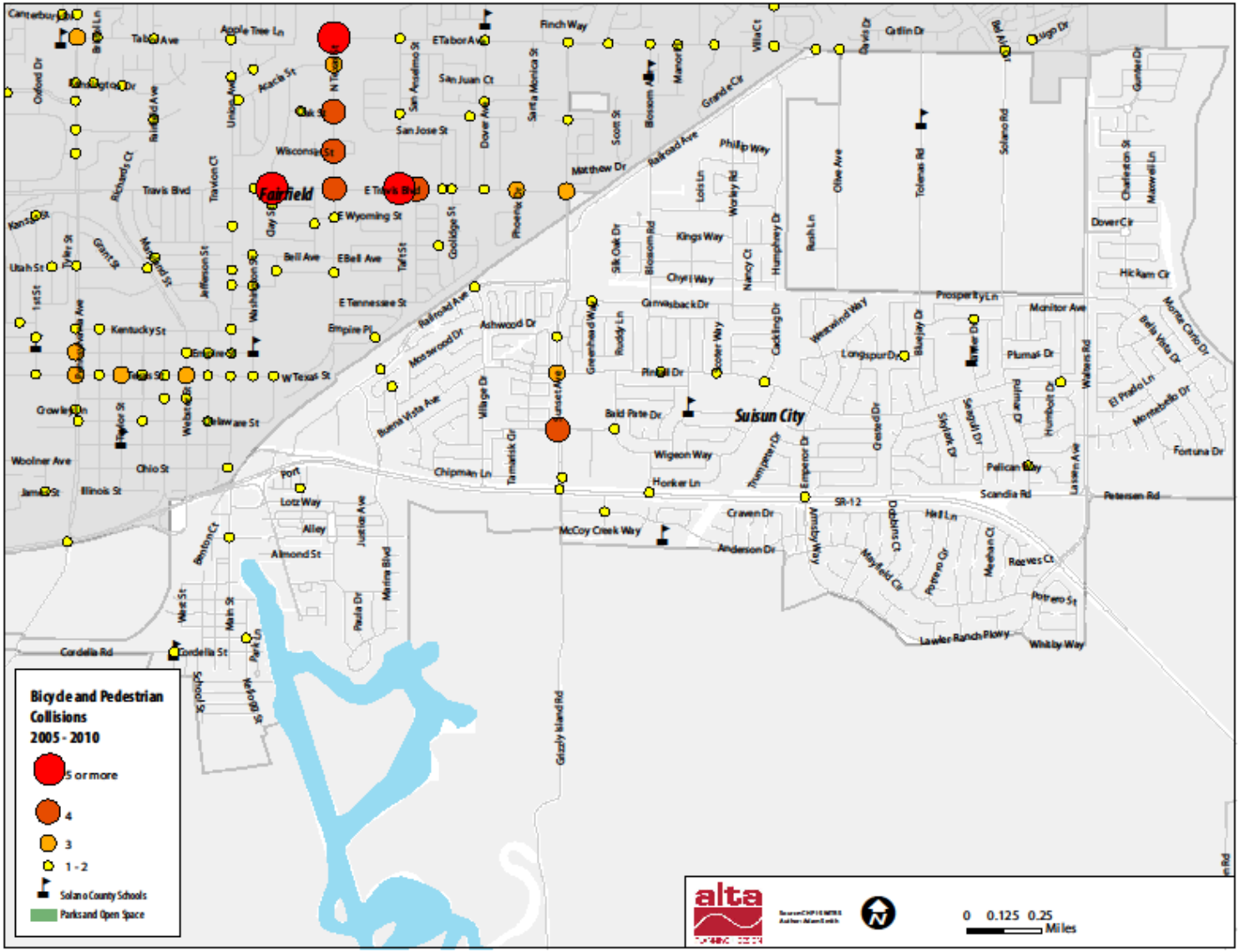


Figure 10-2: Suisun City Bicycle & Pedestrian Collisions, 2005-2010

10.3 2008 STA SR2S Plan

The 2008 STA SR2S Plan contains the results of a walk audit at Suisun Elementary as well as recommendations for Dan O Root Elementary. At Suisun Elementary, one project was completed: striping a crosswalk in the northern leg of the intersection of Golden Eye Way at Pintail Drive. The subsequent construction of the Suisun City Library (and its accompanying parking lot) on the eastern edge of school grounds may have impacted the feasibility of recommended projects for Pintail Drive.

Dan O Root Elementary

Many of the priority projects proposed for Dan O Root Elementary were implemented. Recommended crosswalks were striped on Harrier Drive at its intersections at both Pintail Drive and at Kimberly Court. The school also completed the priority project of installing a STOP sign at the exit of their school parking lot in order to reduce conflicts with pedestrians on the sidewalk.

Other Noteworthy Projects

Suisun City is in the midst of planning and building a network of Class I bicycle & pedestrian paths to connect different neighborhoods. Most of these paths parallel sections of State Route 12 (SR 12). The City recently completed the first stage of the Grizzly Island Trail, which connects downtown Suisun City to eastern neighborhoods on the southern side of SR 12. Additional planned phases of the Grizzly Island Trail will parallel SR 12 further east, connecting to McCoy Creek and the eastern edge of Suisun City. The Lawler Ranch Trail is also planned to run along the south side of the Lawler Ranch subdivision from McCoy Creek to Walters Road. The Lotz Way Trail is planned to connect the Suisun City Amtrak station and Grizzly Island Trail to Marina Boulevard, and is identified as a priority project in the STA Safe Routes to Transit Plan.

Programmatic Achievements

Select schools in Suisun City created student safety patrols to assist crossing guards, as recommended in the 2008 STA SR2S Plan. The Suisun City Police Department also had a multi-year STA SR2S safety enforcement grant to provide a dedicated school safety traffic officer who among other duties in 2012, led development of a crossing guard training manual and accompanying DVD.

10.4 Carried-Over Recommendations

One priority project from Dan O Root Elementary is being carried over and updated from the 2008 STA SR2S Plan. This project calls for the installation of pedestrian-activated rapid flashing beacons at a mid-block crosswalk on Harrier Drive at the school's entrance.

10.5 2012 Walk Audit Recommendations

Crescent Elementary School

The recommended improvements at Crescent Elementary School focus on school access along Anderson Drive and providing greater access to school from the east and the west. The report recommends crosswalk improvements at the school entrance on Anderson Drive and re-striping parking controls east of the school entrance to reduce congestion and mid-block crossings. The report recommends sidewalk and crosswalk improvements to the west to provide better access to the recently completed Grizzly Island Trail, and starting

Phase 2 of the Grizzly Island Trail to provide better access from the west/north. The report also recommends upgrading the south side of Anderson Drive to a Class I trail (south of McCoy Creek) to link with the proposed Lawler Ranch Trail. The latter is identified in the 2012 Countywide Bicycle Master Plan, which would provide greater access to the school from the east and also serve routes to Crystal Middle School.

Crystal Middle School

The recommended improvements at Crystal Middle School focus on better safety and connectivity of key walking and biking routes both on and near campus. These recommendations include moving and enhancing the mid-block crosswalk on Whispering Bay Lane, and introducing a new access point and separated pathway from the rear of the school property at Marina Boulevard (across from the start/end of the Grizzly Island Trail) parallel with Driftwood Drive to the building entrance. For improved connections from the north, this report also recommends construction of a Class I multi-use path along Lotz Way, the relocation of bicycle facilities from Driftwood Drive to Josiah Way/Josiah Circle, and closing sidewalk gaps north of SR 12 on Marina Boulevard and Buena Vista Drive.

10.6 Citywide Recommendations

The Suisun City SR2S Community Task Force requested a citywide project to restripe faded curbs around schools, to replace faded crosswalks with high-visibility crosswalks, and to retrofit crosswalks with ADA compliant curb ramps and yellow tactile warning strips. Specifics for this citywide project will be determined on a school-by-school basis.

Table 10-2: Suisun City Priority Projects

Suisun City - Safe Routes to School Capital Project List

Total Project Costs Identified	**$1,212,500**	**Total Priority Projects**	**$875,000**	**Grants (Reasonable Anticipated, 5 years)**	**$400,000**

School District	School Name	Project ID	Project Description	Funding Priority	Lead Agency	Cost Estimate
Fairfield-Suisun Unified	Crystal Middle	4	• Open gate behind school at Marina Blvd and provide pathway on school ground around playfield to entrance • Install bicycle parking on blacktop at western end of the pedestrian student pathway. • Stripe high-visibility yellow crosswalks in all legs of the intersection of Driftwood Avenue at Marina Boulevard • Construct curb extension and bi-directional curb ramps at the southwest corner of Driftwood Drive at Marina Boulevard	High	FSUSD/ Suisun City	$85,000
Fairfield-Suisun Unified	Crystal Middle	7	• Construct Class I Path along the west side of Marina Boulevard and the north side of Lotz Way from State Route 12 to Main Street • Stripe high-visibility yellow crosswalks in the south and east legs of the intersection of Lotz Way and Josiah Way • Install sharrows on Josiah Circle and provide wayfinding signage at Lotz Way at Josiah Way, directing students to access the school via Josiah Circle	High	STA/Suisun City	$650,000
Fairfield-Suisun Unified	Crescent Elementary	5, 6 & 8	• McCoy Creek Way bicycle lanes, sharrows, and high visibility crosswalks • High visibility crosswalks across SR 12	High/Medium	Suisun City / Caltrans	$15,000

School District	School Name	Project ID	Project Description	Funding Priority	Lead Agency	Cost Estimate
Fairfield-Suisun Unified	Crystal Middle	6	• Close sidewalk gaps on east side of Marina Blvd and south side of Buena Vista Ave • Upgrade SR 12 crosswalks to high visibility with advance stop bars, ADA-compliant median island	Medium/High	City of Suisun City	$75,000
Fairfield-Suisun Unified	All Schools	Task Force	• Re-stripe faded curbing at all schools • Re-stripe select faded transverse crosswalks as high-visibility • Construct ADA-compliant curb ramps and tactile domes	Medium/High	City of Suisun City	$25,000
Fairfield-Suisun Unified	Dan O Root Elementary	2008 Plan	• RRFB flashing beacons at crosswalk on Harrier Drive across from school entrance • Construct curb ramps and consider a curb extension on the east side to ensure accessibility and comfort	Medium/High	City of Suisun City	$25,000
Fairfield-Suisun Unified	Crescent Elementary	7	• Grizzly Island Trail Phase 2: Construct Phase 2 of Grizzly Island Trail, east of Grizzly Island Road. Connect trail to Anderson Drive at intersection with McCoy Creek Way	Medium	City of Suisun City	$250,000
Fairfield-Suisun Unified	Crescent Elementary	3	Anderson Drive , East of McCoy Creek Circle: • Stripe red curb approximately 200 feet on south side of Anderson Drive, from the east end of the creek to the school parking lot driveway • Stripe red curb approximately 250 feet on north side of Anderson Drive, from east end of the creek to McCoy Creek Circle • Expand "No Parking" signage to edges of red curb • Reconfigure the east leg of the intersection with McCoy Creek Circle (east) by removing street parking and adding an additional westbound lane dedicated for left turns • Expand sidewalk on southern side of Anderson Drive to act as Class I path east of the bridge; connect to planned Lawler Ranch Trail	Medium	City of Suisun City	$50,000
Fairfield-Suisun Unified	Crescent Elementary	1, 2 & 4	• Anderson Drive at parking lot entrance: high visibility crosswalks, signage and striping • Upgrade crosswalks and retrofit curb ramps at Anderson Drive and McCoy Creek Way	Medium/Low	City of Suisun City	$15,000

10.7 Crescent Elementary School Travel Plan

Principal:	Stephanie Wheeler
Enrollment:	662
Arrival:	K-5, 8:10 Kindergarten PM, 10:55
Dismissal:	Kindergarten AM, 11:30 K-5, 2:10 K-5 Minimum Day, 11:30
Mode Share:	8% Walk/Bike (Oct. 2011) 5% Walk Bike (May 2011)
Walk Score[32]:	66/100
Free/Reduced Lunch:	61% (2011-2012) 54% (2010-2011)

Crescent Elementary is located on the southern edge of Central Suisun City

Layout

Crescent Elementary School is located to the east of downtown Suisun City. The area surrounding Crescent Elementary is bounded on the north by State Route 12 (SR 12) and bounded to the south & west by Duck Slough. The school is bounded on the north by Anderson Drive & McCoy Creek Way, on the east by McCoy Creek, on the south by an arm of Duck Slough, and on the west by an undeveloped field and a small housing development.

State Route 12 in this area is a 4-lane median-divided highway with no grade separation, acting as a major barrier to north/south connectivity. Crossings of State Route 12 are limited, with a signalized crossing at Grizzly Island Road less than half a mile to the west and a signalized crossing at Emperor Drive just over half a mile to the east. There is a Class I trail along the north side of State Route 12 (part of the Central County Bikeway), which extends from downtown Suisun City in the west to Walters Road in the east. This pathway also connects with the McCoy Creek Bicycle/Pedestrian Path, which travels northwards. State Route 12 acts as the northern enrollment boundary east of Sunset Avenue. West of Sunset Avenue, the school enrollment boundary is the railroad right-of-way city limit between Fairfield and Suisun City. At the time of the site audit, the Grizzly Island Trail along the south side of SR 12 had not yet been constructed.

State Route 12 acts as a wide barrier between Cresecent Elementary and northern Suisun City

To the west of the school grounds is a partially-developed series of parcels, meant primarily to serve truck traffic on State Route 12. Because Suisun City has tied sidewalk construction in this area to new development as it is built, there are many gaps in the sidewalk network between the school and Grizzly Island Road to the west. West of Grizzly Island Road, preserved open space abuts State Route 12 for over a mile, creating a network gap between downtown Suisun City and the area where Crescent Elementary is located.

[32] See www.walkscore.com for more information.

To the north, and to the east of Crescent Elementary is the Lawler Ranch subdivision, which is entirely residential. McCoy Creek Park is located immediately on the other side of McCoy Creek from Crescent Elementary, and Lawler Ranch Park is located approximately half a mile east of Crescent Elementary.

The rear pedestrian gate fronts McCoy Creek Way

Crescent Elementary has two access points for pedestrians:

- The main school entrance and loading loop is accessed from Anderson Drive, at its eastern intersection with McCoy Creek Circle; and
- A pedestrian gate on McCoy Creek Way from the playing fields on the west side of the school grounds.

There are "wheel-bender" style bicycle racks for students near the school gate main entrance.

Site Visit

The project team conducted a walk audit at Crescent Elementary School in Suisun City on January 18, 2012 during the afternoon pick-up period. Conditions were sunny and brisk, with no indications that extraneous circumstances impacted traffic circulation. In addition to the project team, the walk audit was attended by the principal of Crescent Elementary, staff from STA, from Solano Public Health, from Suisun City, and from the Fairfield-Suisun City School District. The walk audit consisted of observations along the main entrance at Anderson Drive & McCoy Creek Circle, and along the rear entrance to the school on McCoy Creek Drive. Following the walk audit, the project team visited the future trailheads of the proposed Grizzly Island Trail and visited a section of the enrollment area to the north of State Route 12.

Loading Zones

The main entrance to the school has a formal loading loop where parents are allowed to wait in their cars before dismissal. At the school entrance, there is a large overhead covering for students and parents to wait under during pick-up and drop-off periods. Parents are also allowed to park in the staff parking lot adjacent to the main entrance. Both driveways exit out onto Anderson Drive. Just west of the loading loop driveway on Anderson Drive is a dedicated bus loading zone with painted red curb. A team of student and parent volunteers manage traffic in the loading zone as well as assist student into and out of vehicles. The volunteers are all outfitted with florescent vests

There is another staffed loading zone on McCoy Creek Way at a pedestrian gate in the fence along the Crescent Elementary playing fields. Parents were observed on the day of the walk audit parking along both sides of McCoy Creek Way nearby this gate to pick up students. The principal said that she instructs staff not to let a student leave if the parent is parked on the other side of the street or is double-parked in the travel lane.

In addition to these formal loading zones, parents utilize a number of off-site loading zones. Parents "park-and-walk" along McCoy Creek Park (though it is a currently underutilized site), they park in an unfinished parking lot at the intersection of McCoy Creek Drive and Anderson Drive, and they load along the length of Anderson Drive that fronts Crescent Elementary School.

Crossing Guard Locations

There are two formal crossing guards for Crescent Elementary School. One crossing guard manages the intersection of Anderson Drive and McCoy Creek Circle. The other crossing guard manages the entrance/exit to the staff parking lot, as the sidewalk experiences a high level of pedestrian traffic to and from McCoy Creek Park. Each crossing guard has two Student Patrol assistants.

Student Patrol volunteers assist the crossing guards

Completed Projects

Grizzly Island Trail

Starting in the summer of 2012 and completed in 2013, the City of Suisun City built a Class I multi-use trail along the southern side of State Route 12 from Grizzly Island Road to Marina Boulevard. The eastern end of the path has trailheads at Grizzly Island Road's intersections with State Route 12 and at McCoy Creek Way. This pathway, called the Grizzly Island Trail, connects downtown Suisun City – and the area surrounding Crystal Middle School – with the community around Crescent Elementary School without needing to cross State Route 12 twice.

Other Plans

Grizzly Island Trail (Phase 2)

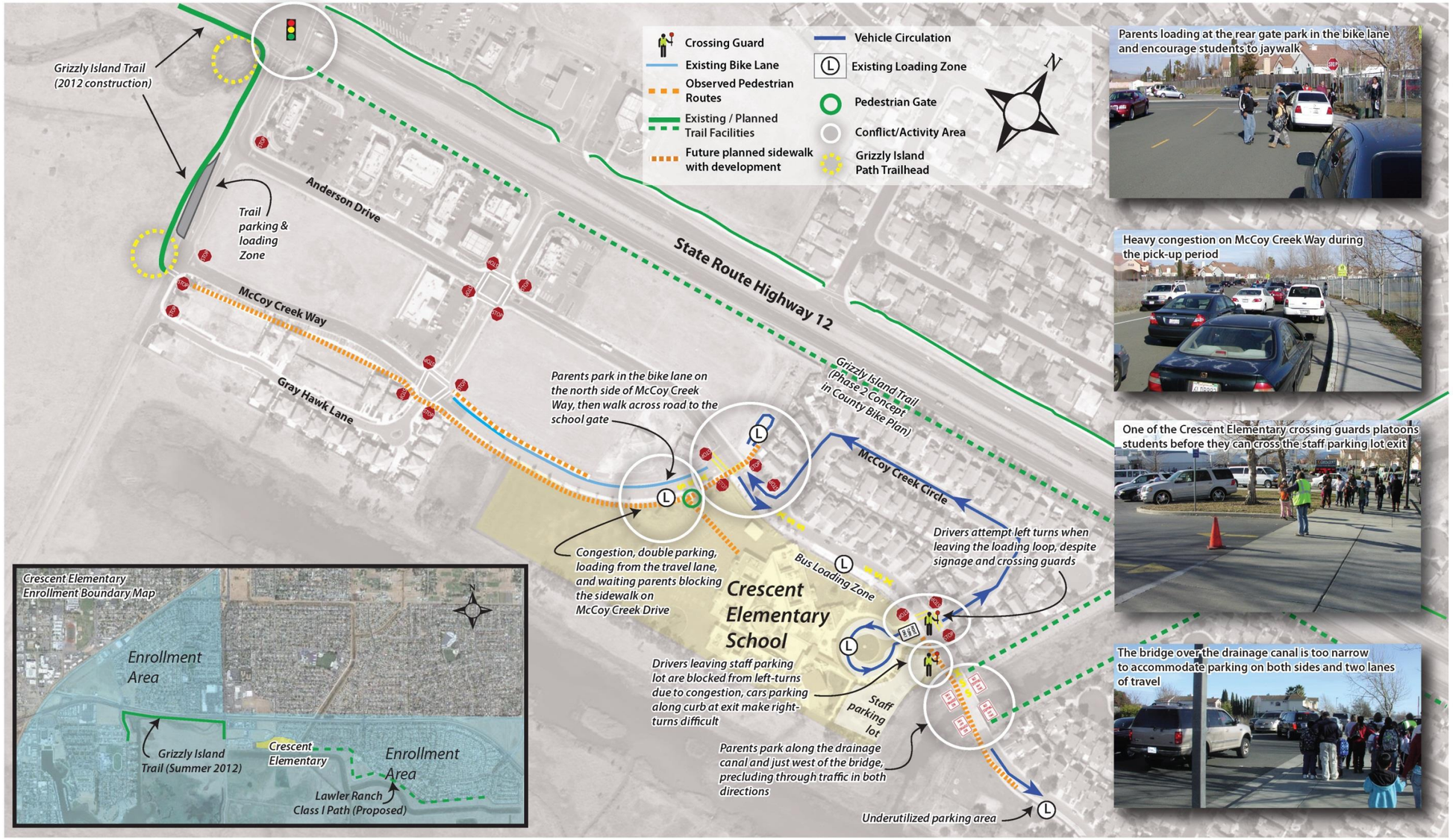
The City of Suisun City has preliminary plans to extend the Grizzly Island Trail, once constructed, to McCoy Creek in the east. The route will travel along the southern side of State Route 12 from Grizzly Island Road in the west to McCoy Creek in the east. The path will then travel along the western side of McCoy Creek south to Anderson Drive.

Grizzly Island Trail (Phase 3)

STA has preliminary plans to extend the Grizzly Island Trail from the Phase 2 terminus to Walters Road. The route will start on the east side of McCoy Creek at Anderson Drive, traveling northward to State Route 12, and then traveling east along the south side of State Route 12 to Walters Road.

Lawler Ranch Trail

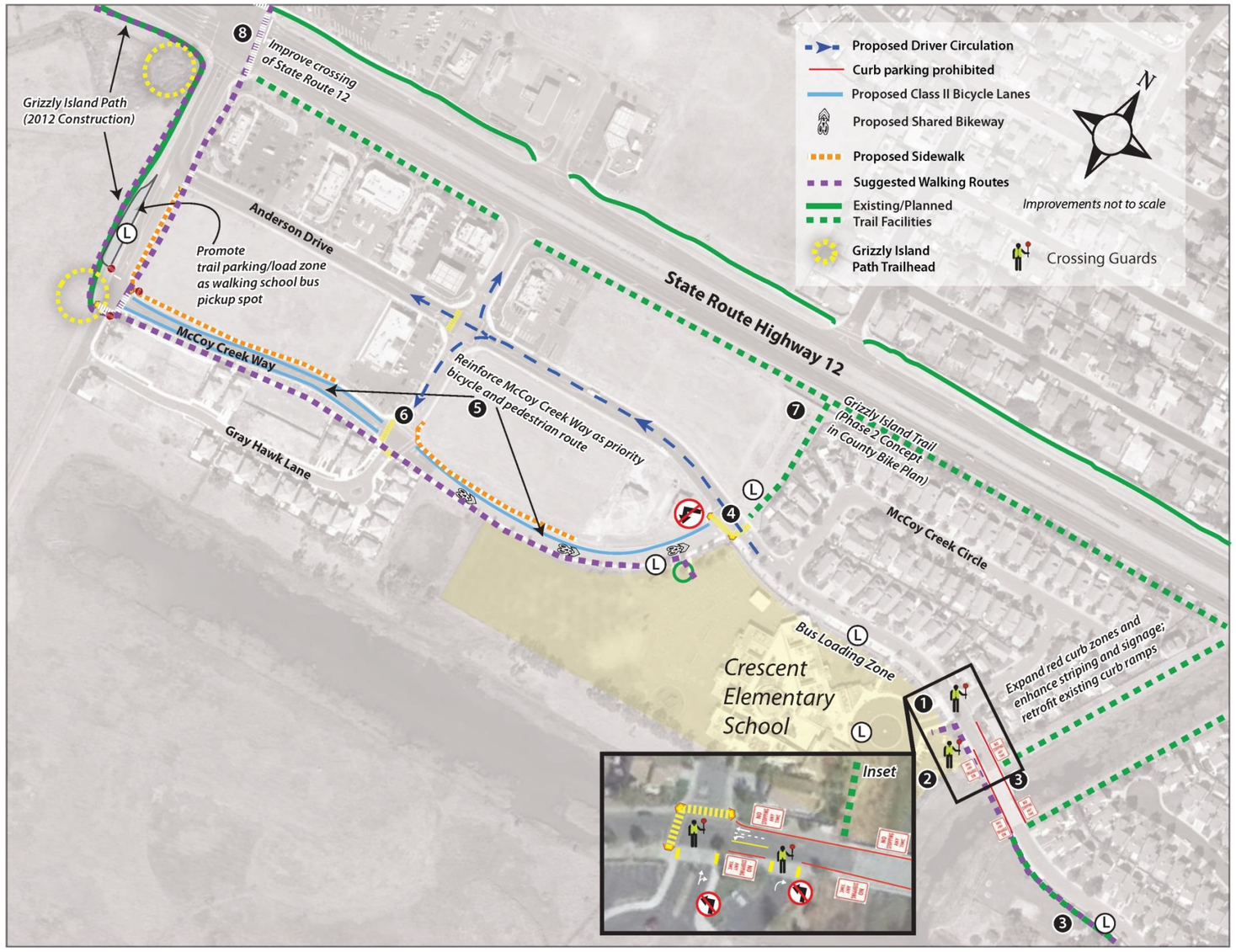
The City of Suisun City has plans to build a Class I multi-use pathway alongside Duck Slough for the length of the Lawler Ranch subdivision community. The proposed trail will travel from the intersection of Lawler Ranch Parkway/Walters Road and State Route 12 in the east to McCoy Creek Park in the west.



Crescent Elementary School
Existing Conditions

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 10-3: Crescent Elementary Existing Conditions



1 Anderson Drive at McCoy Creek Circle
- Replace existing transverse yellow crosswalks with high-visibility yellow crosswalks
- Replace existing arrow stencil in parking lot exit with straight-ahead and right-turn arrow stencil
- Outfit curb ramps with yellow truncated domes

2 Staff Parking Lot
- Replace existing arrow stencil in staff parking lot exit with right-turn arrow stencil
- Install "No Left Turn" signage at staff parking lot exit.
- Install yellow truncated domes at the driveways for the loading loop & staff parking lot

3 Anderson Drive, East of McCoy Creek Circle
- Stripe red curb approximately 200 feet on south side of Anderson Drive, from the east end of the creek to the school parking lot driveway
- Stripe red curb approx. 250' on north side of Anderson Drive, from east end of the creek to McCoy Creek Circle
- Expand "No Parking" signage to edges of red curb
- Reconfigure the east leg of the intersection with McCoy Creek Circle (east) by removing street parking & adding an additional westbound lane dedicated for left turns
- Expand sidewalk on southern side of Anderson Drive to act as Class I path east of the bridge; connect to planned Lawler Ranch Class I Path

4 Anderson Drive at McCoy Creek Way
- Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks, outfit southern and western curb ramps with yellow truncated domes
- Install "No Left Turn" signage for westbound drivers on Anderson Drive

5 McCoy Creek Way Roadway Cross Section
- Stripe EB bike lanes and WB sharrows on McCoy Creek Way between Anderson Dr & Lawler Center Drive; stripe bike lanes on both sides of McCoy Creek Way between Lawler Center Dr & Grizzly Island Road.
- Prohibit additional future curb cuts and encourage sidewalks with planting strips with new development

6 Gray Hawk Lane
- Replace existing white transverse crosswalks with high-visibility yellow crosswalks; prioritize legs shown based on existing sidewalk gaps

7 Grizzly Island Trail Phase 2
- Construct Phase 2 of Grizzly Island Trail, east of Grizzly Island Road; connect trail to Anderson Drive just west of McCoy Creek Circle

8 State Route 12 / Sunset Boulevard
- Construct high-visibility crosswalks with advance stop bars at the north and east legs.
- Work with California Highway Patrol (CHP) to consider targeted enforcement during school commute periods

Crescent Elementary School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 10-4: Crescent Elementary Recommended Improvements

Crescent Elementary Existing Conditions and Recommendations

Loading Zone at the School Entrance

Participants observed drivers attempting to make left turns at the parking lot entrance, despite a "no left turn" sign. Significant backups were observed on the day of the walk audit when drivers attempted left turns.

The intersection of Anderson Drive and McCoy Creek Circle (east), where the driveway from the loading loop lets out, has yellow transverse crosswalks in the northern and eastern legs. There are curb ramps present at each of these crosswalks, but none are outfitted with yellow truncated domes. A crossing guard and two student School Patrol volunteers manage this intersection.

Recommendation (ID #1)

In addition to the "no left turn" signage in the exit from the loading zone, the school should replace the existing arrow stencil on the pavement with a straight-ahead and right-turn directional-arrow stencil. The stencil should be increased in size and set further back from the intersection to increase the likelihood that queuing cars will not cover it over when waiting to exit the parking lot.

The existing transverse yellow crosswalks at the intersection of Anderson Drive and McCoy Creek Circle should be replaced with high-visibility yellow crosswalks and the curb ramps should be outfitted with yellow truncated domes.

Parents traveling through the loading loop during pick-up

Staff Parking Lot

The staff parking lot driveway is overseen by a crossing guard and two student School Patrol volunteers, with high volumes of pedestrian traveling east on the sidewalk. Participants noted that parents attempt left turns onto Anderson Drive when traffic is light. The principal was emphatic about discouraging left turns from this driveway.

Recommendation (ID #2)

The school should install a "no left turn" sign on school property at the staff parking lot exit. The school should also replace the existing straight-ahead arrow stencil on the pavement with a right-turn arrow stencil to reinforce the "no left turn" directions. The stencil should be increased in size and set further back from the intersection to increase the likelihood that queuing cars will not cover it over when waiting to exit the parking lot. The City should install yellow truncated domes on the sidewalk at both sides of the driveway exit for both the staff parking lot and for the loading loop.

A crossing guard and Student Patrol managing the staff parking lot exit

Drivers exiting the staff parking lot are blocked by the bottleneck of parked cars on the McCoy Creek bridge

Anderson Drive, East of McCoy Creek Circle

Anderson Drive narrows to 31 feet when crossing over McCoy Creek, immediately east of school grounds, with "no parking" signs posted near the center of the bridge. On the day of the walk audit, parents parked in the "no parking" zones, as well as along Anderson Drive up to its intersection with McCoy Creek circle. Participants observed a bottleneck caused by parked cars preclude through traffic in both directions, creating a large backup in the staff parking lot during loading periods. Both parents and students were observed crossing Anderson Drive mid-block in this location to access cars parked on the far side of the street.

East of the bridge over McCoy Creek is McCoy Creek Park, where Suisun City plans the western end of the Lawler Ranch Trail. This path will extend along the waterfront to Lawler Ranch Parkway at State Route 12 in the east.

Recommendation (ID #3)

Supplement the "no parking" signage on the bridge by striping red curb, extending on the north side west to the intersection at McCoy Creek Circle. Removing parking on the northern side of Anderson Drive will reduce instances of undesirable mid-block crossings. The red curb on the south side of Anderson Drive should extend west to the staff parking lot driveway. The "no parking signage" should be moved out to the edges of the newly painted red curb zones.

Reconfigure the east leg of the intersection of McCoy Creek Circle (east) at Anderson Drive, removing parking on both sides of the street and stripe two lanes of travel in the westbound direction. The left lane in the westbound direction will be dedicated for left turns into the loading loop, while the right lane will allow through traffic and right turns onto McCoy Creek Circle.

Begin construction on the Lawler Ranch Trail by expanding the sidewalk on the south side of Anderson Drive, east of McCoy Creek, to at least 12 feet wide. Once constructed, the City should re-designate this sidewalk as a Class I facility and apply signage and striping as appropriate.

McCoy Creek Way at Anderson Drive

The intersection of McCoy Creek Way and Anderson Drive is STOP controlled in all directions, with yellow transverse crosswalks in the southern and eastern legs. The northern curb ramp is outfitted with yellow truncated domes, but the other two curb ramps are not. There is a sidewalk gap on the south side of Anderson Drive for approximately 150 feet directly west of this intersection.

On the day of the walk audit, participants observed drivers making U-turns in this intersection after picking up students at the pedestrian gate on McCoy Creek Way. McCoy Creek Way has a bike lane and no street parking on its northern side from this intersection to Lawler Center Drive to the west, but no bike lane on the southern side. On the day of the walk audit, drivers were observed parking in the bike lane and making mid-block crossings on McCoy Creek Way to pick up students at the pedestrian gate.

Recommendation (ID #4)

Replace the two yellow transverse crosswalks in this intersection with high-visibility yellow crosswalks, as well as outfit the southeast and southwest curb ramps with yellow truncated domes.

Discourage parents from parking on the northern side of McCoy Creek Way where bike lanes currently run. This should be accomplished by the installation of a "No Left Turn" sign for drivers traveling westbound on Anderson Drive, as well as distribution of suggested circulation routes and parent education.

Parents and students were observed making mid-block crossings, from the pedestrian gate, in the midst of oncoming traffic

McCoy Creek Way Roadway Cross Section

McCoy Creek Way, a two-block stretch from Grizzly Island Road to Anderson Drive, could function as a primarily route for student bicyclists and pedestrians. The street currently has sidewalk gaps on the northern side of the street; the southern side of the street has a fully built-out sidewalk network.

Recommendation (ID #5)

The City, when approving construction projects for undeveloped parcels on the northern side of McCoy Creek Way, should attempt to limit the number and size of curb cuts for vehicles, prioritizing sidewalk continuity. Developers should be encouraged to build wide sidewalks with planting strips during construction.

Stripe sharrows eastbound on McCoy Creek Way from Lawler Center Drive to Anderson Drive. This would complement the existing westbound bike lane and help direct bicyclists out of the path of loading vehicles on the south side of the street. West of Lawler Center Drive, the City could stripe bike lanes on both sides of the street to Grizzly Island Road.

Drivers parking in the bike lane on the north side of McCoy Creek Way (right side of the photograph)

McCoy Creek Way at Lawler Center Drive/Gray Hawk Lane

There are white transverse crosswalks in all four legs of this intersection. The northwestern, southeastern, and southwestern corners of this intersection have curb ramps outfitted with truncated domes. The northeastern corner has no curb ramp and no sidewalk.

Recommendation (ID #6)

Replace the white transverse crosswalks in the southern and western legs of this intersection with high-visibility yellow crosswalks. These two crosswalks are the most connected to the sidewalk network, and thus should be prioritized for student walking routes. If the sidewalk network is completed in this area, the crosswalks in the other intersection legs should be considered for similar treatment. The City should also replace the white transverse crosswalk in the western leg of the Anderson Drive at Lawler Center Drive intersection with a high-visibility yellow crosswalk.

Grizzly Island Trail Phase 2

Phase 2 of the Grizzly Island Trail project calls for a Class I path to be built along the southern side of State Route 12 from Grizzly Island Road in the west to McCoy Creek.

Recommendation (ID #7)

The City should seek funding for final design and construction of phase 2 of the Grizzly Island Trail. The initial construction should reach east to at least the housing development around McCoy Creek Circle. The path could then travel south to meet the intersection of Anderson Drive at McCoy Creek Way.

State Route 12 at Grizzly Island Road

This intersection is very broad, with 5 lanes of traffic in the eastbound direction and 4 lanes westbound. There are white transverse crosswalks in the southern, eastern, and northern legs of the intersection. On the day of the walk audit, participants observed many students from both Crescent Elementary and Crystal Middle School crossing at this intersection to get to and from the Class I path on the northern side of State Route 12.

Recommendation (ID #8)

The City should work with Caltrans to improve crossing conditions at this intersection by replacing the white transverse crosswalks in the eastern and northern legs of the intersection with white high-visibility crosswalks. Additionally, advance stop bars should be striped in the roadway for westbound and southbound drivers to reduce crosswalk encroachment.

Summary of Recommendations

Table 10-3 lists the recommended improvements to address safety and circulation issues around Crescent Elementary; Figure 10-3 maps existing conditions and Figure 10-4 presents an improvement plan of these recommendations. The project IDs in Table 10-3 correspond to those in Figure 10-4. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some of the recommendations.

Table 10-3: Crescent Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1 & 2	Anderson Drive around the School Entrance	• Replace existing transverse yellow crosswalks with high-visibility yellow crosswalks • Replace existing arrow stencils in loading loop and staff parking lot exits • Outfit curb ramps with yellow truncated domes • Install "no left turn" signage at staff parking lot exit. • Install yellow truncated domes at the driveways for the loading loop & staff parking lot	City of Suisun City	Middle/ Low	$15,000

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
3	Lawler Ranch Trail	• Stripe red curb approximately 200 feet on south side of Anderson Drive, from the east end of the creek to the school parking lot driveway • Stripe red curb approx. 250' on north side of Anderson Drive, from east end of the creek to McCoy Creek Circle • Expand "No Parking" signage to edges of red curb • Reconfigure the east leg of the intersection with McCoy Creek Circle (east) by removing street parking & adding an additional westbound lane dedicated for left turns • Widen sidewalk on Anderson Drive east of McCoy Creek; convert to Class I path, western terminus of Lawler Ranch Trail	City of Suisun City	Middle	$50,000
4, 5, 6, & 8	Gray Hawk Lane, McCoy Creek Way, State Route 12	• Stripe EB sharrows on McCoy Creek Way between Anderson Drive & Lawler Center Drive; stripe bike lanes on both sides of McCoy Creek Way between Lawler Center Drive & Grizzly Island Road. • Replace existing yellow transverse crosswalks at Anderson Drive at McCoy Creek Way with high-visibility yellow crosswalks and outfit curb ramps with truncated domes • Install "No Left Turn" sign for westbound drivers at Anderson Drive at McCoy Creek Way • Replace existing white transverse crosswalks at Gray Hawk Lane at Lawler Center Drive with high-visibility yellow crosswalks; prioritize legs shown based on existing sidewalk gaps • Construct high-visibility crosswalks with advance stop bars at the north and east legs of State Route 12 at Grizzly Island Road	City of Suisun City / Caltrans (SR 12 only)	Middle/ Low	$15,000
7	Grizzly Island Trail, Phase 2	• Construct Class I path along SR Highway 12 from Grizzly Island Road in the west, turning south to connect to Anderson Drive at McCoy Creek Way	City of Suisun City	Middle/ High	$250,000
Total Cost					**$330,000**

10.8 Crystal Middle School Travel Plan

Principal:	Kristen Witt
Enrollment:	6-8, 929
Arrival:	9:00 AM
Dismissal:	3:05 PM; Minimum Day, 1:30 PM
Mode Share:	25% Walk/Bike (Oct 2011), 33% Walk/Bike (May 2011)
Walk Score[33]:	62/100
Free/Reduced Lunch:	62% in 2011-2012, 58% in 2010-2011

Layout

Crystal Middle School is located in southwestern Suisun City, just east of the city's downtown district. The school is bounded on the west by Whispering Bay Lane, on the north by Driftwood Drive, on the south by single family homes that front onto Francisco Drive and on the east by homes that front onto Marina Boulevard. The neighborhood surrounding the school grounds is primarily residential.

There are some commercial uses to the north of Lotz Way, and several municipal buildings front the Suisun City marina to the west. The Suisun City Marina to the west, and Duck Slough to the south and east, hems in the land area where Crystal Middle is located. To the north of school grounds is State Route 12 (SR 12), which runs east/west. SR 12 acts as a major barrier in Suisun City, with limited crossings. Marina Boulevard offers a crossing of SR 12 for this community. The majority of students at Crystal Middle must cross State Route 12 on their way to and from school.

Students access the school from Whispering Bay Lane. There are multiple entrances along Whispering Bay Lane, including a separate bus loading zone.

Site Visit

The project team conducted a walk audit at Crystal Middle School on the afternoon of Wednesday, March 28th, 2012. Due to scheduling conflicts, only staff form STA and the Principal Witt were able to attend the walk audit. Participants observed students at the parking lot and main entrance on the southern side of the school on Whispering Bay Lane, on Whispering Bay Lane itself, at the roundabout where Josiah Circle intersects with Driftwood Drive, and at the intersection of Driftwood Drive at Josiah Circle. After the walk audit, Principal Witt expressed her greatest concern for the safety of students crossing SR 12.

Loading Zones

The primary loading zone for the school is in the school parking lot. There is no street parking on Whispering Bay Lane in the northbound direction, so parents would have to enter the parking lot to pick up students. The curbside area of the parking lot is striped off for loading, and most parents were observed using this location.

Further to the north on Whispering Bay Lane is a bus loading loop with a separate entrance and exit, with signage prohibiting drivers from using the loop.

[33] See www.walkscore.com for more information.

Many parents also use Driftwood Drive for pick up and drop off. As there is limited room on this street, participants observed drivers double parking in the bike lane on the southern side of the street.

Crossing Guard Location

There are no crossing guards for Crystal Middle School, although there are two campus monitors. Participants were told that the custodian also helps students across the school parking lot to the sidewalk on Whispering Bay Lane.

Completed Projects

Grizzly Island Trail

In 2012/2013, the City of Suisun City in coordination with other jurisdictions (including Caltrans) built a Class I multi-use path along the south side of State Route 12 from Grizzly Island Road to Marina Boulevard. The western end of the path has trailheads at SR 12, Lotz Way, and Driftwood Drive. This pathway connects downtown Suisun City and the area surrounding Crystal Middle School with the communities near Crescent Elementary School and the Lawler Ranch subdivision without the need to cross SR 12.

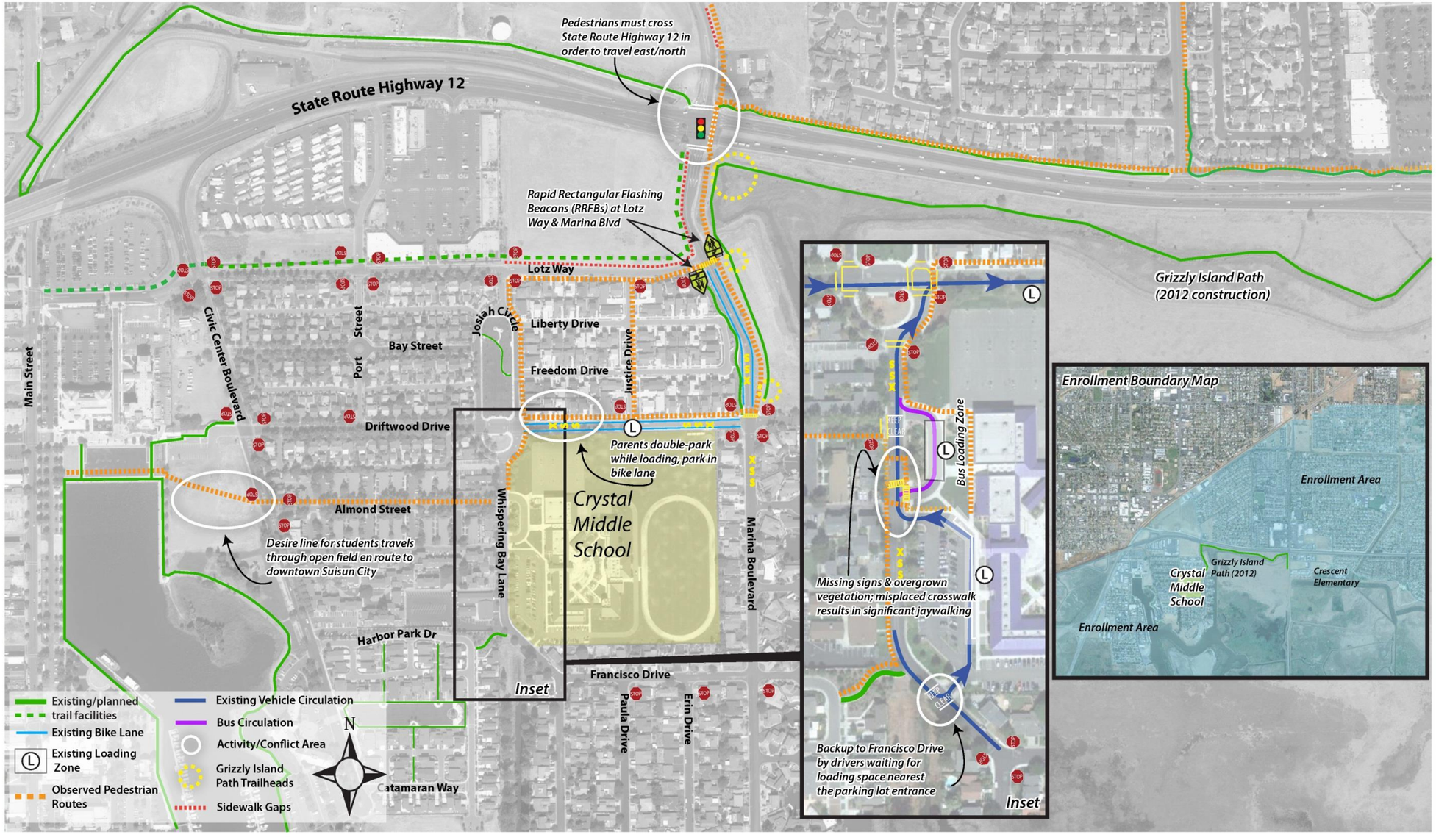
Marina Boulevard at Lotz Way

As part of the Grizzly Island Trail construction, a high visibility yellow crosswalk was installed in the southern leg of the intersection of Lotz Way at Marina Boulevard. This crosswalk provides access to one of the trailheads to the Grizzly Island Trail. The crosswalk is uncontrolled and has Assembly B signage with pedestrian-activated rapid-rectangular flashing beacons (RRFBs).

Other Plans

Lotz Way Trail

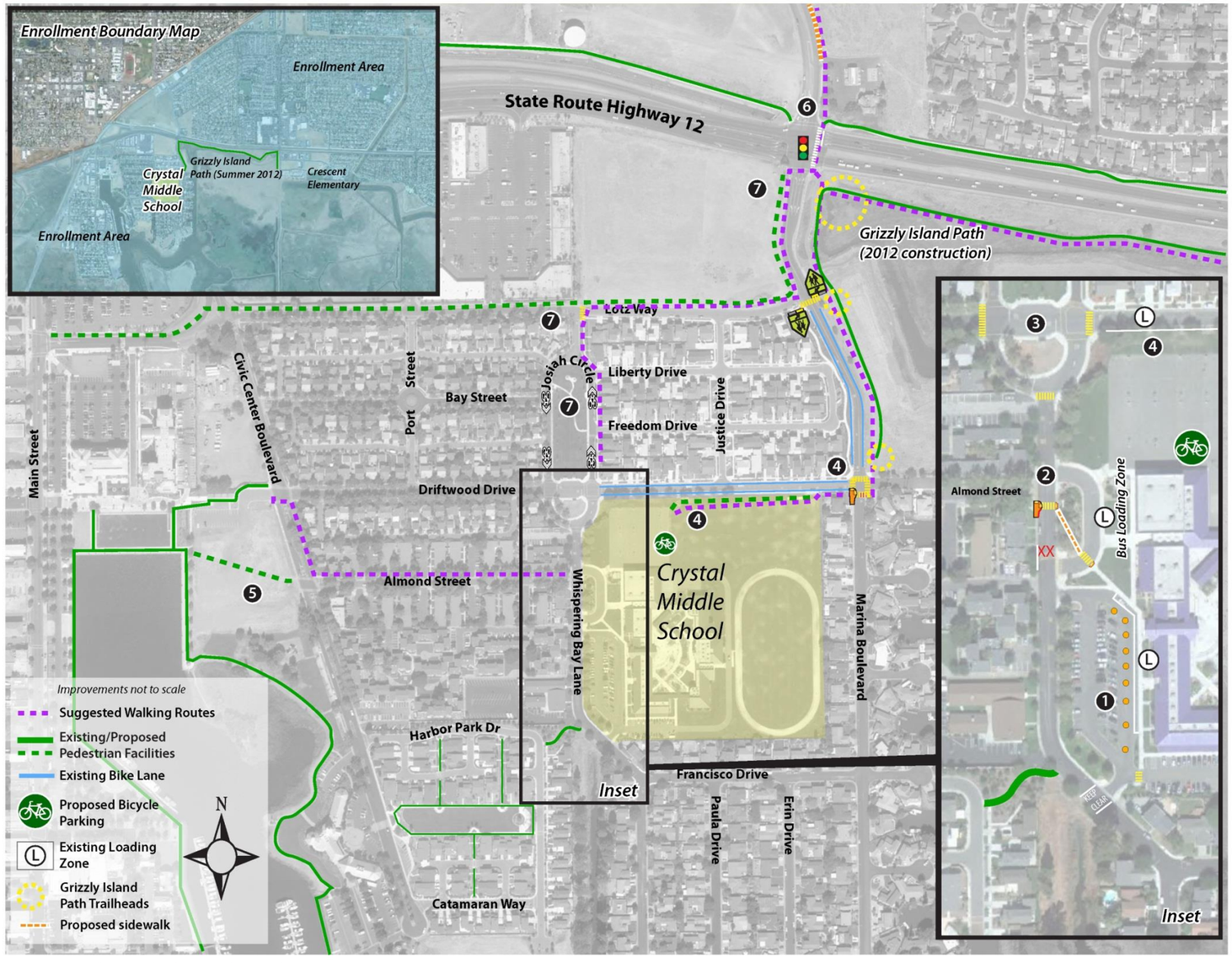
The City of Suisun City has plans to build a Class I multi-use path from the intersection of State Route 12 at Marina Boulevard in the east to downtown Suisun City in the west, via Lotz Way. This trail will replace a non-standard pathway created by the placement of concrete wheel-stop curbing alongside the roadway.



Crystal Middle School
Existing Conditions

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 10-5: Crystal Middle Existing Conditions



1 School Parking Lot
- Organize parent and student volunteers to manage loading and traffic within the school parking lot.
- Outfit volunteers with florescent vests.
- Consider coning-off the loading area alongside the school and instituting a platoon system of pick-up and drop-off to maximize the available space in the loading area and reduce congestion on Whispering Bay Lane.

2 Whispering Bay Lane Crosswalks

Short-Term
- Trim vegetation to increase visibility of existing signage and crossing pedestrians.
- Upgrade the northernmost crosswalk near Josiah Circle to high-visibility yellow

Longer-Term
- Relocate crosswalk to Almond Street and construct a curb extension with bi-directional curb ramps.
- Construct new sidewalk in bus load zone island, connecting to campus; stripe high-visibility crosswalk in driveway loop.

3 Driftwood Drive at Josiah Circle
- Upgrade yellow transverse crosswalks at both Josiah Circle intersections to high-visibility yellow along key routes.

4 Driftwood Drive
- Remove bike lanes; stripe curb white for loading.
- Install a pedestrian path through the adjacent playing fields, with a gate at the northeast corner of school grounds.
- Install bicycle parking on blacktop at the western end of the pedestrian student pathway.
- Stripe high-visibility yellow crosswalks in all legs of the intersection of Driftwood Drive at Marina Boulevard.
- Install bulb-out at the southwest corner of Driftwood Drive at Marina Boulevard.

5 Route to Downtown Suisun City
- Seek to incoporate Class I pathway when private property is developed, connecting downtown to Almond Street.

6 SR12 / Marina Boulevard / Buena Vista Avenue
- Install high visibility crosswalk with advance stop bars along the east leg of the SR 12 / Marina Boulevard intersection
- Close sidewalk gap along east side of Marina Boulevard and south side of Buena Vista Avenue

7 Lotz Way/Marina Boulevard Pedestrian Path
- Construct Class I Path along the west side of Marina Boulevard & the north side of Lotz Way from SR 12 to Main Street.
- Remove the existing curbs on the north side of Lotz Way from Josiah Way to Civic Center Boulevard in order to accommodate the new Class I Path.
- Stripe high-visibility yellow crosswalk in the east leg of the intersection of Lotz Way at Josiah Way.
- Install sharrows on Josiah Circle and provide wayfinding signage at Lotz Way at Josiah Way, directing students to access the school via Josiah Circle.

Crystal Middle School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 10-6: Crystal Middle Recommended Improvements

Crystal Middle Existing Conditions and Recommendations

School Parking Lot

The school parking lot for Crystal Middle School also functions as the primary loading zone for students. The entrance to the parking lot is located in the southwestern corner of school grounds, just north of the intersection of Whispering Bay Lane at Francisco Drive. There is a loading zone north of the entrance. The exit is at the northern end of the parking lot, onto Whispering Bay Lane, just south of the bus loading zone.

Participants observed parents parking in the curbside loading zone and leaving their vehicles, causing undue congestion. Drivers were also observed waiting to pull into the first spot in the loading zone when spaces were available further to the north. This caused enough backup that cars backed out to Francisco Drive in the south. Southbound drivers waiting to turn left into the parking lot blocked southbound traffic.

Recommendation (ID #1)

The school should recruit parent and student volunteers to act as valets assisting students into and out of cars. These volunteers should be outfitted with fluorescent vests to increase visibility. The school might also consider setting up a lane of cones along the loading zone in the parking lot and instituting a platoon-style loading system in order to maximize the use of the entire loading zone.

Whispering Bay Lane

Whispering Bay Lane is the primary roadway used to access Crystal Middle School. There is no street parking in the northbound direction. There is a yellow high-visibility crosswalk across Whispering Bay Lane in a mid-block location immediately north of the entrance to the bus loading zone loop. This crosswalk has Assembly B signage posted at the crossing, but overgrown tree-cover currently blocks visibility.

During the walk audit, participants observed 13 students using this crosswalk to cross Whispering Bay Lane, and observed 60 students who crossed the street outside of the crosswalk. Most students crossing the street traveled westward via Almond Street, which is to the north of the crosswalk.

Recommendation (ID #2)

Direct the City and School District to work together to improve the safety and utility of the crossing of Whispering Bay Lane. In the short term, the City could trim back the trees at the crossing to improve pedestrian visibility and visibility of the crossing signage. Visibility of the crosswalk further north could be improved to encourage greater use.

In the long-term, the City should work with the district to consider relocating the crosswalk to a more advantageous location – such as at the extension of the southern sidewalk on Almond Street – and construct a curb extension on the southern corner of the intersection of Whispering Bay Lane. This relocation would place the crosswalk in the middle of the landscaped island around which the bus loading zone loop travels. The District could build a walkway across this island, with a crosswalk across the bus lane, connecting to the existing pedestrian path at the school grounds entrance.

Driftwood Drive

Driftwood Drive intersects with Whispering Bay Lane at an elongated roundabout called Josiah Circle. Where Driftwood Drive crosses Josiah Circle, there are dedicated bus bays on the northern and southern side of the street. At the eastern crossing of this circle, there are yellow transverse crosswalks in all four legs of the

intersection. At the western crossing of this circle, there are yellow transverse crosswalks in the northern, western, and southern legs of the intersection.

There are bike lanes on both sides of the street on Driftwood Drive, with street parking officially prohibited. Walk audit participants observed many parents picking up their students from this area of Driftwood Drive, repeatedly parking in the bike lane and sometimes double-parking in the travel lane.

The playing fields for Crystal Middle School run alongside this stretch of Driftwood Drive. A fence separates the fields from the sidewalk, and though there are gates in the fence, they remain locked.

The southernmost trailhead for the Grizzly Island Trail is located in the northeastern quadrant of the intersection of Driftwood Drive at Marina Boulevard. This intersection is STOP controlled in all directions and has a yellow transverse crosswalk in the northern leg.

Recommendations (IDs #3 & #4)

Upgrade yellow transverse crosswalks for both intersections of Driftwood Drive at Josiah Circle to high-visibility yellow crosswalks to support key routes to school. **(ID #3)**

There are two options to address parents parking in the bike lane on Driftwood Drive. The first option is to work with Suisun City PD to ensure that parents stay clear of the bike lanes, with appropriate NO PARKING signage added. The other option is for the City to stripe the curb on Driftwood Drive white for loading, creating a new loading zone, and remove the bike lanes. If the latter is chosen, alternative bicycle facilities should be provided as described in recommendation #7.

The District and City should collaborate to design and construct a path from the school grounds, traveling along the playing fields to a new gate in the northeastern corner of the playing fields. To help form a direct pedestrian connection from this proposed path to the Grizzly Island Trail, the City should consider striping high-visibility crosswalks in all legs of the intersection of Driftwood Drive at Marina Boulevard, and constructing a sidewalk bulb-out in the southwest corner of the intersection to accommodate high pedestrian volumes. This will allow students traveling to Marina Boulevard, and across State Route 12, to avoid walking or biking on Driftwood Drive and Whispering Bay Lane. **(ID #4)**

Route to Downtown Suisun City

Students traveling west to downtown Suisun City were observed using Almond Street. At the terminus of Almond Street in the west at Civic Center Boulevard, students were observed traveling across a private open field, the most direct path to downtown Suisun City.

Recommendation (ID #5)

Coordinate with the private property owner to construct a temporary multi-use pathway where this informal pathway currently exists. As an alternative, the City should work with future developers to consider a Class I trail or interior pathway to provide useful access to Almond Street when the property is ultimately developed.

Marina Boulevard & Buena Vista Avenue

To the north of SR 12, Marina Boulevard connects with Buena Vista Avenue, a key east/west connection to Pintail Avenue and Village Drive. On the pedestrian approach to/from SR 12, both Marina Boulevard and Buena Vista Avenue lack sidewalks. As many students currently and potentially could use this route, and Buena Vista Avenue includes transit service, this presents a significant gap in the pedestrian network.

Recommendation (ID #6)

The City should work with Caltrans to replace the white transverse crosswalk across State Route 12 with a high-visibility white crosswalk. This crosswalk ideally would be accompanied by advance stop bars for westbound drivers. Sidewalks should be constructed along the eastern side of Marina Boulevard and south side of Buena Vista Avenue, as is recommended in the STA Safe Routes to Transit Plan.

Lotz Way

There is a non-standard pathway along the northern side of Lotz Way, created with a 'wheel-stop' installed continuously along the northern side of the street from Josiah Way to Civic Center Boulevard. The City and STA have plans to convert this pathway into a standard Class I path, which would extend from the intersection of State Route 12 at Marina Boulevard in the east to the intersection of Lotz Way at Main Street in the west.

Recommendations (ID #7)

The City should continue with the construction of a Class I trail along Lotz Way as funding allows, and include a high-visibility crosswalk in the eastern leg of the intersection of Lotz Way at Josiah Circle. This improved crossing at Josiah Way would better facilitate bicycle and pedestrian traffic between Crystal Middle, the Lotz Way Class I trail, and the Grizzly Island Trail. Either with pathway construction or in response to the loss of bike lanes on Driftwood Drive as recommended in #4, the City should install sharrows on Josiah Circle and provide wayfinding signage at the intersection of Lotz Way at Josiah Way to connect the Lotz Way Class I trail to the school.

Summary of Recommendations

Figure 10-4 lists the recommended improvements to address safety and circulation issues around Crystal Middle; Figure 10-5 maps existing conditions, and Figure 10-6 presents an improvement plan of these recommendations. The project IDs in Figure 10-4 correspond to those in Figure 10-6. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates may not include additional engineering study or design required for implementation.

Table 10-4: Crystal Middle Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	School Parking Lot	• Organize parent and student volunteers to manage loading and traffic within the school parking lot. • Outfit volunteers with florescent vests. • Consider coning-off the loading area alongside the school and instituting a platoon system of pick-up and drop-off to maximize the available space in the loading area and reduce congestion on Whispering Bay Lane.	FSUSD	Middle	N/A
2	Whispering Bay Lane Crosswalk	Short Term • Trim vegetation surrounding the crossing to increase visibility of existing signage and of crossing pedestrians. • Upgrade northernmost crosswalk near Driftwood Drive to high visibility yellow Long Term • Relocate crosswalk to Almond Street and construct a curb extension with bi-directional curb ramps.	City of Suisun City	Middle	$36,000
2	Whispering Bay Lane Crosswalk	• Construct new sidewalk in bus load zone island, connecting to campus; stripe high-visibility crosswalk in driveway loop.	FSUSD	Middle	$15,000
3	Driftwood Drive at Josiah Circle	• Upgrade existing yellow transverse crosswalks at both Josiah Circle intersections with high-visibility yellow crosswalks.	City of Suisun City	Middle/ Low	$1,500
4	Driftwood Drive	• Remove bicycle lanes and paint curb for loading • Install a pedestrian path through the adjacent playing fields, with a gate at the northeast corner of school grounds. • Stripe high-visibility crosswalks in all legs of Driftwood Drive at Marina Boulevard • Install bulb-out and bi-directional curb ramp in southwest corner of Driftwood Drive at Marina Blvd	FSUSD/ City of Suisun City	High	$85,000
5	Route to Downtown Suisun City	• Work with private developers to pave informal pathway through park to Almond Street	City of Suisun City	Middle/ Low	$20,000 (or $0)
6	SR 12/Marina Boulevard/Buena Vista Avenue	• Install high visibility crosswalk with advance stop bars along the east leg of the SR 12 / Marina Boulevard intersection • Close sidewalk gap along east side of Marina Boulevard and south side of Buena Vista Avenue	City of Suisun City / Caltrans	Middle/ High	$75,000
7	Lotz Way/Marina Boulevard Pedestrian Path	• Construct a Class I Path along the west side of Marina Boulevard & the north side of Lotz Way from SR 12 to Main Street • Stripe high-visibility yellow crosswalks in the east leg of the intersection of Lotz Way at Josiah Way. • Install sharrows on Josiah Circle and wayfinding signage at Lotz Way at Josiah Way	City of Suisun City	High	$650,000
Total Cost					**$882,500**

11 Travis Unified School District

The Travis Unified School District (TUSD) serves student families living in and around the Travis Air Force Base in Solano County. The district enrollment area includes housing on the Air Force Base as well as portions of eastern Fairfield and southwestern Vacaville. School district staff members David Florez and Kelly Hatcher participate in both the Vacaville and Fairfield Safe Routes to School Community Task Force meetings.

For the 2013 SR2S Plan Update, TUSD selected Center Elementary for a walk audit. Further information on the Districts current SR2S involvement is summarized below. Because improvements related to Center Elementary are largely within the City of Fairfield, travel plan details for this school are located in the City of Fairfield local planning chapter (**Chapter 7**).

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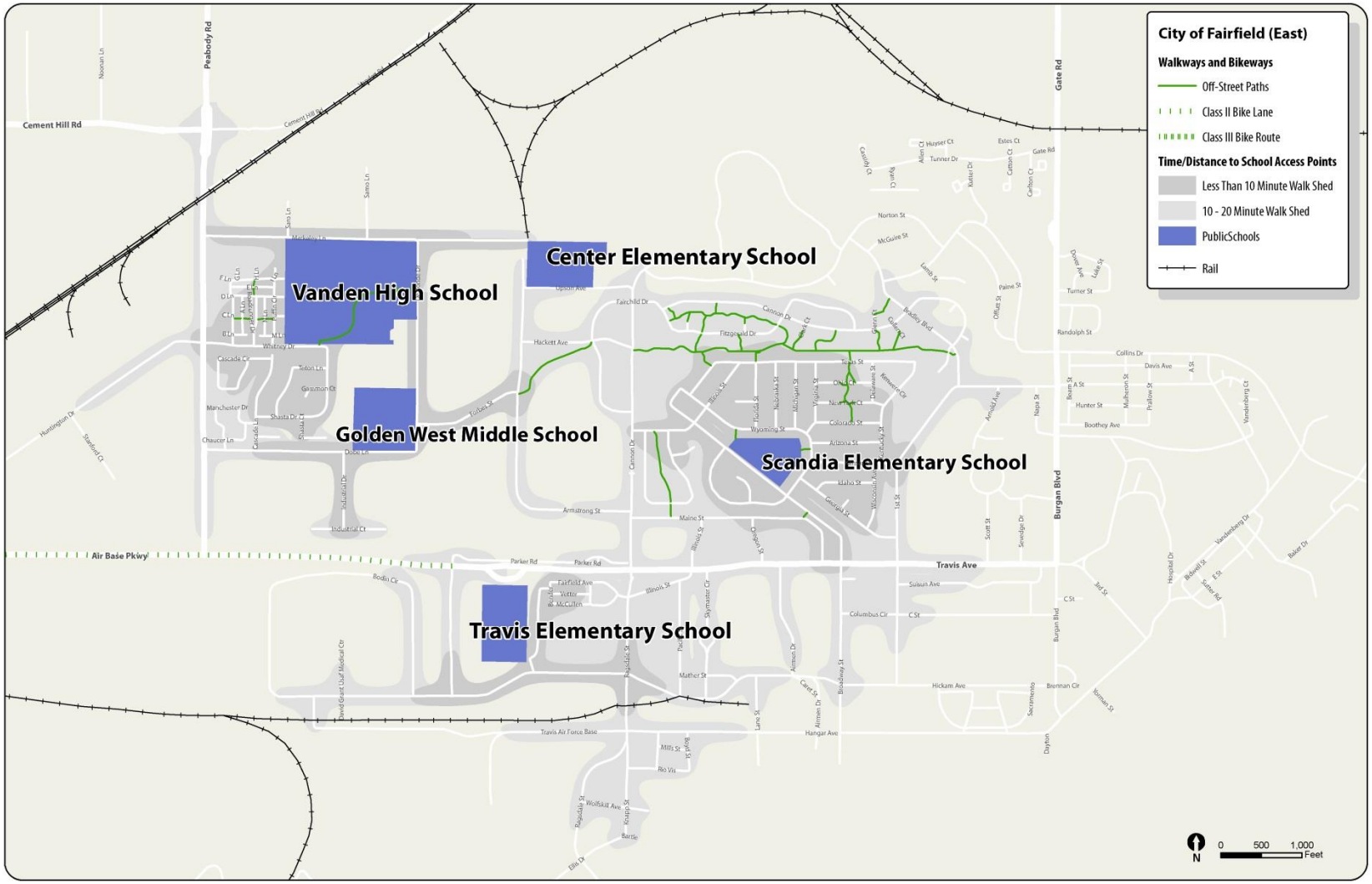


Figure 11-1: Travis Air Force Base schools, parks & walksheds

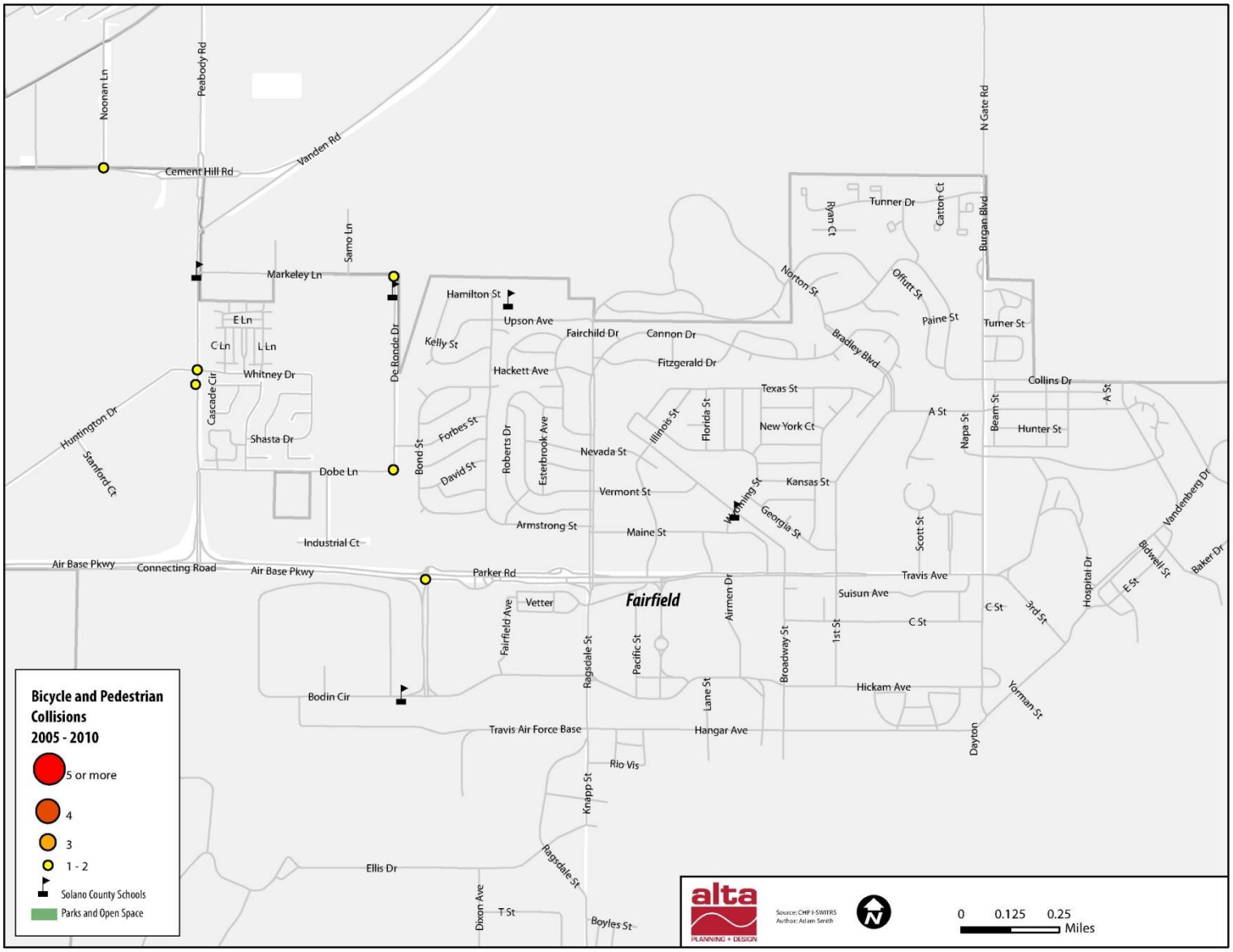


Figure 11-2: Travis Air Force Base Bicyclist & Pedestrian Collisions, 2005-2010

11.1 2008 STA SR2S Plan

The area surrounding the Travis Air Force Base, primarily eastern Fairfield and southern Vacaville, is served by the Travis Unified School District. This school district was not included in the 2008 STA SR2S plan, although the schools within the district in eastern Fairfield were included in the Fairfield planning chapter.

Of the schools referenced in this plan, Vanden High School is within the City of Fairfield; Foxboro Elementary and Cambridge Elementary are in within the City of Vacaville, and; Center Elementary is located just outside the city limits of Fairfield. Cost estimates and travel plans are in local planning chapters for the cities of Fairfield and Vacaville.

Vanden High

The 2008 STA SR2S Plan supported a series of engineering plans already in place for the high school. This included a new traffic signal at the intersection of Peabody Road at Dobe Lane, the construction of a median barrier at the intersection of Peabody Road at Markeley Lane, building a new road on the western edge of the school campus (Whitney Lane), and a new student parking lot on the eastern side of DeRonde Drive.

The school and City also implemented radar speed feedback signage on both Markeley Lane and on DeRonde Drive.

Programmatic Achievements

Below is a general summary of programmatic achievements for TUSD. Additional recognition for individual schools within Travis Unified may also be provided in the local planning chapters for Fairfield and Vacaville.

Evaluation

Six of the seven schools in the Travis Unified system have participated in student travel hand tallies at least once since 2008. The two Travis Unified schools in Vacaville have participated in student travel hand tallies every semester since they began. Additionally, Golden West Middle School and Travis Elementary had two of the highest participation rates recorded for the 2011/2012 SR2S Parent Survey. Reports with individual results from these schools can be found Appendix B.

Encouragement

For Travis Unified, two schools participated in Walk & Roll to School Day from 2010-2012. Center Elementary hosted a walk audit in 2012 and has expressed interest in starting a walking school bus program.

Education

Cambridge Elementary was the only Travis Unified School to participate in both a Traffic Safety Assembly and a Bicycle Rodeo from 2010-2012.

11.2 2013 Plan Walk Audit Recommendations

Center Elementary

The recommendations for Center Elementary focus on two sets of improvements. The first set is located directly around the school, and consists of formalizing the informal crossing of Markeley Lane at the school

entrance and providing dedicated pedestrian access to the cul-de-sac beside the school entrance that functions as a parent pick-up/drop-off location. The second set of improvements is meant to improve bicycle and pedestrian connectivity for parents and students coming from the neighborhood immediately to the west. This includes extending bike lanes on Whitney Drive and completing the sidewalk network on Markeley Lane and Peabody Road.

The Travel Plan for Center Elementary is contained in the local planning chapter for the City of Fairfield.

11.3 Additional Priority Projects

The Vacaville Task Force identified two additional projects for Travis Unified schools. The cost estimates for these two projects are contained in the local planning chapter for the City of Vacaville.

Cambridge Elementary

It is recommended that the City install bulb outs at the crosswalk across Nut Tree Road at Cambridge Drive. This sidewalk extension project will include replacing the existing transverse crosswalk in the eastern leg with a high visibility crosswalk and striping a new high-visibility crosswalk across Nut Tree Road in the southern leg of the intersection.

Foxboro Elementary

Sidewalk extensions are recommended for the intersection of Morning Glory Drive at Countryside Drive. Other suggested improvements include replacing the existing yellow transverse crosswalks with high-visibility crosswalks.

12 Vacaville

12.1 SR2S Community Task Force

The Vacaville Task Force selected three schools for walk audits in the 2013 STA SR2S Plan Update. These three schools are Jean Callison Elementary, Browns Valley Elementary, and Vacaville High School. The membership of the Vacaville Task Force is shown in **Table 12-1**.

Table 12-1: Vacaville Task Force Membership

Name	Position
Leigh Coop	Director of Facilities, Vacaville Unified
Agnes Liu	Engineer, Vacaville Public Works
Ozzie Hilton	Engineer, Vacaville Public Works
Amanda Johnson	Traffic Secretary, Vacaville Public Works
Rod Neal	Vacaville Police Department
David Florez	Facilities Manager, Travis Unified School District
Kelly Hatcher	Administrative Asst., Travis Unified School District

12.2 Walkshed and Collision Maps

Figure 12 –1 and **Figure 12 –2** on the following page displays the locations of schools, the locations of parks, and the walkshed for each school in Vacaville. A walkshed shows how far a student could walk from school in a given amount of time. The map displays outer boundaries for both a ten-minute and twenty-minute walkshed, assuming an average walking speed of 2.8 feet/second. **Figure 12–3** shows the approximate locations and volume for all collisions involving pedestrians or bicyclists from 2005-2010, as documented by the California Highway Patrol SWITRS (Statewide Integrated Traffic Records System).

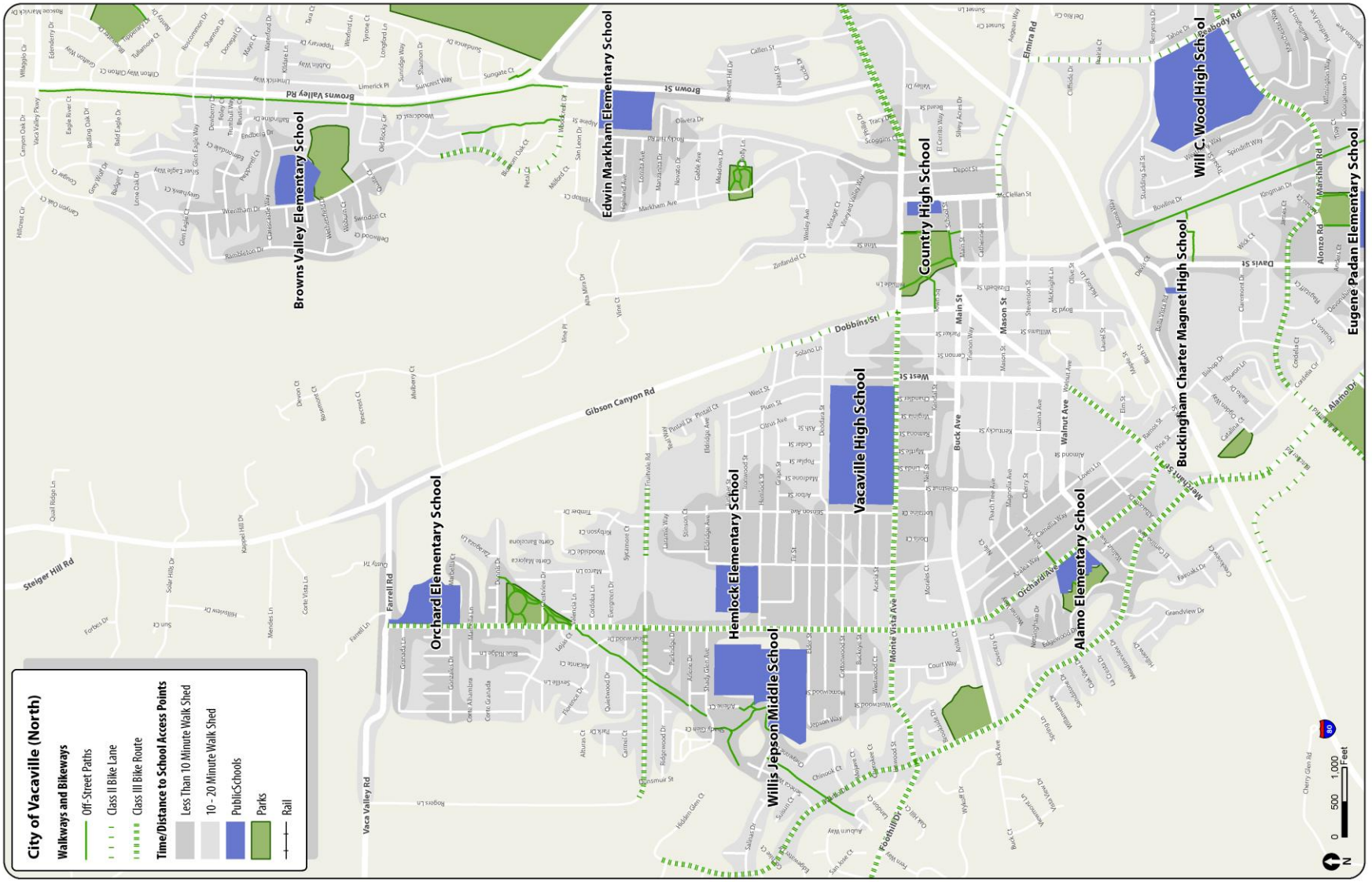


Figure 12-1: North Vacaville schools, parks & walksheds

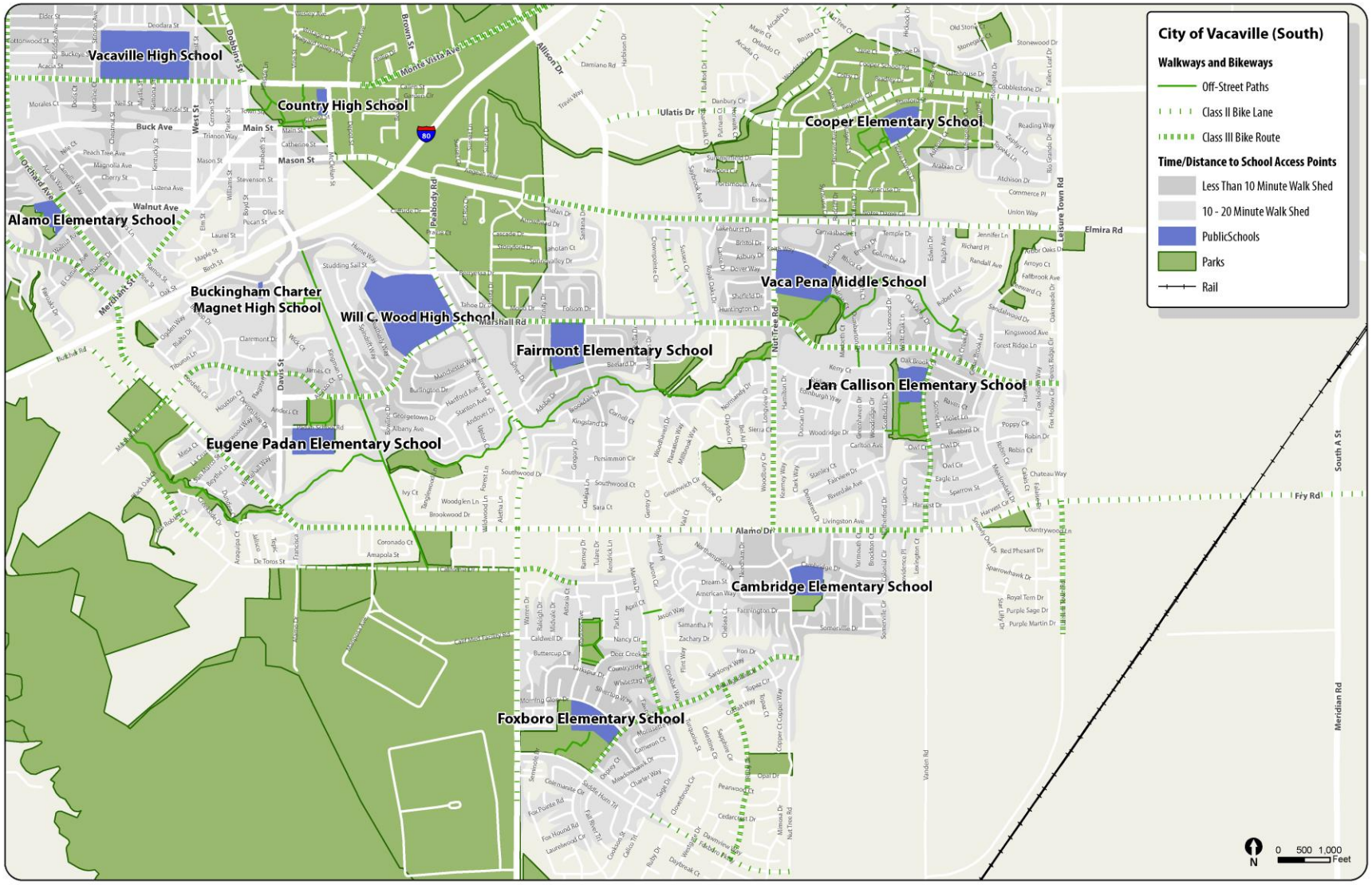


Figure 12-2: South Vacaville schools, parks & walksheds

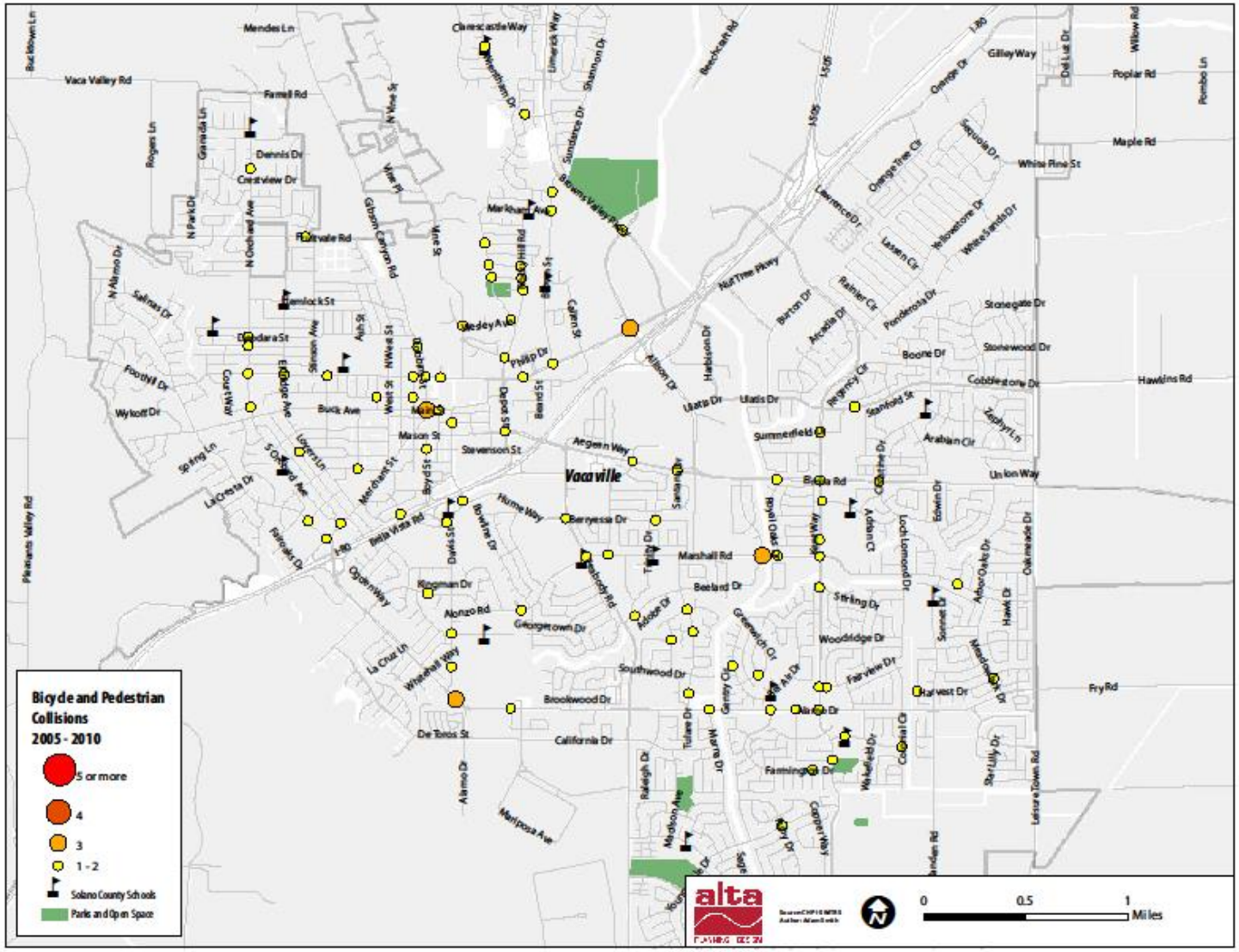


Figure 12-3: Vacaville Bicyclist & Pedestrian Collisions, 2005-2010

12.3 2008 STA SR2S Plan

Four schools in the Vacaville Unified School District had priority projects recommended in the 2008 STA SR2S Plan: Will C Wood High School, Callison Elementary, Hemlock Elementary, and Eugene Padan Elementary. A walk audit was conducted at Will C Wood High School. Projects were completed at all four schools.

Two schools in southern Vacaville identified for priority projects are in the Travis Unified School District: Cambridge Elementary and Foxboro Elementary. Cambridge Elementary completed a priority project, with crosswalks installed at cross streets on the west side of Nut Tree Road. Cambridge Elementary completed a minor project, paving a pedestrian pathway from the rear of the school through the adjoining park to the south.

One of the schools identified for priority projects in the 2008 STA SR2S Plan, Sierra Vista Elementary, is now closed.

Will C Wood High School

Projects completed at Will C Wood High School include improved sidewalks and pedestrian access along Marshall Road. The district installed additional gated bicycle parking during a reconfiguration of the school parking lot. The City also created additional pedestrian waiting space at the intersection of Marshall Road at Peabody Road by constructing a pedestrian island in the northwestern corner of the intersection between the southbound travel lanes and the free-right travel lane.

Programmatic Achievements

Evaluation

Vacaville had very high rates of participation for student hand tally travel surveys. Since 2008, thirteen Vacaville Unified schools and two Travis Unified schools in Vacaville have participated in student hand tallies.

Encouragement

For Vacaville Unified, nine schools participated in Safety Assemblies and four schools participated in Bike Rodeos. Seven schools participated in International Walk & Roll to School Day in the fall of 2011. For the two Travis Unified schools within Vacaville, both participated in International Walk & Roll to School Day in the fall of 2011. Foxboro Elementary hosted both a Safety Assembly and a Bike Rodeo.

12.4 Carried-Over Recommendations

One recommended project at Callison Elementary from the 2008 STA SR2S Plan is recommended for the 2013 STA SR2S Plan Update. This project calls for crosswalks across Oak Brook Drive at its intersection with Vanden Road.

12.5 2013 Plan Walk Audit Recommendations

Browns Valley Elementary School

The City of Vacaville has implemented a number of safety measures in the vicinity of Browns Valley Elementary. The recommendations for this school attempt to build off of the positive conditions on Wrentham Drive, improving crosswalks at both Wethersfield Drive and Clarescastle Way.

Recommendations for Browns Valley Elementary also emphasize improving walking routes to and from school. Specifically, the plan tries to improve walking routes to the north along Wrentham Drive, to the east along Clarescatle Way, and along the Browns Valley Road Class I multi-use path. These recommendations include replacing an overhead flashing pedestrian signal on Browns Valley Road, a major corridor for the Browns Valley Elementary community.

Jean Callison Elementary School

Recommendations for Jean Callison Elementary deal with conditions at the schools' frontage on Vanden Road, improving loading and circulation at Meadowlands Park immediately to the south, and improving pedestrian routes for students traveling west across the bridge over New Alamo Creek.

The improvements at the school's entrance consider a reconfiguration of the parking lot to alleviate congestion, as well as restriping faded curbs and improving the crosswalk across Vanden Road at the school parking lot. Improvements at Meadowlands Park focus on providing more loading space for parents to alleviate backup on Vanden Road, as well as improved crosswalks to the south at Bluebird Drive. Students living west of the school can walk to Jean Callison Elementary only by taking the pedestrian bridge over New Alamo Creek at the southwest corner of Meadowlands Park. This plan recommends a crosswalk at the western touchdown of this pedestrian bridge, with additional safety features to make pedestrians more visible to oncoming traffic on Fairview Drive.

12.6 Additional Priority Projects

The Vacaville Task Force identified three additional projects for this SR2S Plan Update, one of which is a citywide project.

Citywide Speed Feedback Sign Maintenance

The City should upgrade and/or replace the existing stock of radar speed feedback signs installed around schools. The selection of feedback signs for upgrading or replacement should be determined jointly between the City and school districts.

Cambridge Elementary

The City should install bulb-outs at the crosswalk across Nut Tree Road at Cambridge Drive. This bulb-out project will include replacing the existing transverse crosswalk in the eastern leg with a high visibility crosswalk and striping a new high-visibility crosswalk across Nut Tree Road in the southern leg of the intersection.

Foxboro Elementary

It is recommended that the City install bulb-outs at the intersection of Morning Glory Drive at Countryside Drive. These sidewalk extensions will include replacing the existing yellow transverse crosswalks with high-visibility crosswalks.

Table 12-2: Vacaville Priority Engineering Projects

Vacaville - Safe Routes to School Capital Project List

Total Project Costs Identified	**$1,056,500**	**Total Priority Projects**	**$906,300**	**Grants (Reasonable Anticipated, 5 years)**	**$25,000**

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
Vacaville Unified	Vacaville High School	3	• Install curb extensions at the intersection of Monte Vista Avenue and West Street. Re-grade and/or landscape northwest corner behind sidewalk to limit erosion and widen effective sidewalk width • Stripe high visibility yellow crosswalks • Close sidewalk gaps on West Street south to Main St • Consider adding to bicycle network as a low volume, signed bikeway with sharrows	High	City of Vacaville	$165,000
Vacaville Unified	Vacaville High School	4	• Continue efforts to introduce lead pedestrian intervals at Cernon St • Provide additional sidewalk and walking route improvements on East Monte Vista Avenue from West Street to Gibson Canyon Road/Dobbins Street. Projects include converting right turn lane to parking lane, narrowing or consolidating curb cuts on the north side of the street, and constructing curb extensions at intersections	High	City of Vacaville	$250,000

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
Vacaville Unified	Callison Elementary	6	• Install high-visibility white crosswalks in the southern & western legs • Construct curb extensions into Woodbridge Drive to reduce crossing distance, curb radii, and improve access • Construct a curb extension on southeast corner at path entry • Install W11-2 crossing signage at crosswalk • Install in-pavement yield paddle at Fairview Drive crosswalk • Stripe red curb immediately before intersection to improve pedestrian visibility for turning vehicles	Medium/ High	City of Vacaville	$94,000
Vacaville Unified	Browns Valley Elementary	4	• Replace existing yellow transverse crosswalk with high-visibility yellow crosswalk • Install truncated domes at all crosswalk curb ramps • Install removable YIELD paddle in roadway for through traffic • Construct curb extensions in the southeastern and southwestern corners of the intersection, providing they do not impact resident frontages on Clarescastle Way	Medium	City of Vacaville	$50,000
Vacaville Unified	Browns Valley Elementary	6	• Stripe high-visibility white crosswalks in the southern and eastern legs of the intersection • Install truncated domes at all crosswalk curb ramps • Construct a curb extension in the southeastern corner of the intersection	Medium	City of Vacaville	$45,000
Vacaville Unified	Vacaville High School	5	• Add curb ramps for legal crossing at Chestnut St • Consider a sidewalk extension between the school site and Stinson Avenue. This will require the removal of one on-street parking space	Medium	City of Vacaville	$20,000
Vacaville Unified	Citywide	Task Force	• Upgrade and/or replace speed feedback signage around schools	Medium	City of Vacaville	$100,000
Travis Unified	Cambridge Elementary	Task Force	Nut Tree Road at Cambridge Dr: • Construct curb extensions at southwest, southeast, and northeast corners of the intersection. • Upgrade crosswalk on eastern leg to high-visibility yellow and install another high-visibility yellow crosswalk at southern leg	Medium	City of Vacaville	$91,100

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
Travis Unified	Foxboro Elementary	Task Force	• Construct curb extensions at southwest, northwest, and northeast corners of the intersection of Morning Glory Dr and Countryside Dr. • Upgrade crosswalks to high-visibility yellow	Medium	City of Vacaville	$91,200
Vacaville Unified	Browns Valley Elementary	2	• Extend roof over adjacent eating area to provide all-weather covering for the school's bicycle parking • Install 6 U-racks for adult bicycle parking at this site	Medium	VUSD	$5,000
Vacaville Unified	Browns Valley Elementary	3	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks • Install truncated domes at all crosswalk curb ramps • In-pavement yield paddle	Medium	City of Vacaville	$1,200
Vacaville Unified	Browns Valley Elementary	7	• Install W11-15 TRAIL X-ING signage at each trail crossing for auto traffic in both directions • Replace fixed timing mechanism for overhead flashing pedestrian signal on Browns Valley Road with a pedestrian-activated push button mechanism at the Clarescastle Way crossing • Install related yield markings and signage • Include W11-2 Signage and RRFB at crosswalk	Medium	City of Vacaville	$55,000
Vacaville Unified	Callison Elementary	2	• Re-stripe loading zones; consider switching bus/parent and closing parking lot access during pick up/drop off	Medium	VUSD	$1,000
Vacaville Unified	Callison Elementary	3	• High-visibility crosswalks (2) and curb extension at Vanden Road/Raven Drive	Medium	City of Vacaville	$10,000
Vacaville Unified	Callison Elementary	4	• Re-stripe Vanden Road with a six-foot walkway adjacent to parking lot median; sign for parking/loading • Install truncated domes at all crosswalk curb ramps • Install "No Parking" signage along red curb in Meadowlands Park parking lot. • Install sharrows on Vanden Road from Marshall Road to Alamo Drive	Medium	City of Vacaville	$14,000
Vacaville Unified	Callison Elementary	1 and 5	• High visibility crosswalks along Vanden Road at Oakbrook and across Vanden Road at Bluebird Drive	Medium	City of Vacaville	$4,000
Vacaville Unified	Vacaville High School	1	• Convert dated overhead sign to pedestrian-actuated flashing beacon • Install curb extensions to increase visibility and make the crosswalk more appealing to pedestrians	Low	City of Vacaville	$55,000

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
Vacaville Unified	Vacaville High School	2	• Install an additional bike rack in the main parking lot adjacent to the tennis courts to provide more convenient and visible bicycle parking • Consider closing easternmost student parking lot driveway (in only) to allow improved sidewalk conditions approaching West Street • Provide hatched striping to "narrow" faculty parking lot entrance for pedestrian comfort and safety	Medium/ High	VUSD	$5,000

12.7 Browns Valley Elementary School Travel Plan

Principal:	Valerie Rodgers
Enrollment:	K-6, 955
Arrival (2010):	Kindergarten 1, 8:20 AM; Kindergarten 2, 11:40 PM, (Wed) 10:20 AM; Grades 1-6, 8:30 AM
Dismissal:	Kindergarten 1, 11:40 AM; Kindergarten 2, 3:00 PM, (Wed) 1:40 PM; Grades 1-6, 2:35 PM, (Wed) 1:10 PM
Mode Share:	19% walk/bike in Oct. 2011, 13% walk/bike in May 2011
Walk Score[34]:	28/100
Free/Reduced Lunch:	17% in 2011-12, 18% in 2010-11

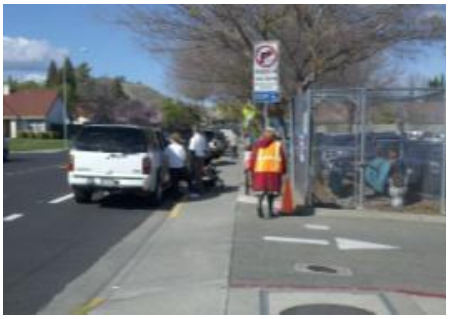
19% of students at Browns Valley walked or biked to school in fall 2011

Layout

Browns Valley Elementary School is located in northern Vacaville. The community of Browns Valley is oriented in a north-south direction; open space hillside is two blocks west of the school and the Nut Tree Airport is approximately half a mile east of the school. Interstate 80 is more than a mile south of school grounds. Browns Valley Road, a major north-south arterial, connects this community to the rest of Vacaville. Browns Valley Road has limited cross streets, 2 lanes of travel in each direction, and speed limits varying between 40-45 mph. A separated sidepath parallels Browns Valley Road through the length of this community.

Browns Valley Elementary is located a quarter mile east of Browns Valley Road. It is bounded on the west by the collector street Wrentham Drive, on the north by single-family homes fronting Clarescastle Way, by an undeveloped hillock on the east, and by Browns Valley Park to the south. There is no fencing between the school grounds and the park grounds.

There is only one access point to the school: Wrentham Drive. Bicycle parking is located in a gated area with access to Wrentham Drive.



Loading along Wrentham Drive

Site Visit

The project team conducted a walk audit at Browns Valley Elementary on the afternoon of Monday, February 27th. Conditions were sunny, with no indication that pick-up behaviors were out of the ordinary. Principal Rodgers attended the walk audit, as did representatives from the Vacaville Police Department, from the Vacaville Public Works Department, from Solano County Public Health, and from the Solano Transportation Authority. Participants observed traffic and pedestrians at the loading zone on Wrentham Drive, conditions along Wrentham Drive at Browns Valley Park, and at the intersection of Clarescastle Way and Wrentham

[34] See www.walkscore.com for more information.

Drive. After the walk audit, team members visited the intersection of Clarescastle Way at Browns Valley Road and the intersection of Vaca Valley Parkway at Wrentham Drive.

Bus loading bay along Wrentham Drive

Loading Zones

There are two formal loading zones at Browns Valley Elementary School. One loading zone is on the eastern side of Wrentham Drive, just south of Clarescastle Way, adjacent to the school parking lot. The other formal loading zone is on the western side of Wrentham Drive, between Chelmsford Court and Wethersfield Drive. Both loading zones have signage and the curb on the eastern side of the street is striped yellow.

The school parking lot is closed to traffic during pick-up and drop-off periods, with all loading activities taking place on the street. This measure was recently implemented by the school district in an attempt to manage conflict within the parking lot and reduce congestion.

The crossing guard at Wrentham Drive and Wethersfield Drive

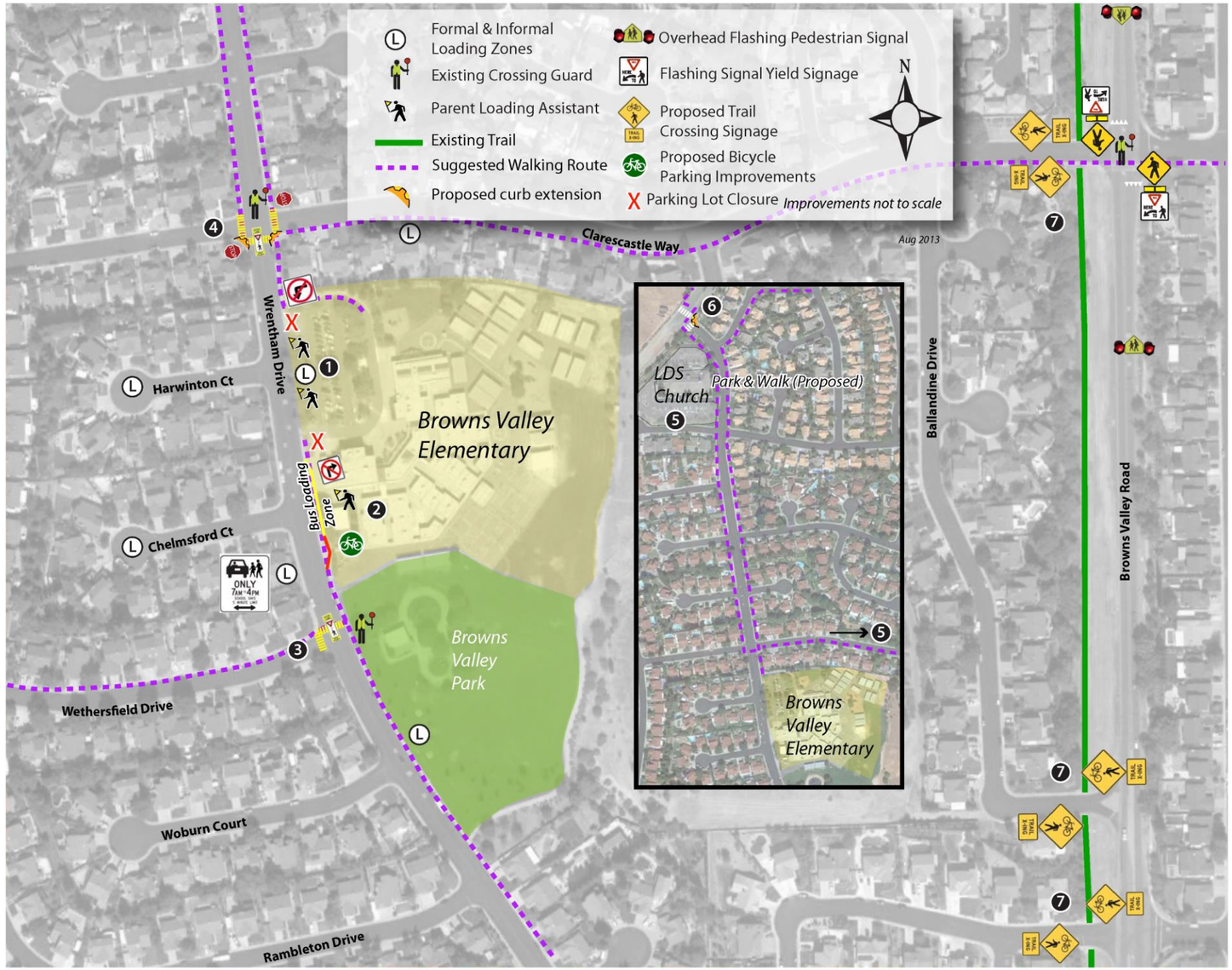
There is a recessed bus bay on the eastern side of Wrentham Drive immediately south of the school parking lot. It has a yellow painted curb and signage for bus loading. Vehicle back-up often stretches beyond this loading zone, and stakeholders reported that drivers typically stay in the travel lane rather than pull into the recessed bus bay when loading students. Parents also park on Wrentham Drive along the length of the Browns Valley Park, along Wethersfield Drive, and in the cul-de-sacs immediately west of school grounds.

There are three crossing guards at Browns Valley Elementary. One crossing guard is located at the intersection of Wethersfield Drive and Wrentham Drive, one crossing guard is located at the intersection of Clarescastle Way and Wrentham Drive, and one crossing guard is located at the intersection of Clarescastle Way and Browns Valley Road.

Other Plans

The **2011 Solano County Bicycle Master Plan** does not have any projects in the vicinity of Browns Valley Elementary. There is, however, an existing Class I bike path along Browns Valley Road from Brown Street in the south to Vaca Valley Parkway in the north. Vaca Valley Parkway has Class II bike lanes from its western terminus at Wrentham Drive to Browns Valley Road in the east. East of Browns Valley Road, a striped shoulder acts as a de-facto bike lane on Vaca Valley Parkway.

Figure 12-4: Browns Valley Elementary Existing Conditions



Browns Valley Elementary School
Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

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1 Browns Valley Loading Zones
- Recruit student volunteers to assist parents in loading students safely
- Work with Vacaville Police Department to reduce illegal and unsafe driving practices within the school zone

2 Browns Valley Bicycle Parking Area
- Extend roof over adjacent eating area to provide all-weather covering for the school's bicycle parking
- Install 6 U-racks for adult bicycle parking at this site

3 Wethersfield Drive at Wrentham Drive
- Upgrade existing yellow transverse crosswalks to high-visibility yellow crosswalks
- Install truncated domes at all crosswalk curb ramps
- Install in-pavement YIELD paddle in crosswalk

4 Wrentham Drive at Clarescastle Way
- Enhance existing yellow transverse crosswalks to high-visibility yellow crosswalks
- Install truncated domes at all crosswalk curb ramps
- Install in-pavement YIELD paddle in crosswalk
- Construct curb extensions in the southeastern and southwestern corners of the intersection, providing they do not impact resident frontages on Clarescastle Way

5 Latter Day Saints Church Parking Lot / Ridgeview Park
- Work with the Latter Day Saints Church to use their parking lot as a remote drop-off and pick-up location
- Organize a walking school bus betwen the school and the LDS church parking lot
- Organize additional WSB or Bike Train from across Browns Valley Road at Ridgeview Park

6 Wrentham Drive at Vaca Valley Parkway
- Stripe high-visibility white crosswalks in the southern and eastern legs of the intersection
- Install truncated domes at all crosswalk curb ramps
- Construct a curb extension in the southeastern corner of the intersection

7 Browns Valley Road & Trail
- Install W11-15 TRAIL X-ING signage at each trail crossing for auto traffic in both directions
- Replace fixed timing mechanism for overhead flashing pedestrian signal on Browns Valley Road with a pedestrian-activated push button mechanism at the Clarescastle Way crossing
- Install W11-2 pedestrian crossing signage with Rapid Rectangular Flashing Beacons (RRFBs) and yield "shark teeth" at crossing

Figure 12-5: Browns Valley Recommended Improvements

Existing Conditions and Recommendations

School Loading Zone Adjacent to Parking Lot

Browns Valley Elementary saw a large amount of congestion along Wrentham Drive on the day of the walk audit. Drivers traveling southbound backed up to the intersection of Clarescastle Way at Wrentham Drive, while drivers traveling northbound backed up to Rambleton Drive at Wrentham Drive. Because the school parking lot is closed off to traffic during loading periods, all loading takes place on Wrentham Drive. Participants witnessed students loading in the travel lane, loading from the driver's side, parents and students crossing Wrentham Drive mid-block, drivers making unsafe U-turns on Wrentham Drive, and drivers blocking the crosswalk.

While the school does hire a small number of parents to assist in loading students along the street, they report being overwhelmed by the number of students and the level of congestion on the street.

Recommendation (ID #1)

The District should recruit student volunteers to assist the current parent loading assistants curbside at Wrentham Drive. All volunteers should be outfitted with high-visibility vests. The District should also engage in an education campaign for parents and students, dissuading them from crossing the street mid-block, loading while double parked, and other unsafe practices. This education campaign should be coupled with increased enforcement from Vacaville PD to reinforce good habits. The school should continue their closure & management of the school parking lot during loading periods.

Bicycle Parking

There is an ample supply of bicycle parking at Browns Valley Elementary, currently comprised of "wheelbender" racks. It is conveniently located near the school gates, beside a covered outdoor eating area. The current bicycle parking has no covering over it to shelter parked bicycles from inclement weather.

Bicycle parking, adjacent to an outdoor eating area, is uncovered

Recommendation (ID #2)

The District should extend the roofline of the adjacent eating area to provide all-weather coverage for the school's bicycle parking. Providing greater coverage from weather for students may increase the low rates of bicycle ridership. The District should also install up to six inverted-U style bicycle racks near the school's front entrance for parents who chose to bicycle with their child to/from school.

Wethersfield Drive at Wrentham Drive

This intersection, just south of the school grounds, is managed by a crossing guard before and after school. Walk audit participants observed that the crossing guard was well-trained, with all students responding to her prompts.

There are two yellow transverse crosswalks in the northern and western legs of the intersection, though none of the curb ramps for these crosswalks are outfitted with yellow truncated domes. Walk audit participants

observed multiple northbound drivers encroaching upon the crosswalks while waiting in line to pick up students.

The western side of Wrentham Drive between Wethersfield Drive and Chelmsford Court has been designated by the District and City as an alternate loading zone. This loading zone is currently identified by two "Passenger Loading Only" signs at each end of the block, which are in effect during school loading periods.

Recommendations (ID #3)

The City should replace the existing yellow transverse crosswalks with high-visibility yellow crosswalks and outfit all curb ramps with yellow truncated domes.

Wrentham Drive at Clarescastle Way

The intersection of Wrentham Drive at Clarescastle Way saw a large amount of traffic, both vehicle and pedestrian, on the day of the walk audit. Situated immediately north of the school grounds, Clarescastle Way offers the most direct route to Browns Valley Road, and thus was used by many drivers on the day of the walk audit. Students also use Wrentham Drive to reach neighborhoods north of the school. The intersection is very broad, with wide curb radii at all corners.

The crossing at Wrentham Drive at Clarescastle Way is used by many students

The intersection is STOP controlled in only the eastbound and westbound directions, with traffic on Wrentham Way free-flowing. There are yellow transverse crosswalks in the eastern, southern, and western legs of the intersection; none of the curb ramps at this intersection are outfitted with yellow truncated domes. This intersection is managed by the school's second crossing guard. The crossing of Wrentham Way is well-signed with Assemby B and Assembly D signage, as well as SLOW SCHOOL XING pavement markings in advance of the crossing.

Walk audit participants observed cars taking the turn from northbound Wrentham Drive onto eastbound Clarescastle Way at high speeds. The southeast corner was of particular concern because all students must pass through this corner on their way to and from Browns Valley Elementary.

Curb extensions would help reduce crossing distances on Wrentham Drive

Recommendations (ID #4)

The City should replace all three yellow transverse crosswalks with high-visibility yellow crosswalks and outfit all curb ramps with yellow truncated domes. The City should study a 4-way STOP warrant for travel in all directions to improve the safety of students crossing Wrentham Drive. Crossing Wrentham Drive at this intersection will become even more important if the parking lot of the LDS church to the north is designated as a remote drop-off site (**ID # 5**). If a 4-way STOP warrant cannot be obtained, the City should install a removable in-pavement yield paddle, placed in the center of the southern crosswalk

The City should also consider constructing curb extensions at the southeastern and southwestern corners of the intersection. Curb extensions will reduce turning speeds by drivers as well as reduce the crossing distance for students at the most-used corner of the intersection. The City should work with adjacent property owners to ensure possible curb extensions will not impact home frontages.

Prospective Remote Drop-Off/Pick-Up Sites

The primary issue at Browns Valley Elementary is driver congestion at the school loading zone during pick-up and drop-off. Establishing remote drop-off and pick-up for students could significantly reduce congestion around school grounds. Two prospective sites, both of which lie along primary walking routes for the school, have the potential for use as remote drop off sites.

The LDS Church parking lot was empty on the day of the walk audit

One remote drop-off location is a Church of Later-Day Saints located a quarter-mile to the north of school ground on Wrentham Way at Glen Eagle Way. This church has a large parking lot which is mostly empty during drop-off and pick-up periods. The other remote drop-off location is Ridgeview Park, located a half-mile northeast of school grounds, east of Browns Valley Road. Ridgeview Park has its own dedicated parking lot, as well as a large amount of frontage along Tipperary Drive and Bluewater Drive.

Recommendations (ID #5)

The District should pursue agreements with the LDS Church leaders and with Vacaville Parks & Rec Department to use both sites as remote drop-off sites for students. The District should work with the Browns Valley PTA to organize Walking School Buses and/or Bike Trains from both locations. Establishing remote drop-off sites on both sides of Browns Valley Road will make remote drop-off convenient for the entire community surrounding Browns Valley Elementary.

Ridgeview Park, east of Browns Valley Road, could be a remote-loading site

Wrentham Drive at Vaca Valley Parkway

Walk audit participants observed that Wrentham Drive (along with the Browns Valley Road bicycle/pedestrian path) serves as the primary north/south walking route for students. Wrentham Drive ends at Vaca Valley Parkway, which also has its western terminus at Wrentham Way. There are no crosswalks at this intersection, and there are curb ramps without yellow truncated domes in the southwestern and southeastern corners. Drivers on Wrentham Drive are STOP controlled before turning right onto Vaca Valley Parkway, but drivers on Vaca Valley Parkway have a free left turn onto Wrentham Drive.

Wrentham Drive & Vaca Valley Parkway

Walk audit participants told staff that students often walk up the eastern side of Wrentham Drive and cross Vaca Valley Parkway to continue on to the neighborhoods to the

north. They also observed that drivers often do not come to a complete stop when turning onto Vaca Valley Parkway.

Recommendation (ID #6)

The City should install high-visibility white crosswalks in the southern and eastern legs of the intersection, construct a curb ramp at the northern end of the crosswalk in the intersection's eastern leg, and install truncated yellow domes at all curb ramps.

The City should also consider the construction of a curb extension in the southeastern corner of this intersection. A curb extension at this location will help to reduce the number of drivers rolling through the stop sign and make pedestrians more visible to oncoming traffic before they step out into the street. A curb extension at this location would also reduce the crossing distance across the wide Vaca Valley Parkway.

Browns Valley Road Trail

The crossing at Browns Valley Road at Clarescastle Way is an essential east/west pedestrian connection

There are no signs to alert drivers to trail crossings on the Browns Valley Road Trail

There is a Class I Bicycle/Pedestrian sidepath alongside the length of Browns Valley Road from Vaca Valley Parkway in the north to Brown Street in the south. There is a yellow ladder crosswalk at Browns Valley Road and Clarescastle Way that is managed by the school's third crossing guard. There are overhead flashing signs on Browns Valley Road in advance of this crossing which are activated only during pick-up and drop-off periods. This crossing is the primary east-west crossing for students across Browns Valley Road.

There are multiple street crossings of the Browns Valley Road Trail in close proximity to the school. At each of these crossings, there is no signage to alert drivers to the presence of trail crossings where bicyclists and pedestrians would cross each street on their route along the trail.

Recommendation (ID #7)

The City should remove the fixed-timing system for the existing flashing warning sign for the crosswalk at Clarescastle Way, replacing it with a pedestrian-actuated mechanism. By having lights flash on Browns Valley Road only when pedestrians are crossing, drivers will be much more likely to notice the lights and reduce their speed in advance of the crossing. The overhead advance flashing lights for this crossing should be supplemented with flashing YIELD signage at the crossing and "shark teeth" pavement markings in advance of the crosswalk.

The City should install W11-15 TRAIL X-ING signage on the Browns Valley Road Trail in advance of each crossing in both directions to alert drivers to the presence of bicyclists and pedestrians. Making the street crossings of this trail more visible will encourage greater use of the Browns Valley Road Trail.

Summary of Recommendations

Table 12-3 lists the recommended improvements to address safety and circulation issues around Browns Valley Elementary; Figure 12-4 maps existing conditions and Figure 12-5 presents an improvement plan of these recommendations. The project IDs in Table 12-3 correspond to those in Figure 12-5. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some of the recommendations.

Table 12-3: Browns Valley Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
2	Browns Valley Bicycle Parking Area	• Extend roof over adjacent eating area to provide all-weather covering for the school's bicycle parking. • Install 6 U-racks for adult bicycle parking at this site.	VUSD	Middle	$5,000
3	Wethersfield Drive at Wrentham Drive	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks. • Install truncated domes at all crosswalk curb ramps. • Install in-pavement removable YIELD paddle	City of Vacaville	Middle	$12,000
4	Clarescastle Way at Wrentham Drive	• Replace existing yellow transverse crosswalk with high-visibility yellow crosswalk. • Install truncated domes at all crosswalk curb ramps. • Install removable in-pavement YIELD paddle. • Construct curb extensions in the southeastern and southwestern corners of the intersection, providing they do not impact resident frontages on Clarescastle Way.	City of Vacaville	Middle	$50,000
6	Vaca Valley Parkway at Wrentham Drive	• Stripe high-visibility white crosswalks in the southern and eastern legs of the intersection. • Install truncated domes at all crosswalk curb ramps. • Construct a curb extension in the southeastern corner of the intersection.	City of Vacaville	Middle	$45,000
7	Browns Valley Road & Trail	• Install W11-15 TRAIL X-ING signage at each trail crossing for auto traffic in both directions. • Replace fixed timing mechanism for overhead flashing pedestrian signal on Browns Valley Road with a pedestrian-activated push button mechanism at the Clarescastle Way crossing. • Install W11-2 pedestrian crossing signage with Rapid Rectangular Flashing Beacons (RRFB) at crossing	City of Vacaville	Middle	$55,000
Total Cost					**$167,000**

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12.8 Callison Elementary School Travel Plan

Principal:	Jodie Phan
Enrollment:	K-6, 792
Arrival:	Kindergarten 1, 8:30 AM; Kindergarten 2, 11:50 PM, Wed 9:50 AM; Grades 1-6, 8:45 AM
Dismissal:	Kindergarten 1, 11:50 AM; Kindergarten 2, 3:10 PM, (Wed) 1:10 PM; Grades 1-6, 2:50 PM, (Wed) 1:25 PM
Mode Share:	35% walk/bike in May 2011, 40% walk/bike in Oct. 2010
Walk Score[35]:	42/100
Free/Reduced Lunch:	39% in 2011-12, 32% in 2010-11

Callison Elementary is located in eastern Vacaville

Layout

Callison Elementary is located near the eastern edge of the City of Vacaville in a residential community. The school is bounded on the east by the collector street Vanden Road, on the west by New Alamo Creek, on the north by single family homes fronting Oak Brook Court, and on the south by Meadowlands Park. Although there are fences with locked gates installed between Meadowlands Park and Callison Elementary, the fields of Meadowlands Park are regularly used by the school for PE classes and the gates are open during pick-up and drop-off periods.

New Alamo Creek borders Callison Elementary to the west

Vanden Road, a collector street for the neighborhood, is the only street providing access to the school. Vanden Road connects to another collector street, Marhsall Road, to the north and connects to an arterial, Alamo Drive, to the south. Approximately half a mile northwest of school grounds is Vaca Pena Middle School and Nelson Park. The Alamo Creek Bike Trail, approximately a quarter mile north of the school, provides an east-west Class I bike path corridor across Vacaville.

New Alamo Creek runs east-west, paralleling Marshall Road, until just before Callison Elementary, where it turns south. There are limited crossings of the New Alamo Creek to the west of Callison Elementary. Marshall Road to the north and Alamo Drive to the south provide the two east-west roadways across this canal. There are also two pedestrian bridges over the canal. One east-west pedestrian bridge is at the southwest corner of Meadowlands Park, crossing to the T-intersection of Fairview Drive and Woodbridge Drive. The other pedestrian bridge is west-northwest of the school, crossing north-south from a mid-block location on Scottsdale Drive to the T-intersection of Marshall Road and Dumbarton Drive.

Students crossing the bridge from Meadowlands Park

[35] See www.walkscore.com for more information.

Callison Elementary has three access points:

- The main entrance in the school parking lot, accessible from Vanden Road;
- The parking lot for Meadowlands Park, accessible from Vanden Road; and
- The pedestrian bridge at the southwest corner of Meadowlands Park

There is a gated bicycle parking area, visible from Vanden Road, adjacent to the bus bay pull-in. Vanden Road, Marshall Road and Alamo Drive are all classified as Class III Bicycle Routes.

Stakeholders discuss safety improvements after participating in the walk audit

Site Visit

The project team conducted a walk audit at Callison Elementary on the afternoon of Monday, March 19th. Conditions were cool with sporadic sunshine and no indication that pick-up behaviors were out of the ordinary. Six parents from the Callison PTO (parent-teacher organization), two of which act as parking lot volunteers, participated in the walk audit. Principal Phan was also in attendance, as were representatives from the Vacaville Police Department, from the Vacaville Public Works Department, from Solano County Public Health, and from the Solano Transportation Authority. Staff arrived early and was able to have a long conversation with parents before the walk audit commenced. Participants observed traffic and pedestrians in the parking lot, on Marshall Road at Vanden Road, on Vaden Road at Raven Drive, at the Meadowlands Park parking lot, on Vanden Road at Bluebird Drive, and at the pedestrian bridge at Meadowlands Park.

Loading Zones

The primary loading zone for Callison Elementary is in the school parking lot in the northeastern corner of school grounds. The school parking lot has a one-way entry at its northern end and a one-way exit on its southern end. There are four banks of angled parking in the lot, with two travel lanes dividing them. There is a loading zone/travel lane on the western end of the parking lot that is physically separated from the parking area by strip of landscaping with a raised curb. There are two marked crosswalks across the loading zone, giving pedestrian access to the parking lot. The school parking lot has had multiple circulation reconfigurations in recent years in an effort to reduce congestion and improve safety; the previous version had the loading zone closed, with loading activities conducted in the travel lanes of the parking lot.

There is a dedicated bus loading zone on Vanden Road south of the parking lot exit. This loading zone is a pull-in bay that has yellow curb, BUS ZONE pavement stencils, and three SCHOOL BUS ONLY signs posted on the sidewalk. The bus loading zone has been reorganized in the last few years as funding and routing for school buses has fluctuated.

The parking lot for Meadowlands Park is an informal loading zone for Callison Elementary. The parking lot is one row of angled parking, with the travel lane for the parking lot separated from Vanden Road by a landscaped, curbed median.

The western touchdown of the pedestrian bridge at the southwest corner of Meadowlands Park is another informal loading zone. Students living to the west of New Alamo Creek are often picked-up and dropped-off at the T-intersection of Woodbridge Drive at Fairview Drive.

There are two crossing guards at Callison Elementary. One crossing guard manages the uncontrolled crossing at Vanden Road and Raven Drive, which fronts the school parking lot. The other crossing guard manages the STOP controlled intersection of Vanden Road and Marshall Road to the north of school grounds. The school has multiple parent volunteers who manage traffic in the school parking lot.

Other Plans

The **2000 Jepson Parkway Plan** calls for significant improvements to Leisure Town Road, which is approximately a half mile east of Callison Elementary. The plan calls for a dedicated Class I bike path to be built alongside the transit corridor planned for Leisure Town Road, with a "bicycle staging area" at the intersection of Leisure Town Road and the Alamo Creek Bicycle Path.

The 2011 Solano County Bicycle Master Plan also calls for a dedicated bike path to be built along Leisure Town Road. The plan also calls for the extension of the Alamo Creek Bicycle Path eastward, and bike lanes on Vanden Road south of Alamo Drive.

The **2004 Solano County Pedestrian Master Plan** also identifies the Jepson Parkway corridor along Leisure Town Road as a priority project.

The **2008 STA SR2S Plan calls for the pathways through Meadowlands Park** to be widened and for crosswalks to be striped across Owl Dr and Oak Brook Dr at Vanden Road. The crosswalks across Oak Brook Dr are recommended in this plan in **ID #1**

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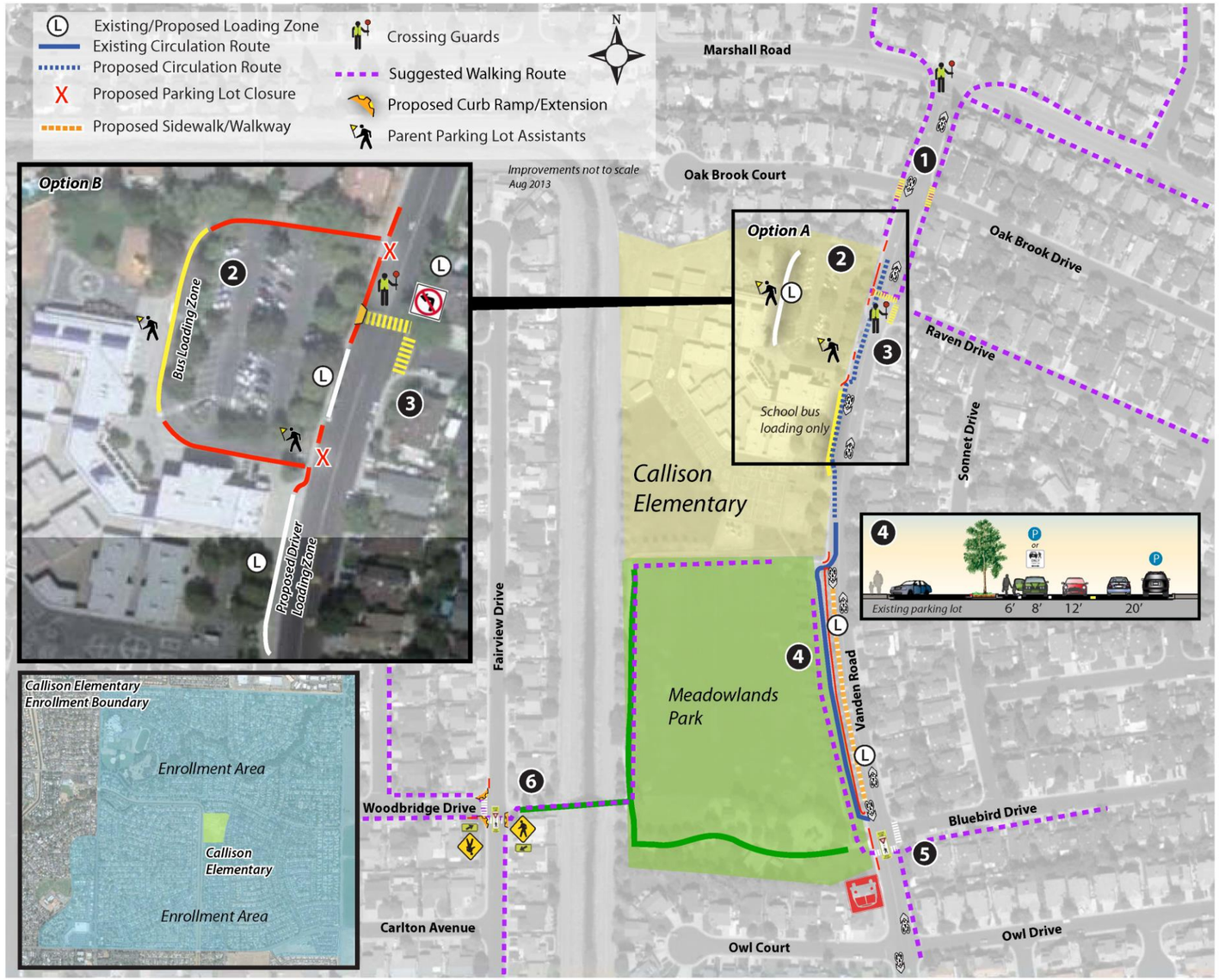
Figure 12-6: Callison Elementary Existing Conditions



1 Vanden Road at Oak Brook Court/Oak Brook Drive
- Install high-visibility yellow crosswalks in the eastern and western legs of the intersection

2 Callison Elementary Parking Lot

Option A
- Replace red curb in the school loading zone with white curb; maintain red curb where loading is discouraged
- Recruit student valets to assist at the loading zone

Option B
- Close school parking lot to most drivers during pick-up and drop-off; re-purpose load zone for school bus zone; develop protocol for parking lot access management and revise volunteer/teacher staff assigments
- Replace yellow curb in existing bus loading zone with white curb, convert to parent driver loading
- Stripe curb between parking lot exit and crosswalk on Vanden Road white for loading

3 Vanden Road at Raven Drive
- Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks
- Construct curb extension with wide ramp on west side
- Refresh existing red curb along Vanden Road, stripe new red curb immediately north of the parking lot entrance
- Install "no left turn" signage northbound on Vanden Road to school parking lot entrance for specified time periods

4 Meadowlands Park Parking Lot
- Refresh red curb along inside of the landscaped median; install "no parking" signage
- Consider striping median walkway as shown. Install wheel-stops at necessary intervals to ensure protection of walkway; sign as load zone or all-day parking.
- Stripe sharrows on Vanden Road from Marshall Rd to Alamo Dr

5 Vanden Road at Bluebird Drive
- Replace existing yellow transverse crosswalks with high-visibility white crosswalks
- Install in-pavement yield paddle at Vanden Road crosswalk
- Refresh red curb north the crossing, stripe new red curb immediately south of the crossing for the bus stop

6 Fairview Drive at Woodbridge Drive
- Install high-visibility white crosswalks in the southern and western legs of the intersection
- Construct curb extensions into Woodbridge Drive to reduce crossing distance, curb radii and improve access
- Construct a curb extension on southeast corner at path entry
- Install W11-2 crossing signage at crosswalk
- Install in-pavement yield paddle at Fairview Drive crosswalk
- Stripe red curb immediately before intersection to improve pedestrian visibility for turning vehicles

Callison Elementary School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 12-7: Callison Elementary Recommended Improvements

Callison Elementary Existing Conditions and Recommendations

Vanden Road at Oak Brook Court/Oak Brook Drive

Immediately north of school grounds, Vanden Road is bisected by Oak Brook Court/Drive. This intersection is STOP controlled in the east/west direction, and there are no crosswalks in any leg of the intersection.

Recommendation (ID #1)

The City should stripe yellow high-visibility crosswalks in the eastern and western legs of the intersection of Vanden Road at Oak Brook Court/Drive. This project was also recommended in the 2008 STA SR2S Plan.

School Parking Lot

The school parking lot has two travel isles for angled parking and a median-separated loading loop on the western end of the parking lot. Parents were observed using both the loading loop and the parking area to pick-up students. At the parking lot exit is a sign prohibiting left turns during pick-up and drop-off. Sidewalks from the school entrance go out to both the parking lot entrance and exit. The curb from the parking lot entrance to the parking lot exit is painted red.

Red curb is striped along the curb from the parking lot entrance to its exit

On the day of the walk audit, two parent volunteers outfitted with florescent vests and handheld stop-signs helped manage traffic in the parking lot. One parent monitored the pedestrian crossing from the loading zone to the parking lot while the other assisted pedestrians crossing the parking lot exit driveway.

The circulation plan for this parking lot has seen multiple reconfigurations in an attempt to address congestion during loading periods. In the previous school year, the loading loop area was closed off and student loading took place in the two travel isles in the angled parking section of the parking lot.

Congestion is acute on Vanden Road; stakeholders told staff that drivers waiting to enter the school parking lot can back up onto Vanden Road and around the corner onto Marshall Road. Northbound drivers on Vanden Road attempting to make left turns into the school parking lot were observed during the walk audit blocking through southbound traffic. Parents were observed arriving early and sitting in their cars in the loading zone before class was dismissed. District staff has previously discussed closing the school parking lot entirely during loading periods, moving pick-up and drop-off activities to Vanden Road.

Congestion on Vanden Road, waiting to enter the school parking lot

Stakeholders reported that parents will occasionally try to double-park in the travel lane of the loading zone, blocking through traffic. The parent volunteer at the loading zone attempts to discourage this behavior.

The bus loading zone on Vanden Road could be used for parent loading

Recommendations (ID #2)

The District should recruit student volunteer valets to assist loading in the school parking lot, outfitted with florescent vests. The District should consider implementing a platoon-style pick-up and drop-off system to regularize the movements of drivers and maximize the length of the loading zone. The District should also replace red curb with white curb within the school parking lot in the areas that they want to emphasize for loading activities.

The District may also consider closing the school parking lot to automobile traffic during loading periods, shifting loading to Vanden Road. This would consist of staff placing cones in the driveway entrance at the beginning of the loading period. If the District chooses to implement this approach, they may also consider relocating the bus loading zone from the current bus bay on Vanden Road to the loading loop in the parking lot. This would free up the bus bay on Vanden Road for automobile loading. The District will need to study whether school buses can safely navigate the turning radii within the school parking lot before considering such a reconfiguration.

The red curb on Vanden Road needs refreshing

Vanden Road at Raven Drive

The intersection of Vanden Road at Raven Drive is located between the entry driveway and the exit driveway for the Callison Elementary Parking lot. There are transverse yellow crosswalks in the northern and eastern legs of the intersection, with a crossing guard assisting pedestrians during pick-up and drop-off. This crosswalk is uncontrolled, with Assembly B signage posted at the crossing and Assembly D signage in advance of the crossing. This section of Vanden Road also has electronic 25 MPH speed limit signage that lights up during pick-up and drop-off periods.

Red curb is striped on the western side of Vanden Road from the parking lot entrance to the crosswalk, 10 feet south of the crosswalk, and on both sides of the parking lot exit. The red curb along Vanden Road is faded and drivers were observed on the day of the walk audit parking at red curb. Stakeholders reported that pedestrians are sometimes hard to see when entering the crosswalk, or when crossing the parking lot exit, because of cars parked in the red curbed areas.

Recommendation (ID #3)

The City should refresh all existing red curb on Vanden Road near the parking lot driveways, and stripe additional red curb north of the parking lot driveway entrance.

The City should replace the existing yellow transverse crosswalks with high-visibility yellow crosswalks. The City may also consider building a curb extension on the western side of Vanden Road to decrease the crossing distance for pedestrians and improve pedestrian visibility. The City should install "no left-turn" signage on Vanden Road at the school parking lot entrance to preclude driver back-ups in the northbound direction.

Meadowlands Park Parking Lot

The Meadowlands Park parking lot was heavily used by parents on the day of the walk audit. The parking lot travel lane is one-way, with an entrance immediately south of Callison Elementary and an exit just before the intersection of Vanden Road and Bluebird Drive.

Driver parked in front of red-curbed fire hydrant

Enforcement of safe driving behavior was an issue in the parking lot on the day of the walk audit. Participants observed a driver parked in front of a fire hydrant and red curb directly before the parking lot entrance. Participants observed parents attempting to pick-up students while still in the travel isle of the parking lot, and observed parents attempting to park along the left side of the parking lot travel isle. The left side of the travel isle is a painted red curb, but the existing red paint is faded.

Students loading from the travel lane in the parking lot; faded red curb in the median

Recommendations (ID #4)

The City should refresh the red curb along western side of the parking lot travel isle and accompany it with "no parking" signage to encourage uniform traffic movement within the parking lot.

The City should create additional loading space by striping a pedestrian walkway on the east side of the median along Vanden Road. This walkway will accompany a parking or loading zone along Vanden Road, with wheel-stops installed in intervals to protect the walkway. The broad right-of-way on Vanden Road (approximately 46 feet) accommodates this walkway and new loading zone without a significant reconfiguration of the street. Because the 46 foot right-of-way on Vanden Road is too narrow to stripe comfortable bike lanes and keep street parking on both sides of the street, the City should stripe sharrows on Vanden Road from Marshall Road to Alamo Drive.

Vanden Road at Bluebird Drive

This is a T-intersection at the southeastern end of Meadowlands Park. There are yellow transverse crosswalks in the southern and eastern legs of the intersection. The intersection is STOP controlled on Bluebird Drive only, with no restrictions on Vanden Road. There is Assembly B signage at the southern crosswalk and Assembly D signage in advance of the crossing. The exit from the Meadowlands Park parking lot is immediately north of this intersection, coming in from the west, and is STOP controlled. There is a City Coach bus-stop immediately south of this intersection, and stakeholders said that this stop was often blocked by an ice cream truck serving students.

On the day of the walk audit, many drivers were observed failing to yield to pedestrians crossing Vanden Road.

Recommendation (ID #5)

Additional treatments are necessary to ensure that drivers yield to pedestrians in this crossing. The City should replace the existing yellow transverse crosswalks with high-visibility white crosswalks (the

Drivers often did not yield at the Bluebird Drive intersection on the day of the walk audit

The exit from the Meadowlands Park parking lot

Pedestrian bridge western touchdown

intersection is more than 600 feet from school grounds). The City should install an in-pavement yield paddle in the Vanden Road crossing, possibly one that can be removed by staff before and after loading periods. The City should refresh the red curb around this intersection, as well as stripe additional red curb at the location of the southbound CityCoach bus stop.

Pedestrian Bridge at Meadowlands Park

The pedestrian bridge crossing New Alamo Creek at Meadowlands Park provides a key access point for students living west of Callison Elementary. As one stakeholder at the walk audit put it, "It's faster for me and my children to walk across the bridge each morning from our home than it is to drive to school". This pedestrian connection was used by many students during the walk audit. Parents were observed parking around the western landing to pick up students walking across the bridge.

The western landing of this pedestrian bridge comes out to the T-intersection of Woodbridge Drive at Fairview Drive. Woodbridge Drive is STOP controlled and Fairview Drive has no traffic controls. There are no crosswalks or pedestrian signage at this intersection. Stakeholders reported that drivers often travel at high speeds on Fairview Drive, and expressed fears that a pedestrian would be struck trying to cross the street. There is a curb ramp on the eastern side of Fairview Drive, approximately ten feet north of the eastern landing for the pedestrian bridge, and curb ramps at both corners on the western side of the intersection. On the day of the walk audit, parents were observed parking in front of these curb ramps. The parked cars along Fairview Drive at the bridge landing obscured pedestrian visibility and students often stepped out from between parked cars directly into traffic.

Due to school closures in the Fairfield-Suisun City Unified School District, additional area to the west of Callison Elementary has been added to the school's enrollment area. This addition of enrollment area presents an opportunity to increase the number of students walking and biking to school via the pedestrian bridge over New Alamo Creek.

Recommendation (ID #6)

The City should establish a marked crossing at this intersection with additional safety features to ensure pedestrian safety. The City should stripe high-visibility white crosswalks in the southern and western legs of this intersection and install a curb extension on the eastern side of Fairview along the length of curb that fronts the pedestrian bridge landing, striped with red curb. The City should construct a curb ramp at the southern end of this curb extension and construct curb extensions on Woodbridge Drive to reduce the turning radii at this intersection. The southeastern curb extension should be outfitted with a bi-directional

curb ramp. The City should install W11-2 signage at the crossing and install an in-pavement yield paddle in the crosswalk across Fairview Drive.

Curb extensions at this crossing will provide pedestrians with a shorter crossing distance, will make pedestrians more visible to drivers before they step out into the street, and will preclude drivers from parking along the curb where pedestrians exit from the bridge. Placing the crosswalk in the southern leg of the intersection will face pedestrians towards oncoming traffic when they walk from the bridge landing to the crosswalk. A crosswalk in the southern leg of the intersection will also avoid conflicts from drivers on Woodbridge Drive turning left onto Fairview Drive.

The volume of pedestrian crossings necessitates improvements

Summary of Recommendations

Table 12-4 lists the recommended improvements to address safety and circulation issues around Callison Elementary; Figure 12-6 maps existing conditions and Figure 12-7 presents an improvement plan of these recommendations. The project IDs in Table 12-4 correspond to those in Figure 12-7. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some of the recommendations.

Table 12-4: Callison Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1 & 5	Vanden Road Crosswalks	• High visibility crosswalks along Vanden Road at Oakbrook and across Vanden Road at Bluebird Drive • Install in-pavement yield paddle and markings or signage at Bluebird Drive • Refresh red curb north of Bluebird Drive, stripe new red curb immediately south of the crossing for the bus stop	City of Vacaville	Middle	$4,000
2	Callison Elementary Parking Lot	• Re-stripe loading zones; consider switching bus/parent and closing parking lot access during pick up/drop off	VUSD	Middle	$1,000
3	Vanden Road at Raven Drive	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks • Construct curb extension with wide ramp on west side • Refresh existing red curb along Vanden Road, stripe new red curb immediately north of parking lot entrance • Install "no left turn" signage northbound on Vanden Road for school parking lot	City of Vacaville	Middle	$10,000

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
4	Meadowlands Park Parking Lot	• Refresh red curb along inside of the landscaped median, install No Parking signage • Re-stripe Vanden Road with a six-foot walkway adjacent to parking lot median, sign for parking/loading • Install sharrows on Vanden Road from Marshall Road to Alamo Drive	City of Vacaville	Middle	$14,000
6	Fairview Drive at Woodbridge Drive	• Install high-visibility crosswalks in the southern and western legs of the intersection • Construct curb extensions into Woodbridge Drive to reduce crossing distance, curb radii and improve access • Construct a curb ramp on the southeast corner at the pedestrian bridge entry • Install Assembly B signage at the crossing and Assembly D signage in advance of the crossing on Fairview Avenue	City of Vacaville	High	$94,000
Total Cost					**$123,000**

12.9 Vacaville High School Travel Plan

Principal:	Matt Banuelos
Enrollment:	9-12, 1971 students
Arrival:	All grades, 7:50 AM
Dismissal:	All grades, 2:50 PM Wednesday, 2:05 PM
Mode Share:	N/A
Walk Score[36]:	85/100
Free/Reduced Lunch:	29% in 2011-12, 24% in 2010-11

Layout

Vacaville High School is located in northwestern Vacaville, nestled among residential neighborhoods near Andrews Park and downtown Vacaville. The school draws students from neighborhoods in the city north of Interstate 80.

The school faces West Monte Vista Avenue, separated by rows of houses from N West Street, West Deodara Street, and Stinson Avenue. The school entrance and parking lots are all accessed from West Monte Vista Avenue; a gate that would provide access to West Deodara Street is kept locked.

Neighboring streets generally have sidewalks, though often narrow and adjacent to rolled curbs. N West Street, which connects the campus to downtown Vacaville on the south, lacks sidewalks in some locations.

Site Visit

The project team conducted a walk audit at Vacaville High School on the afternoon of Wednesday, April 18th. The weather was warm and sunny, typical of Vacaville in spring. Attendees included staff from the City of Vacaville, the school principal, and two staff from the Solano Transportation Authority.

Students walking along a narrow sidewalk adjacent to a rolled curb

Observers spread out along West Monte Vista Avenue, stretching from the Stinson Avenue intersection to the transit center east of the school campus.

While the site visit was conducted during the afternoon dismissal from school, other periods of high school transportation activity include the morning arrival and lunchtime, as seniors may leave the campus for lunch.

School Parking Lots

The campus of Vacaville High School contains several parking lots for students and faculty. All official parking lots are accessed from West Monte Vista Avenue. The largest parking lot is located between the classroom buildings and the tennis courts and track. The staff parking lot is further west. Smaller student parking lots are located east of the tennis courts. Some students were observed retrieving their cars from the St. Paul's

[36] See www.walkscore.com for more information.

Church parking lot. Neighborhoods south of the school utilize a residential permit parking program, established in response to concerns about students parking on neighborhood streets.

Loading takes place in the parking lots, on Monta Vista Avenue, and along the bus loading zones

A student exiting at a parking lot entrance amid students walking

All school parking spaces are generally taken during school days, with parking spaces distributed on a first-come, first-served basis.

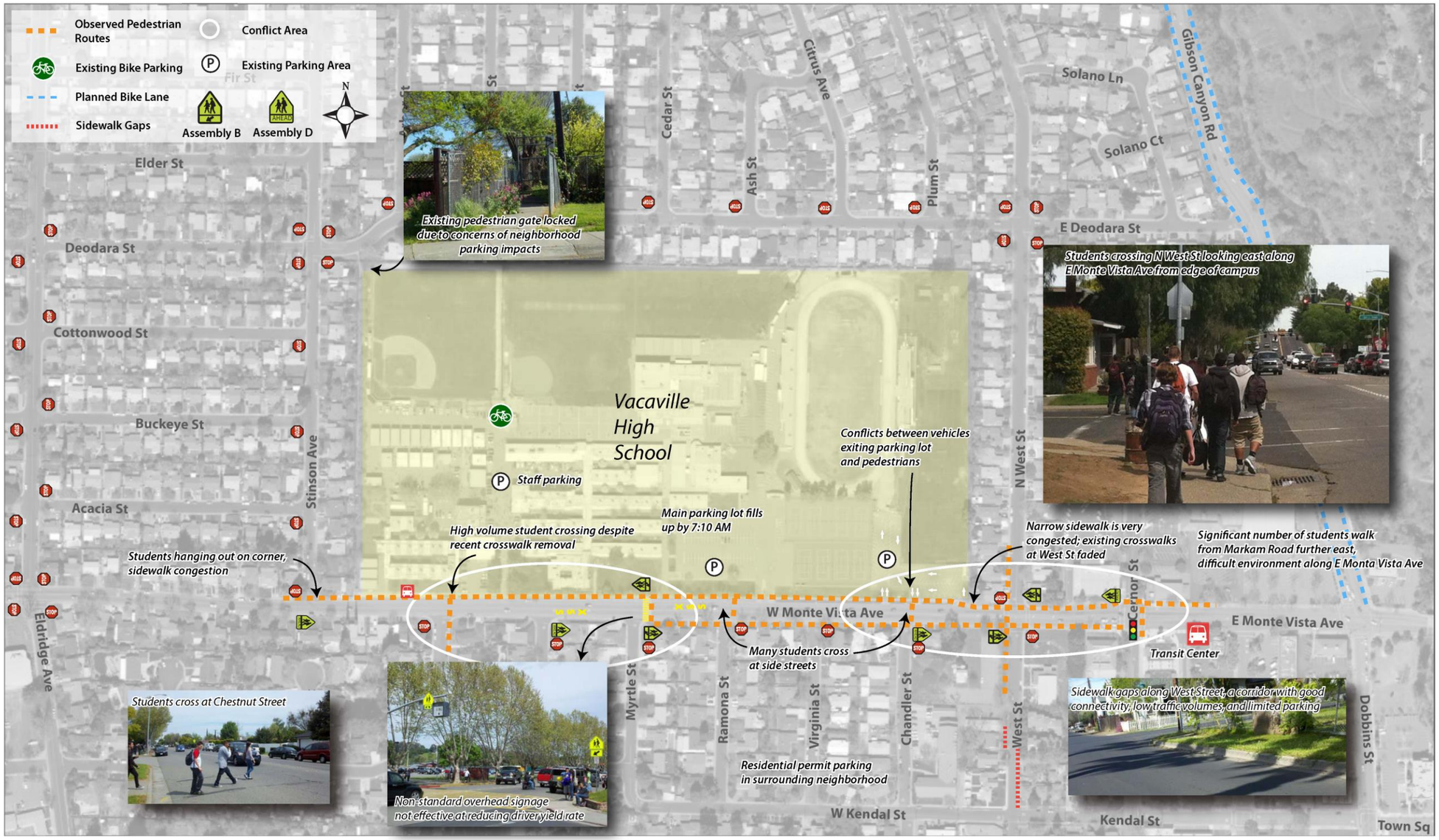
Exiting from the parking lots is generally a point of conflict between motorists and pedestrians walking down Monte Vista Avenue. However, traffic speeds are slow.

Loading Zones

While there is no formal loading zone for picking up students after school, parents use several possible locations, including the main parking lot and both sides of Monte Vista Avenue. School buses were observed stopping in a bus loading zone on W. Monte Vista Avenue on the far western side of campus. There are no crossing guards stationed at Vacaville High School.

Other Plans

The **2011 Solano County Bicycle Transportation Plan** references a proposed Class II bicycle facility for Gibson Canyon Road/Dobbins Street between East Monte Vista Avenue and Cantelow Road. The **2004 Pedestrian Plan** emphasizes connections between Monte Vista Avenue and the downtown area, where improvements would benefit students walking to and from Vacaville High School.



Vacaville High School
Existing Conditions

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 12-8: Vacaville High Existing Conditions

1 School Crosswalk at Myrtle Street
- Convert dated overhead illuminated sign to pedestrian-actuated flashing beacon
- Install curb extensions to increase visibility and make the crosswalk more appealing to pedestrians

2 School Grounds
- Install an additional bike rack in the main parking lot adjacent to the tennis courts to provide more convenient and visible bicycle parking
- Consider closing easternmost student parking lot driveway (currently in-only) to allow improved sidewalk conditions approaching West Street
- Provide hatched striping to "narrow" faculty parking lot entrance for pedestrian comfort and safety

3 West Street
- Install curb extensions at the intersection of Monte Vista Avenue and West Street. Regrade and either repave or landscape northwest corner behind sidewalk to limit erosion and widen effective width
- Upgrade west, north, and east legs to high-visibility yellow crosswalks
- Close sidewalk gaps on West Street south to Main St
- Consider adding to bicycle network as a low-volume, signed bikeway (alternative to Gibson Canyon Rd)

4 East Monte Vista Ave
- Encourage passenger loading and unloading at the shopping center on East Monte Vista Avenue and Dobbins Street
- Continue efforts to introduce lead pedestrian intervals at Cernon Street (pending implementation)
- Provide aditional sidewalk and walking route improvements on West Monte Vista Ave from West St to Gibson Canyon Rd/Dobbins St; projects include converting westbound right-turn lane to on-street parking, narrowing and/or consolidating curb cuts on the northern side of the street, constructing curb extensions on the northern side of each intersection

5 West Monte Vista Ave at Chestnut St / Stinson Ave
- Add curb ramps for legal crossing at Chestnut St
- Consider a sidewalk extension between the school site and Stinson Avenue. This will require the removal of one on-street parking space

Vacaville High School

Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 12-9: Vacaville High Recommended Improvements

Vacaville High Existing Conditions and Recommendations

Main School Crosswalk

The intersection of West Monte Vista at Myrtle Street is the encouraged crossing for students coming from the south. Assembly D signage is mounted across the street on a mast arm and on the right side of each approach. LED signage mounted above the street alerts motorists to the presence of a pedestrian crosswalk, but its effectiveness may be compromised from being left on at all times. Assembly B signage and school crossing pavement markings precedes the crosswalk from both directions. Red curb is striped on each side of the crosswalk.

The main school crosswalk at W. Monte Vista Ave and Myrtle Street

Many students cross the street either at unmarked crosswalks at other cross streets or outside of legal crossing locations. An unmarked crosswalk at Chestnut Street is a popular crossing location, where a marked crosswalk had been removed.

Recommendation (ID #1)

Channeling pedestrians to the main school crosswalk would improve safety by encouraging predictable, highly visible crossing behavior. The city should consider curb extensions in this location.

The LED signage mounted above the main school crosswalk would be more effective if only activated during periods of high pedestrian activity, for instance from 7:30 to 8:30 AM and from 2:30 to 3:30 PM. The effectiveness of the signage would also be increased if it were converted to a pedestrian-activated mechanism, such as a Rapid Rectangular Flashing Beacon (RRFB) or a Hi-intensity Activated crossWalK (HAWK).

School Grounds

The only bicycle parking provided is near the staff parking lot in the center of the school campus. The entrance to the staff parking lot on West Monte Vista Avenue is wider than necessary for vehicle access. There are more driveway curb cuts to campus parking lots along key walking routes than is strictly necessary.

Recommendation (ID #2)

As the campus is spread over such a large area, bicycle parking in only one location (adjacent to the staff parking lot) makes bicycling inconvenient for many students. Installing another bike rack in the main parking lot adjacent to the tennis courts may further facilitate bicycling to school and athletic events.

The district should take steps to either remove driveway curb cuts along West Monte Vista Avenue or reduce their size. Specifically, the District should consider closing the easternmost driveway for the eastern student parking lot. There is another driveway further west which could handle both ingress and egress, and the closure of the eastern driveway would improve pedestrian conditions along a key route. The District should also consider striping hatch marks along the sides of the driveway to the staff parking lot, which would visually narrow the entryway and slow vehicles down when they cross the sidewalk.

West Monte Vista Avenue at West Street

Students crossing Monte Vista Avenue between stopped cars

Students congregating on the northwest corner ofMonte Vista Avenue at West Street

A nearly continuous line of students was observed walking down West Monte Vista Avenue from the school site to parts of Vacaville east of the high school. The sidewalk on the north side of Monte Vista Avenue is generally in good condition, but is too narrow for the volume of students that it carries daily. Many students were observed walking on the grass or in the street along this facility.

A particular pinch point is the intersection of Monte Vista Avenue and West Street, where the sidewalk curves and narrows. The intersection has white transverse crosswalks in all legs. Several students were observed crossing between stopped cars to reach the uncongested sidewalk on the south side of Monte Vista Avenue, sometimes in legal unmarked crossings on Chandler Street and sometimes outside of crosswalks.

This intersection is also the location where the line of students begins to fan out in different directions, with many students observed crossing the street to the church parking lot on the south side of Monte Vista and some students observed walking north on West Street. Other students disperse to patronize nearby businesses. West Street is a fairly low-volume street, and should be prioritized for bicycle and pedestrian improvements. Currently, there is a gap in the sidewalk network on both sides of West Street, to the south of the intersection with Monte Vista Avenue.

Recommendations (ID #3)

The City should install curb extensions at the southwest and northwest corners of the intersection at W Monte Vista Avenue and West Street. This will not only provide pedestrians with a larger area in which to wait before crossing, but it will also reduce the crossing distance for pedestrians and improve their visibility. Many students were observed congregating on the corners of the intersection; additional space would be helpful to reduce exposure and encourage orderly crossing behavior. The City should work with the District to re-grade or landscape the open ground behind the northwestern corner of this intersection, as it could provide additional space for pedestrians waiting for the light.

The City should restripe the crosswalks in the western and northern legs of the intersection as high-visibility yellow. These are important crossings for students and lie on known pedestrian routes to and from school. The eastern and northern legs of the intersection should have their white transverse crosswalks replaced with yellow transverse crosswalks.

The City should construct sidewalk to close the existing gaps on West Street, south of West Monte Vista Avenue. The City should also consider adding West Street to the City's bicycle network as a low-volume bicycle route. This could include the striping of sharrows on the street and the erection bicycle route signage.

Monte Vista Avenue, east of West Street

East of West Street on Monte Vista Avenue is a commercial area frequented by students. Further to the east is Andrews Park, with downtown Vacaville immediately to the south. At the southeast corner of the intersection of Monte Vista Avenue at Cernon Street is a transit center for Vacaville's City Coach bus system. The intersection is currently in good condition with curb ramps and a curb extension on the southeast corner. The city has explored various pedestrian crossing interventions at this intersection such as leading pedestrian intervals but this caused unforeseen complications with traffic operations.

The northern side of Monte Vista Avenue, between Cernon Street and Dobbins Avenue, hosts a large shopping center with a street-facing surface parking lot that is rarely utilized to its full extent.

Recommendation (ID #4)

The City and District should work together to encourage passenger loading at the shopping center on E. Monte Vista Avenue and Dobbins Street through an agreement with the property owner. The City should continue to explore pedestrian treatments at the signal at Monte Vista and Cernon Street. Leading pedestrian intervals help pedestrians safely cross the street ahead of right-turning vehicles, and traffic operations already prioritize traffic on Monte Vista Avenue. Due to initial recommendations in this report, the City of Vacaville is revisiting the introduction of a Leading Pedestrian Indicator at this intersection.

The City should also study a program of pedestrian safety improvements along Monte Vista Avenue from West Street to Gibson Canyon Road/Dobbins Street. These pedestrian improvements should focus on the northern side of the street and should include studying the closure of right-turn pockets for westbound drivers, the reduction or consolidation of curb cuts into adjacent parking lots, and installation of curb extensions at intersections.

West Monte Vista Avenue at Stinson Avenue/Chestnut Street

Students walking to destinations west of the school campus must use a stretch of sidewalk between the bus bay and Stinson Avenue on the north side of Monte Vista Avenue. The sidewalk in this location is narrow and needs maintenance.

Chestnut Street, just east of Stinson Avenue, provides the most direct walking route for students traveling south. Chestnut Street's intersection with Monta Vista Avenue once had a crosswalk, but it has since been removed. On the day of the walk audit, however, participants observed many students crossing at this unmarked intersection on their way south.

Recommendation (ID #5)

The City should expand the sidewalk on Monta Vista Avenue between the end of the bus bay and Stinson Avenue. This sidewalk expansion would require the removal of one parking space.

The City should install ADA-compliant curb ramps and yellow tactile domes in southwestern, southeastern, and northeastern corners of the intersection of Monta Vista Avenue at Chestnut Street, to better facilitate the legal crossings of this unmarked crosswalk.

Summary of Recommendations

Table 12-5 lists the recommended improvements to address safety and circulation issues around Vacaville High School; Figure 12-8 maps existing conditions and Figure 12-9 presents an improvement plan of these recommendations. The project IDs in Table 12-5 correspond to those in Figure 12-9. The table identifies the

agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some of the recommendations.

Table 12-5: Vacaville High School Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	School Crosswalk at Myrtle Street	• Convert dated overhead sign to pedestrian-actuated flashing beacon. • Install curb extensions to increase visibility and make the crosswalk more appealing to pedestrians.	City of Vacaville	Middle/ High	$55,000
2	School Grounds	• Install an additional bike rack in the main parking lot adjacent to the tennis courts to provide more convenient and visible bicycle parking. • Consider closing easternmost student parking lot driveway (in only) to allow improved sidewalk conditions approaching West Street. • Provide hatched striping to "narrow" faculty parking lot entrance for pedestrian comfort and safety.	VUSD	Low	$5,000
3	West Street	• Install curb extensions at the intersection of Monte Vista Avenue and West Street. Re-grade and/or landscape northwest corner behind sidewalk to limit erosion and widen effective sidewalk width. • Upgrade west, north, and east legs to high-visibility yellow crosswalks • Close sidewalk gaps on West Street. • Consider adding to bicycle network as a low volume, signed bikeway with sharrows.	City of Vacaville	High	$165,000
4	East Monte Vista Avenue	• Continue efforts to introduce lead pedestrian intervals at Cernon Street • Provide additional sidewalk and walking route improvements on East Monte Vista Avenue from West Street to Gibson Canyon Road/Dobbins Street. Projects include converting right turn lane to parking lane, narrowing or consolidating curb cuts on the north side of the street, and constructing curb extensions at intersections	City of Vacaville	High	$250,000
5	West Monte Vista Ave at Chestnut St	• Add curb ramps for legal crossing at Chestnut St • Construct sidewalk extension on W Monte Vista Ave between school and Stinson Ave	City of Vacaville	Middle	$20,000
Total Cost					**$495,000**

13 Vallejo

13.1 SR2S Community Task Force

The Vallejo Task Force selected two schools for walk audits in the 2012 STA SR2S Plan Update; Joseph Wardlaw Elementary and Johnston Cooper Elementary. The Task Force provided recommendations on project prioritization and identified priority projects at other schools that did not have a walk audit. The membership of the Vallejo Task Force is shown in **Table 13-1**.

Table 13-1: Vallejo Task Force Membership

Name	Position
Hermie Sunga	Council Member
Ed Alberto	Associate Civil Engineer, City of Vallejo
Mick Weninger	STA Bicycle Advisory Committee
Mel Jordan	Assistant Superintendent, Vallejo City Unified
Becky Oraboni	Facilities & Planning Manager, Vallejo City Unified
Steven Gordon	Vallejo Police Department
Lynn Williams	STA Pedestrian Advisory Committee

13.2 Walkshed and Collision Maps

Figure 13 –1 and **Figure 13 –2** on the following page display the locations of schools, the locations of parks, and the walkshed for each school in Vallejo. A walkshed shows how far a student could walk from school in a given amount of time. The map displays outer boundaries for both a ten-minute and twenty-minute walkshed, assuming an average walking speed of 2.8 feet/second. **Figure 13–3** shows the approximate locations and volume for all collisions involving pedestrians or bicyclists from 2005-2010, as documented by the California Highway Patrol SWITRS (Statewide Integrated Traffic Records System).

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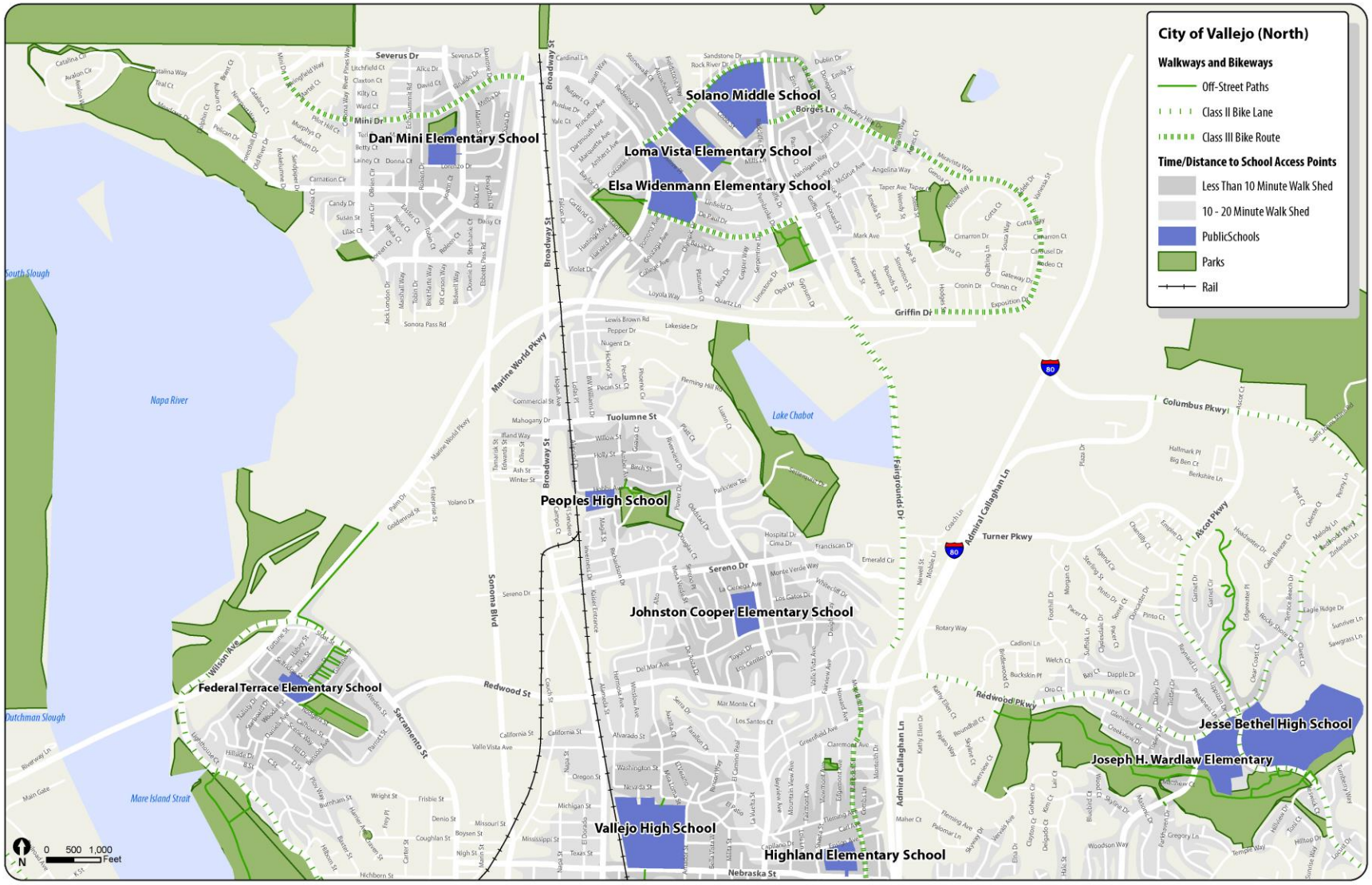

Figure 13-1: North Vallejo schools, parks & walksheds

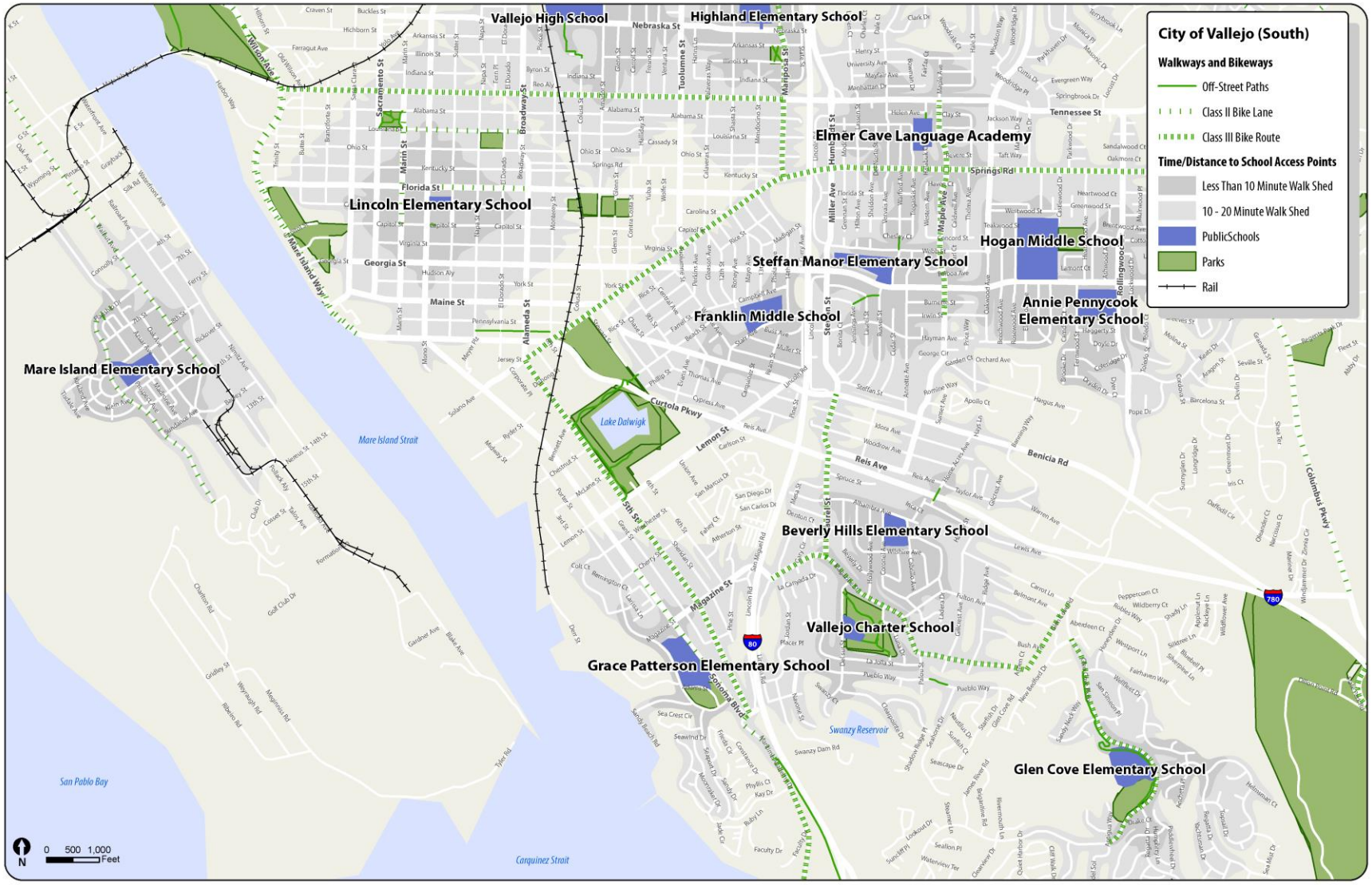

Figure 13-2: South Vallejo schools, parks & walksheds

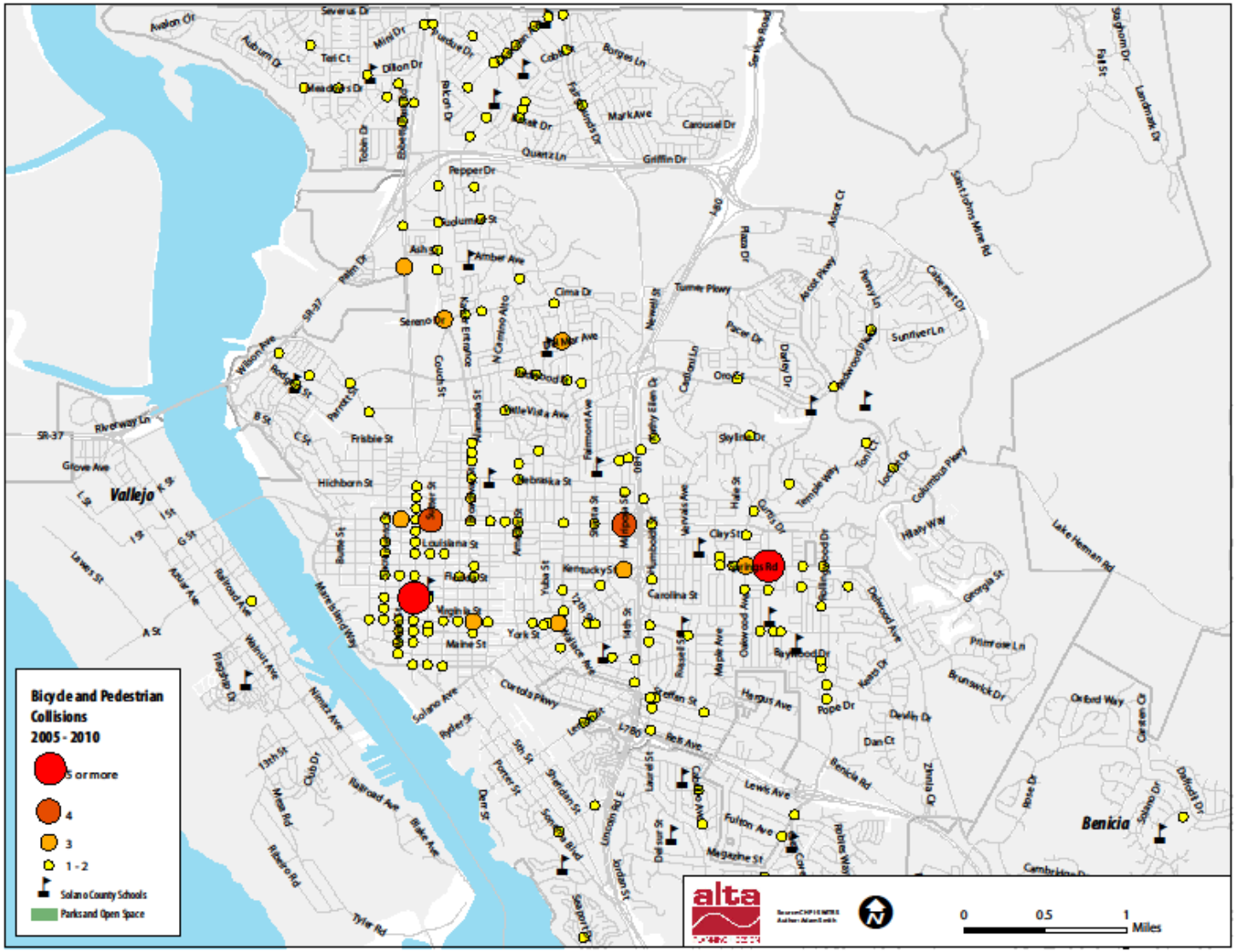

Figure 13-3: Vallejo Bicyclist & Pedestrian Collisions, 2005-2010

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13.3 2008 STA SR2S Plan

One school in Vallejo, Steffan Manor Elementary had a walk audit during the 2008 STA SR2S Plan process. One other school, Widenmann Elementary, was targeted for priority projects in the plan. Only one of Widenmann Elementary's recommendations, striping the curb for drop-off zones around the school, was completed.

Steffan Manor Elementary

The City completed three priority projects at Steffan Manor Elementary. The City constructed a sidewalk extension at the school entrance on Cedar Street, relocated the bus loading zone to Georgia Street, and repainted all the loading zone curbs on Cedar Street. The City also installed speed feedback signage on Georgia Street in close proximity to school crossings.

Programmatic Achievements

Evaluation

Nine schools in Vallejo have participated in hand tally student surveys since 2008, with two schools participating in at least four hand tallies.

Education

Eight schools participated in Safety Assemblies between 2010 and 2012. One of those schools, Elmer Cave Elementary, is now closed. Four schools participated in bike rodeos between 2010 and 2012.

Encouragement

Five schools have participated in Walk & Roll to School Day between 2010 and 2012. Three schools have expressed interest in participating in STA's pilot Walking School Bus program.

13.4 Carried-Over Recommendations

One priority project from the 2008 STA SR2S Plan is recommended for the 2012 STA SR2S Plan. This project, at Steffan Manor Elementary, is a pedestrian pathway from Russell Street to Jennings Avenue to the south of school grounds. The City should stripe crosswalks where the pedestrian path crosses Laurel Street and Jennings Avenue, and construct a bulb out at the intersection of Russell Street at Georgia Street.

13.5 2012 Walk Audit Recommendations

Johnston Cooper Elementary

Recommended improvements for Johnston Cooper Elementary focus on access improvements along Tuolumne Street, Del Mar Avenue, and Las Palm as Avenue.

The recommended improvements are most robust along Tuolumne Street, as this four-lane roadway has a large amount of high-speed vehicle traffic and is a discouraging walking environment. Improvements include reconfiguring the intersection of Tuolumne Street at Del Mar Avenue to include curb extensions in all corners, implementing a road diet on Tuolumne Street, expanding the sidewalks on Tuolumne Street, and opening a new pedestrian access point along Tuolumne Street.

Improvements on Del Mar Avenue focus on expanding the sidewalk near Tuolumne Street, improving the crosswalk at Las Palmas Avenue, and creating a more bike-friendly environment. Improvements on Las Palmas Avenue focus on access to a pedestrian path leading to San Marino Drive. This route, once improved, could serve as a major walking route to school for students living to the north of the school.

Joseph Wardlaw Elementary

The neighborhood around Joseph Wardlaw Elementary is crisscrossed by a series of major arterial roadways. The recommendations for this school focus on improving conditions on these roadways for bicyclists and pedestrians.

On the west side of the school, this report recommends a road diet on Oakwood Avenue that would create additional street parking/loading zones and bike lanes. The report also suggest striping a crosswalk across Oakwood Drive just below the school parking lot entrance and building a trial from the west end of the crosswalk up to Glenview Circle. This would allow students traveling west to walk on the low-volume Glenview Circle instead of the arterial roadway Redwood Parkway. This would be complemented with an enhanced crossing at Redwood Road at Topley Drive, the only access point to the neighborhood northwest of Joseph Wardlaw Elementary.

On the east side of the school, the report recommends improved crosswalks at multiple points on Ascot Drive and recommends circulation improvements for the parking lot at Wardlaw Park East, another often-used loading zone by parents.

13.6 Additional Priority Projects

Citywide School Bus Access Improvements

In addition to the priority projects derived from walk audits and from the 2008 STA SR2S Plan, the Vallejo Task Force also identified the priority for district-wide projects that improve yellow school bus access. The specific and improvements and specific schools should be determined through a joint collaboration between the City and the school district.

Lincoln Elementary

The Vallejo Task Force also identified an additional priority project for implementation, primarily serving students at Lincoln Elementary. This project will construct bulb outs on all corners at all signalized intersections on Sonoma Boulevard from Carolina Street to Alabama Street. All crosswalks along this stretch will be replaced with high-visibility crosswalks, alleyway intersections will have posted signage, and the City will explore sidewalk repair and expansion where necessary and/or feasible. Sonoma Boulevard is currently discouraged as a walking route due to its unsuitability for pedestrians. By making these improvements, the City will provide a safer and more direct route for students traveling to school from the north.

Table 13-2: Vallejo Priority Engineering Projects

Vallejo - Safe Routes to School Capital Project List

Total Project Costs Identified	**$1,540,000**	**Total Priority Projects**	**$1,267,000**	**Grants (Reasonable Anticipated, 5 years)**	**$525,000**

School District	School Name	Project ID # (from audit)	Project Description	Funding Priority	Lead Agency	Cost Estimates
Vallejo City Unified	Johnston Cooper Elementary	1,2,7	• Install high-visibility yellow crosswalks, pedestrian countdown heads, curb extensions, signage at Tuolumne Street and Del Mar Avenue • Repave intersection and install decorative crosswalks • Expand sidewalk on west side of Tuolomne by moving the school yard fence back 1-2' • Infill eroded hillside behind the sidewalk • Construct additional sidewalk width on infilled hillside • Install 4-8 U-style bike racks for parents arriving by bicycle	High/ Medium	City of Vallejo	$425,000
Vallejo City Unified	Joseph Wardlaw Elementary	3	**Option A** • Retain uncontrolled intersection; install pedestrian actuated "Rapid Rectangular" flashing beacons with W11-2 pedestrian crossing signage and stripe high-visibility white crosswalks. **Option B** • Conduct a warrant for signalizing the Redwood Parkway and Topley Drive intersection and stripe high-visibility white crosswalks.	High/ Medium	City of Vallejo	$75,000
Vallejo City Unified	Johnston Cooper Elementary	9	• Implement a "4-to-3" road diet, creating bike lanes and a 10'center turning lane • Relocate SCHOOL SPEED LIMIT signage closer to school grounds and consider speed feedback devices	Medium/ High	City of Vallejo	$66,000

School District	School Name	Project ID # (from audit)	Project Description	Overall Priority	Lead Agency	Cost Estimates
Vallejo City Unified	Lincoln Elementary	Task Force	• Outfit all curb ramps with tactile dome strips on Sonoma Boulevard from Carolina Street to Alabama Street • Construct curb extensions at all corners at the intersection of Sonoma Boulevard and Carolina Street, Florida Street, and Louisiana Street • Stripe high-visibility crosswalks in all legs of intersections of Sonoma Boulevard and Kentucky Street, Ohio Street, Louisiana Street, and Alabama Street • Post pedestrian crossing signage at the outlets of all alleys onto Sonoma Boulevard: Lozier Alley, Maxwell Alley, National Alley, Overland Alley, and Packard Alley	High	City of Vallejo	$526,000
Vallejo City Unified	Citywide	Task Force	• School Bus Access Improvements	High	City of Vallejo	$50,000
Vallejo City Unified	Joseph Wardlaw Elementary	8	• Stripe high-visibility yellow crosswalk immediately east of the parking lot driveway. • Install pedestrian actuated "Rapid Rectangular" flashing beacons on crosswalk warning signage. • Install advance warning signage and SLOW SCHOOL XING pavement markings.	Medium	City of Vallejo	$50,000
Vallejo City Unified	Joseph Wardlaw Elementary	4	• Formalize (pave and sign) a path along the existing "desire line" connecting the Oakwood Avenue sidewalk to the school.	High/Medium	VCUSD	$40,000
Vallejo City Unified	Joseph Wardlaw Elementary	2	• Consider "road diet" on Oakwood Ave to provide a loading zone on northbound Oakwood Avenue. • Stripe a high-visibility yellow crosswalk immediately south of the parking lot driveway and modify the existing median to provide a standard pedestrian refuge width.	High	City of Vallejo	$61,000
Vallejo City Unified	Joseph Wardlaw Elementary	2	• Neighborhood path from Oakwood to Glen View	Medium/High	City of Vallejo	$153,000
Vallejo City Unified	Joseph Wardlaw Elementary	6,7	• Provide extra markings in the bike lane at right-turn conflict areas on Ascot Parkway • Restripe existing transverse crosswalks as high-visibility	Medium/Low	City of Vallejo	$10,000
Vallejo City Unified	Joseph Wardlaw Elementary	5	• Restripe existing white transverse crosswalks in the intersection and across the free-right turn lanes as high-visibility yellow. • Mark yield teeth and signage 20 feet in advance of crosswalks.	Medium/High	City of Vallejo	$7,000

School District	School Name	Project ID # (from audit)	Project Description	Overall Priority	Lead Agency	Cost Estimates
Vallejo City Unified	Joseph Wardlaw Elementary	9	• Consider converting parking lot circulation to counter-clockwise and construct an exit driveway at the east end of the parking lot.	Medium	City of Vallejo	$20,000
Vallejo City Unified	Johnston Cooper Elementary	2, 3, 5	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks • Refresh faded red curb paint at this intersection • Trim back tree vegetation blocking driver visibility • Install sharrows and wayfinding signage on Del Mar Avenue	Medium/ High	City of Vallejo	$5,000
Vallejo City Unified	Johnston Cooper Elementary	4	• Provide additional bicycle parking under the covered eaves/walkways • Construct ADA compliant ramps from the gate to the street	Medium/ High	VCUSD	$12,000
Vallejo City Unified	Johnston Cooper Elementary	8	• Construct ADA compliant ramped access from the re-opened gate to the school blacktop • Consider constructing an additional walkway along the top of the retaining wall, where it is less feasible to expand the sidewalk on Tuolumne Street	Medium	VCUSD	$40,000

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13.7 Johnston Cooper Elementary School Travel Plan

Principal: Lucius McKelvy
Enrollment: 518
Arrival: K-5, 9:00 AM
Dismissal: K, 12:30 PM
1-5, 3:30 PM
K-5 Min. Day, 2:00 PM
Mode Share: N/A
Walk Score[37]: 52/100
Free/Reduced Lunch: 81% in 2011-2012,
73% in 2010-2011

Johnston Cooper Elementary is located in northern Vallejo

Layout

Johnston Cooper Elementary is located in northern Vallejo, in a community with mixed residential and commercial uses. Both the Sutter-Solano and Kaiser medical centers are located within a half mile of the school. To the south is a large grocery store shopping center. The school is bounded by Tuolumne Street to the east, Del Mar Avenue to the south, Las Palmas Avenue to the west, and by single family homes to the north that front onto La Cienega Avenue. Tuolumne Street is a four lane arterial street. Sereno Drive to the north and Redwood Street to the south are primary east-west thoroughfares.

The main entrance for Johnston Cooper Elementary is on the south side of school grounds, fronting Del Mar Avenue. There is a small staff parking lot on Las Palmas Avenue, and the curbside between the parking lot's two driveways is designated as the bus loading zone for the school. There are pedestrian access points from both Las Palmas Avenue and Tuolumne Street. The pedestrian access point on Las Palmas Avenue also acts as a driveway for District maintenance vehicles.

Johnston Cooper Elementary has 4 pedestrian access points:

- Two entrances at the front of the school on Del Mar Avenue;
- A walkway from the staff parking lot/bus loading zone on Las Palmas Avenue;
- A pedestrian walkway/maintenance truck driveway mid-block on Las Palmas Avenue; and
- An open stair from Tuolumne Street to the Johnston Cooper playground

There is one bank of "wheelbender" bicycle racks, located under a covered walkway, at the base of the slope from the maintenance driveway from Las Palmas Avenue. The principal told participants that the racks are occasionally used by middle school students, who catch a bus to school nearby. He also reported some thefts have occurred from the bike rack.

Buses load next to the staff parking lot on Las Palmas Avenue

[37] See www.walkscore.com for more information.

Site Visit

The project team conducted a walk audit at Johnston Cooper Elementary on the afternoon of May 21st, where they observed the pick-up period after early dismissal at 2:00 PM. Conditions were sunny, with no indications that the day's activity was irregular. Participating in the walk audit was principal McKelvy, representatives from the Vallejo City Unified School District, from the City of Vallejo, and from the Solano Transportation Authority. Participants observed traffic and pedestrians at Tuolumne Street, Del Mar Avenue, and Las Palmas Avenue. Participants convened afterwards to discuss their findings. After the meeting, staff observed conditions on Sereno Drive and Redwood Street.

Students getting picked up at the main entrance

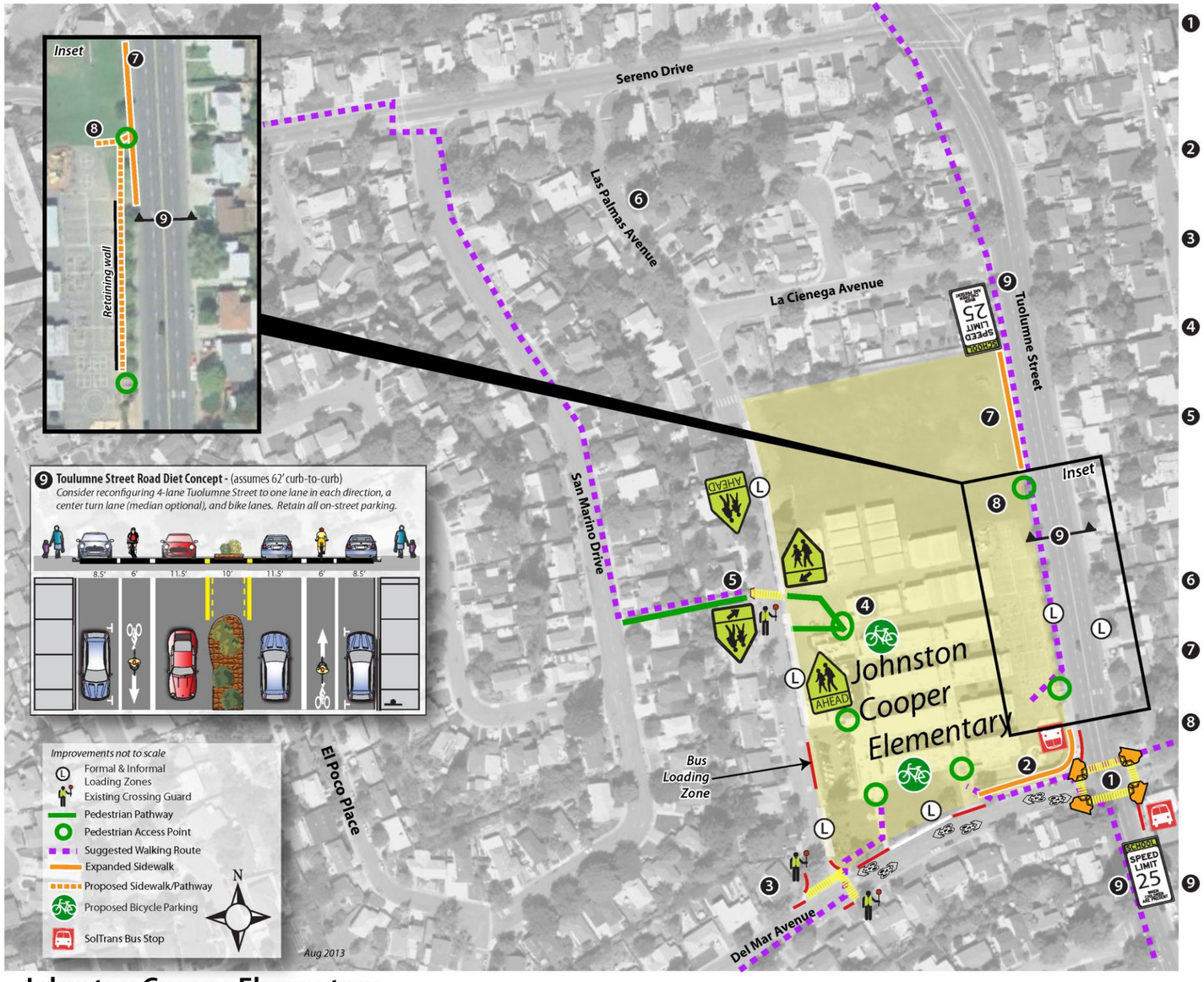
Loading Zones

There is one formal loading zone for drivers and one formal loading zone for buses. The formal loading zone for drivers is a stretch of white curb on Del Mar Avenue, approximately 120 feet long, in front of the main school entrance. The formal loading zone for buses is a stretch of red curb on Las Palmas Avenue between the entrance and exit driveways to the staff parking lot. There is also a 50 foot stretch of red curb on Del Mar Avenue which is reserved for vanpool and special needs loading.

There are several informal loading zones on all sides of the school that front the street. There is loading on both sides of Tuolumne Street on the north side of the intersection at Del Mar Avenue. There is loading on both sides of Del Mar Avenue from Tuolumne Street to Las Palmas Avenue. There is a limited amount of loading which takes place on Las Palmas Avenue, located mostly near the maintenance driveway/pedestrian walkway.

There are three school staff members who act as formal crossing guards at Johnston Cooper Elementary. Two crossing guards manage the intersection of Las Palmas Avenue at Del Mar Avenue, while the other crossing guard manages the mid-block crosswalk on Las Palmas Avenue at the maintenance driveway/pedestrian walkway.

Figure 13-4: Johnston Cooper Elementary Existing Conditions



1 Toulumne Street at Del Mar Avenue
- Install high-visibility yellow crosswalks at all legs
- Install countdown pedestrian heads at this intersection to improve pedestrian crossing safet and comfort
- Construct curb extensions at all corners of the intersection
- Refresh red curb at bus stops on Toulumne Street

2 Del Mar Avenue
- Infill eroded hillside behind the sidewalk, widen sidewalk
- Install 4-8 U-style bike racks for parents arriving by bicycle
- Install sharrows and wayfinding signage on Del Mar Avenue

3 Del Mar Avenue at Las Palmas Avenue
- Install high-visibility yellow crosswalks
- Refresh faded red curb paint at this intersection
- Trim back tree vegetation blocking driver visibility

4 Las Palmas Avenue Gate
- Provide additional bicycle parking under the covered eaves/walkways
- Construct ADA compliant ramps from the gate to the street

5 Las Palmas Avenue Crosswalk
- Install high-visibility yellow crosswalk, curb ramp with yellow truncated domes on the west side of the crossing, Assembly B signage at the crossing and Assembly D signage in advance
- Enforce red curb parking restrictions at crossing
- Work with parents to form a Walking School Bus from the north, using the high visibility crosswalk at Sereno Drive & San Marino Drive, and using the pedestrian pathway

6 Las Palmas Avenue Sidewalk
- Remove vegetation on Las Palmas Avenue sidewalk, north of La Cienega Avenue, blocking pedestrian access

7 Tuolumne Street Sidewalk
- Expand sidewalk on west side of Tuolomne by moving the school yard fence back 1-2'

8 Schoolyard Gate
- Re-open the schoolyard gate, monitored by a staff member or parent volunteer
- Construct ADA compliant ramped access from the gate to the school blacktop
- Consider constructing an additional walkway along the top of the retaining wall, where it is less feasible to expand the sidewalk on Tuolumne Street

9 Tuolumne Street Road Diet
- Implement a "4-to-3" road diet, creating bike lanes and a 10' center turning lane
- Relocate SCHOOL SPEED LIMIT signage closer to school grounds and consider installation of speed feedback devices

Johnston Cooper Elementary Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 13-5: Johnston Cooper Elementary Recommended Improvements

Johnston Cooper Elementary Existing Conditions and Recommendations

Tuolumne Street at Del Mar Avenue

The intersection of Tuolumne Street at Del Mar Avenue is signal controlled, with yellow transverse crosswalks in all four legs. There are SolTrans bus stops on Tuolumne Street immediately in advance of the intersection in both northbound and southbound directions. Both bus stops have a stretch of dedicated red curb for the stop locations, though the red curb was faded on the day of the walk audit. Walk audit participants observed drivers encroaching upon the red curb dedicated for SolTrans in the southbound direction while waiting to load students after school.

Participants observed high volumes of both drivers and pedestrians in all directions at this intersection on the day of the walk audit. The intersection has pedestrian heads in all directions, though they do not show a countdown for pedestrians. Northbound drivers were observed in long queues while waiting to turn left onto Del Mar Avenue. Drivers approaching Johnston Cooper Elementary in all directions, except from the west, must pass through this intersection on the way to school grounds.

Tuolumne Street, looking south to Del Mar Avenue

Recommendations (ID #1)

The City should prioritize improvements at this intersection, as it sees the highest volume of pedestrians and drivers. The City should consider repaving this intersection prior to, or in conjunction with, any other recommended improvement. The City should replace the existing yellow transverse crosswalks in all legs of the intersection with high-visibility decorative crosswalks. The City should construct curb extensions at each corner of this intersection to increase the waiting areas for pedestrians, reduce the crossing distance in each crosswalk, improve pedestrian visibility, and reduce the existing wide curb radii for turning vehicles. The City should also reprogram the existing pedestrian heads at the crosswalks to display a pedestrian countdown.

The red curb for the SolTrans bus loading zones should be refreshed to discourage driver encroachment. These improvements should be implemented in conjunction with ID #2 & ID #7.

Del Mar Avenue

The sidewalks along the school's main entrance on Del Mar Avenue are too narrow for the volume of pedestrians. Del Mar Avenue is the primary loading area for drivers; students on the day of the walk audit were observed spilling out off the sidewalk due to inadequate width. The sidewalk on the north side of Del Mar Avenue, near its intersection with Tuolumne Street, fronts a short hillside on school grounds. Over time, this hillside has worn away, leaving a drop of 3-4 inches between the end of the sidewalk

The eroded hillside, combined with the narrow sidewalk, presents a hazard for pedestrians

paving and the unpaved hillside. Walk audit participants speculated that this could provide a safety hazard to students.

Recommendation (ID #2)

The District should backfill the eroded hillside to address the current safety hazard presented by the existing sidewalk. The District should also work with the City to expand sidewalk widths along Del Mar Avenue, utilizing the filled-in hillside. Sidewalk construction around the intersection of Del Mar Avenue at Tuolumne Street may require building around, or the relocation of, utility boxes and the traffic signal. This project should be undertaken in conjunction with projects ID #1 & ID #7.

Del Mar Avenue, as the main entrance point to the school, saw the highest volume of pedestrians, drivers, and bicyclists. In addition to facilitating pedestrian travel through an expanded sidewalk, the City should complement existing Bike Route signage with in-pavement sharrows and wayfinding signage. The District should install 4-8 U-racks near the entrance to the school, providing bicycle parking for parents who chose to bike to and from school with their child.

Del Mar Avenue at Las Palmas Avenue

This is a three-way intersection with STOP controls in all directions. There are yellow transverse crosswalks in the northern and eastern legs of the intersection, each crossing managed by a staff crossing guard. There is red curb in advance of, and following, each of the crosswalk landing points. The red curb, however, is faded and drivers on the day of the walk audit were observed encroaching on the red curb during pick-up. Walk audit participants observed southbound drivers on Las Palmas and westbound drivers on Del Mar Avenue failing to come to complete stops when traveling through the intersection. A number of trees overhang this intersection, some reducing visibility of posted STOP signs. Walk audit participants speculated that the reduced visibility due to the overgrown trees is the cause of drivers failing to stop at the intersection.

Recommendation (ID #3)

The City should refresh the existing red curb at this intersection to reduce crosswalk encroachment by parking drivers. The City should replace the existing yellow transverse crosswalks with high-visibility yellow crosswalks. The City should trim back the tree branches blocking visibility of STOP signs at this intersection.

The pathway/driveway to Las Palmas

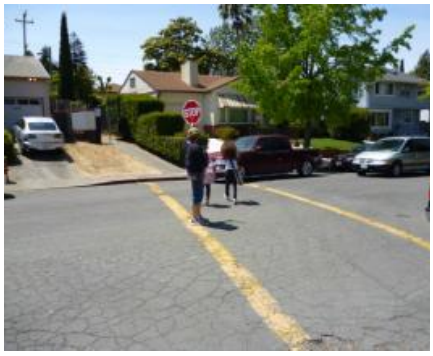
Las Palmas Avenue

There is a mid-block walkway/maintenance driveway from the rear of the school up a small hill to Las Palmas Avenue. The walkway is paved asphalt, and has no space to differentiate between the vehicle driveway and pedestrian space. There is another, smaller asphalt path immediately south of the driveway between school grounds and the sidewalk on Las Palmas Avenue. This pathway is in disrepair and is too steep to be ADA compliant. At the base of these two pathways is the area where the current bicycle parking is located.

There is a mid-block crosswalk across Las Palmas Avenue where the maintenance driveway meets the street. A staff member acts as a crossing guard at this crosswalk. The crosswalk is yellow transverse, is missing a curb ramp on the western side of the crosswalk, and has no signage in advance of the crossing. At the western end of the crosswalk, a pedestrian path continues west to San Marino Drive. The crossing guard told participants on the day of the walk audit that few children use the

pedestrian pathway to San Marino Drive, with most students exiting the school at this location getting picked up along Las Palmas Avenue.

While traffic volumes on Las Palmas Avenue were lower than on Del Mar Avenue or Tuolumne Street, many drivers were observed idling in parking spaces while waiting for students. One driver encroached upon the red curb beside the crosswalk, but the crossing guard allowed them to stay there. The crossing guard also described resident frustrations with parents parking in their driveways.



The crossing guard at Las Palmas Avenue

A parent both parking in the red zone and encroaching on the crosswalk

Recommendations (ID #4 & #5)

The District needs to improve school grounds leading up to the Las Palmas Avenue mid-block crosswalk. The District should accommodate more bicycle parking by installing more banks of bike racks underneath the covered walkways nearby the existing bike racks. The District should also build ADA-compliant walkways on the hillside between school grounds and the Las Palmas Avenue crosswalk. (ID #4)

The City should replace the existing yellow transverse crosswalk with a high-visibility yellow crosswalk and construct a curb ramp outfitted with yellow truncated domes on the western side of the crosswalk. The City should install Assembly B signage at the crossing and Assembly D signage in advance of the crossing in both directions.

The District should provide additional crossing guard training for staff. The District should also work with the Johnston Cooper PTA to organize a walking school bus that arrives at Las Palmas Avenue via the pedestrian walkway to San Marino Drive. There is a high-visibility crosswalk across Sereno Drive to the north at San Marino Drive. Walk audit participants also expressed reservations with students walking more than a block on Sereno Avenue, as the sidewalks are narrow drivers travel at high speeds. By organizing a walking school bus for students living north of the school, they can cross Sereno Drive at the crosswalk at San Marino Drive, using the pedestrian walkway to the south to avoid walking on Sereno Drive itself. (ID #5)

Las Palmas Avenue, north of Johnston Cooper Elementary

To the north of Johnston Cooper Elementary is a large sidewalk obstruction on Las Palmas Avenue. The sidewalk on the eastern side of Las Palmas Avenue is entirely overgrown with vegetation approximately 100 feet south of Sereno Drive.

Recommendation (ID #6)

The City should trim back the overgrown vegetation on Las Palmas Avenue to provide a full sidewalk network for pedestrians.

Tuolumne Street Sidewalk

The sidewalks along Tuolumne Street, with the western sidewalk abutting school grounds, are four feet wide. This narrow sidewalk, coupled with the driver speeding on Tuolumne Street, makes walking on Tuolumne Street undesirable for student pedestrians. The northern half of the school grounds are grass playing fields, with a row of trees set back from a fence separating the fields from the sidewalk. The southern half of the school grounds have landscaping and trees planted right up against the fence beside the sidewalk.

There is ample room between the trees and the fence for additional sidewalk

Recommendations (ID #7)

The District should expand the sidewalk on the western side of Tuolumne Street on the northern half of school grounds. By moving the fences back to the row of trees along the grassy playing fields, the District will allow for 1-2 feet of additional space that can be dedicated to sidewalks. Expanding the sidewalk in this location will have the most impact if constructed in conjunction with recommendations ID #1 & 2.

Tuolumne Street Schoolyard Gate

There is an existing locked gate in the grassy schoolyard fronting Tuolumne Street. The school currently has pedestrian congestion from students exiting the single stairway gate exit to Tuolumne Street to the south. The base of the hillside where the locked gate is located gets muddy in the winter during rains.

The locked gate on Tuolumne Street could ease pedestrian traffic at the southern end of the school

Recommendation (ID # 8)

The District should re-open the locked gate on Tuolumne Street and have either a staff member or parent volunteer oversee the gate. The District should resolve the drainage issues at the base of the hillside beside the gate and install a decomposed granite pathway from the gate to the playground blacktop. The District should also consider installing a decomposed granite pathway along the top of the retaining wall beside the playground blacktop. As the area with the retaining wall is the same landscaped area that precludes sidewalk widening in ID #7, this could provide for students an alternate route to avoid the narrow sidewalk on Tuolumne Street.

Tuolumne Street

Tuolumne Street

Tuolumne Street is currently undesirable for pedestrian traffic. The street has four lanes of traffic, parking on both sides of the street, and narrow sidewalks. Walk audit participants observed drivers regularly speeding on this stretch of roadway. Participants also observed significant backups created by northbound drivers on Tuolumne waiting to turn left onto Del Mar Avenue.

Although Tuolumne Street between Sereno Drive and Del Mar Avenue is a school zone, the existing signage is confusing for drivers. For southbound drivers, there is a 25 MPH school zone sign approximately 150 feet

south of Sereno Drive; a 35 MPH sign, however, is posted at the northern edge of school grounds 100 feet south of La Cienega Avenue. Although these signs are legally compliant, they are confusing for drivers, seeming to encourage 35 MPH speeds on Tuolumne Street beside school grounds.

Recommendation (ID #9)

The City should switch the position of the 35 MPH speed limit sign and the 25 MPH school zone sign to the north of the school. The City should also consider the installation of speed feedback signs on Tuolumne Street in both directions to make drivers more aware of their speed.

The City should consider implementing a 4-to-3 road diet on Tuolumne Street. The observed traffic volumes on Tuolumne Street did not appear to warrant the existing four lanes of traffic. Implementing a road diet would have a number of other beneficial effects, such as the introduction of bike lanes on Tuolumne Street, a center-turn lane which would address backup issues caused by drivers turning left onto Del Mar Avenue, and create a more pleasant pedestrian experience. The proposed road diet assumes a curb-to-curb right-of-way of 62 feet.

Summary of Recommendations

Table 13-3 lists the recommended improvements to address safety and circulation issues around Johnston Cooper Elementary; Figure 13-4 maps existing conditions and Figure 13-5 presents an improvement plan of these recommendations. The project IDs in Table 13-3 correspond to those in Figure 13-5. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some of the recommendations.

Table 13-3: Johnston Cooper Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1, 2 & 7	Tuolumne Street at Del Mar Avenue	• Install high-visibility decorative crosswalks, pedestrian countdown heads, curb extensions, signage at Tuolumne Street and Del Mar Avenue • Repave intersection at Toulumne at Del Mar • Infill eroded hillside behind the sidewalk on Del Mar • Construct additional sidewalk on infilled hillside • Install 4-8 U-style bike racks for parents arriving by bicycle at school entrance • Expand sidewalk on west side of Tuolomne by moving the school yard fence back 1-2′	City of Vallejo	Middle/ High	$425,000
2, 3 & 5	Del Mar Avenue & Las Palmas Avenue	• Replace existing yellow transverse crosswalks with high-visibility yellow crosswalks • Refresh faded red curb paint at this intersection • Trim back tree vegetation blocking driver visibility • Install sharrows and wayfinding signage on Del Mar Avenue	City of Vallejo	Middle/ High	$5,000

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
4	Las Palmas Avenue Gate	• Provide additional bicycle parking under the covered eaves/walkways • Construct ADA compliant ramps from the gate to the street	VUSD	Middle/ High	$12,000
6	Las Palmas Avenue Sidewalk	• Remove vegetation on Las Palmas Avenue sidewalk, north of La Cienega Avenue, blocking pedestrian access	City of Vallejo	Low	$200
8	Schoolyard Gate	• Construct ADA compliant ramped access from the gate to the school blacktop • Consider constructing an additional walkway along the top of the retaining wall, where it is less feasible to expand the sidewalk on Tuolumne Street	VCUSD	Middle	$40,000
9	Tuolumne Street Road Diet	• Implement a "4-to-3" road diet, creating bike lanes and a 10' center turning lane • Relocate SCHOOL SPEED LIMIT signage closer to school grounds and consider installation of speed feedback devices	City of Vallejo	Middle/ High	$66,000
Total Cost					**$548,200**

13.8 Joseph Wardlaw Elementary School Travel Plan

Principal: Coreen Russell
Enrollment: K-5, 908
Arrival:
Dismissal: 3:20 PM
Mode Share: 7% walk/bike (May 2010)
Walk Score[38]: 26/100
Free/Reduced Lunch: 45% in 2011-2012, 39% in 2010-2011

Joseph Wardlaw Elementary is located in a valley in eastern Vallejo

Layout

Joseph Wardlaw Elementary is located in eastern Vallejo, in a valley alongside the Black Rock Springs Trail. The surrounding community is residential, and the suburban layout of the roadways channels traffic onto major arterials. The school property is bounded on three sides by these multi-lane arterial roadways: Oakwood Avenue to the west, Redwood Parkway to the north, and Ascot Parkway to the east. Both Redwood Parkway and Ascot Parkway have bike lanes, and none of the three roadways have on-street parking. The Black Rock Springs Trail, and the creek it follows, bound school grounds to the south. Across Ascot Parkway from Joseph Wardlaw Elementary is Jesse Bethel High School. Immediately east of the school, but on the same side of Ascot Parkway, is Wardlaw Park East, a dog park that has a small skate park on its eastern end.

A typical arterial roadway in the vicinity of the school

The Black Rock Springs Trail runs on the opposite side of the creek next to the school. Trail users sometimes use school grounds as a cut-through on the northern side of the creek, and the District is planning to erect a fence to address this security concern. East of the school, the trail has a spur that crosses over the creek to Wardlaw Park East. This trail runs east/west, with undercrossings of both Oakwood Avenue and Ascot Parkway. The trail provides access to the sidewalk on both sides of Ascot Parkway. On Oakwood Avenue, however, there is only trail access from the western side of the street. Due to the limited number of trailhead connections, the Black Rock Springs Trail is of limited utility for students walking or biking to and from school.

Joseph Wardlaw Elementary has three access points for students:

- The main entrance to the school, on Oakwood Avenue, which is the only parking lot access point;
- A rear path from Ascot Parkway, immediately beside the parking lot to Wardlaw Park East; and
- An informal walking path from Redwood Parkway down to the Wardlaw Park West playing fields.

[38] See www.walkscore.com for more information.

Site Visit

The project team conducted a walk audit at Matthew Turner Elementary on the afternoon of Monday November 14th, where they observed the pick-up period after dismissal. Conditions were overcast, with no indication that weather impacted normal pick-up activities. The walk audit was attended by the school principal, by the school traffic coordinator, a parent volunteer, representatives from Solano County Public Health, from the City of Vallejo, from the Vallejo City Unified School District, and from STA. Participants observed traffic and pedestrians in the school parking lot, along Oakwood Avenue, and along Ascot Drive. After the walk audit, staff conducted field research to the west on Glenview Circle.

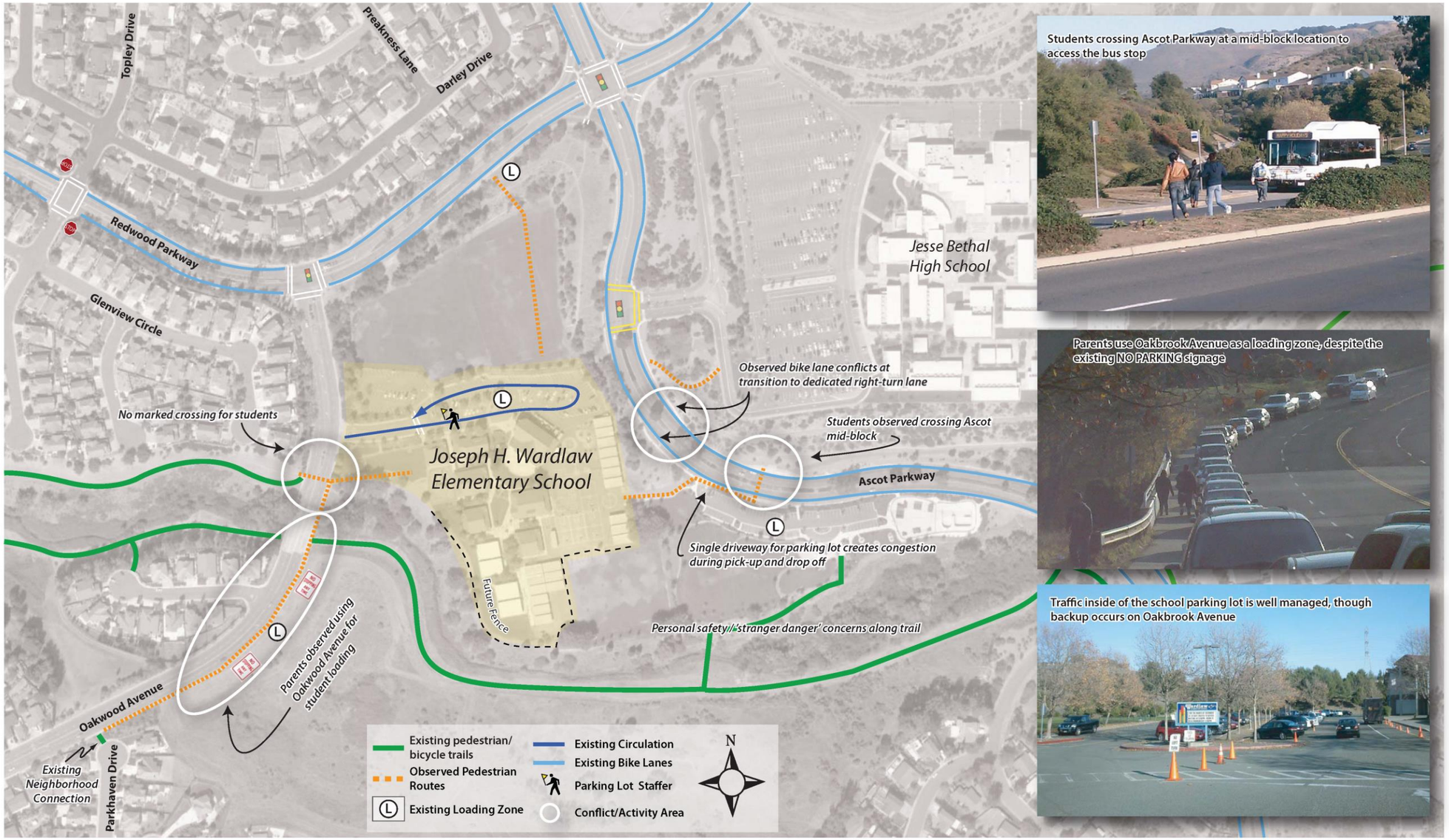
Drivers queuing in the school parking lot

Loading Zones

The school parking lot is the only formal loading zone for drivers at Joseph Wardlaw Elementary. Drivers enter and exit through the same driveway on Oakwood Avenue. The parking lot is managed by the school's traffic coordinator and several parent volunteers. The school currently sets up cones along the entryway, along the loading zone area that fronts the school, and across the first return-route lane. This setup forces drivers to circulate all the way through the back of the parking lot before they can exit on Oakwood Avenue.

Drivers also use Oakwood Avenue, Ascot Parkway, and the parking lot for Wardlaw Park East as informal loading zones. Because Oakwood Avenue and Ascot Parkway have no on-street parking, drivers double-park in the rightmost lane on both streets to pick up students.

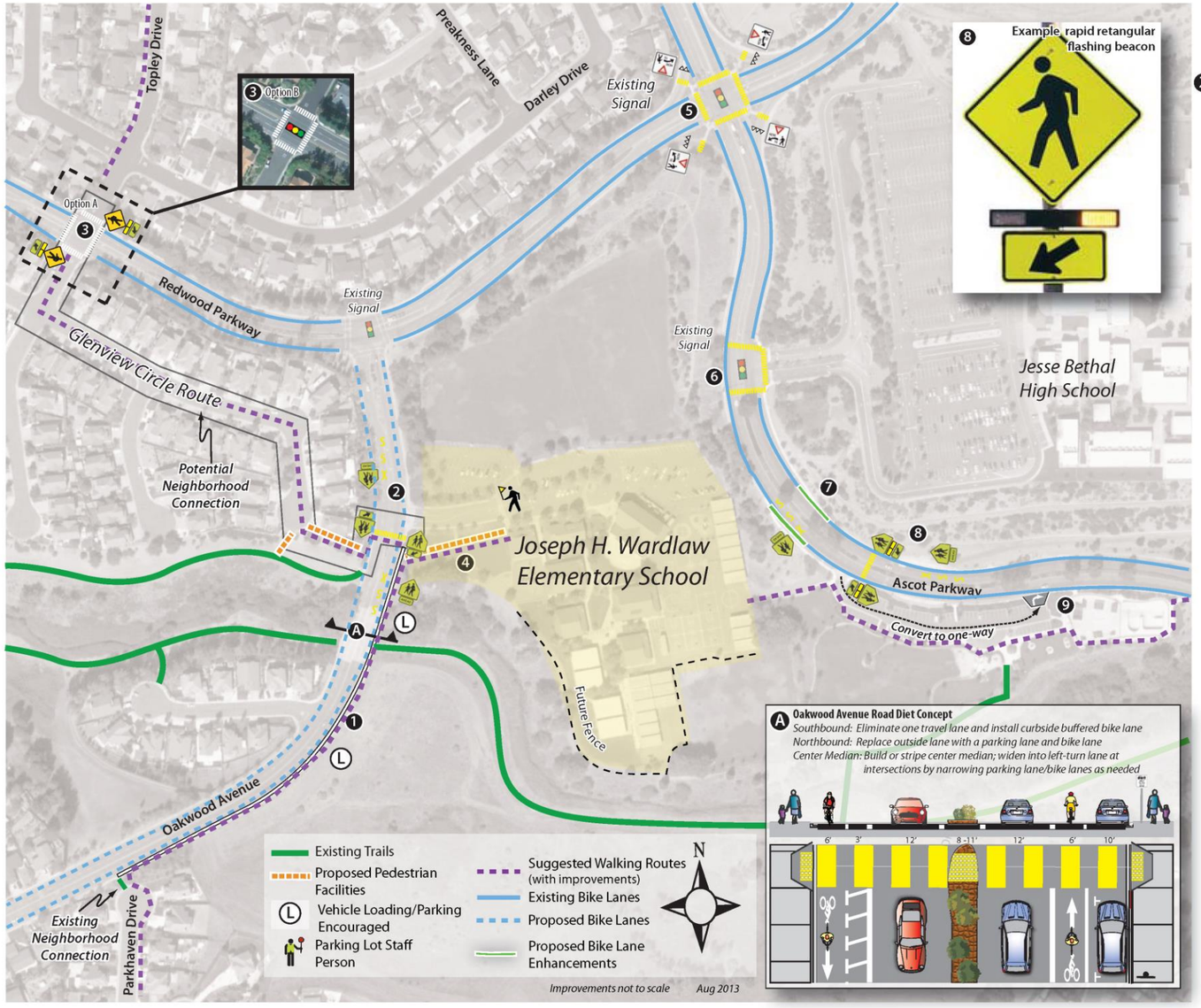
There are no formal crossing guards at Joseph Wardlaw Elementary, though the traffic coordinator functions as a de-facto crossing guard at the parking lot entrance/exit.



Joseph H. Wardlaw Elementary School
Existing Conditions

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

Figure 13-6: Joseph Wardlaw Elementary Existing Conditions



Joseph H. Wardlaw Elementary School Recommended Improvements*

**Funding for recommended improvements is limited. The improvements listed are only recommendations, and will need funding for construction and maintenance before implementation can be considered.*

Solano County Transportation Authority SR2S
www.solanoSR2S.ca.gov

1 Northbound Oakwood Parkway

- Permit parking between the parking lot driveway and Parkhaven Drive to accommodate existing loading and provide sidewalk buffer zone.

2 & 3 Glenview Circle Route

- The improvements outlined in gray work together to achieve a complete pedestrian connection for students living north of Redwood Parkway.

2 Oakwood Avenue south of Parking Lot (Glenview Circle Route Project)

- Consider a "road diet" on Oakwood Avenue south of the parking lot driveway to provide a loading zone on northbound Oakwood Avenue.
- Stripe a high-visibility yellow crosswalk immediately south of the parking lot driveway and modify the existing median to provide a standard pedestrian refuge width.
- Construct a trail connection from Oakwood Avenue to the end of Glenview Circle. Provide outreach with neighbors when studying alignments.

3 Redwood Parkway at Topley Drive (Glenview Circle Route Project)

Option A

- Retain uncontrolled intersection, install pedestrian actuated "Rapid Rectangular" flashing beacons with W11-2 pedestrian crossing signage and stripe high-visibility white crosswalks.

Option B

- Conduct a warrant for signalizing the Redwood Parkway and Topley Drive intersection and stripe high-visibility white crosswalks.

4 East School Yard

- Formalize (pave and sign) a path along the existing "desire line" connecting the Oakwood Avenue sidewalk to the school.

5 Ascot Parkway at Redwood Parkway

- Restripe existing white transverse crosswalks in the intersection and across the free-right turn lanes as high-visibility yellow.
- Mark yield teeth and signage 20 feet in advance of crosswalks.

6 Ascot Parkway at High School Parking Lot

- Restripe existing transverse crosswalks as high-visibility.

7 Ascot Parkway at Right Turn Lanes

- Provide extra markings in the bike lane at right-turn conflict areas.

8 Ascot Parkway at Wardlaw Park East/Skate Park Parking Lot Entrance

- Stripe high-visibility yellow crosswalk immediately east of the parking lot driveway.
- Install pedestrian actuated "Rapid Rectangular" flashing beacons on crosswalk warning signage.
- Install advance warning signage and SLOW SCHOOL XING pavement markings.

9 Wardlaw Park East/Skate Park Parking Lot

- Consider converting parking lot circulation to counter-clockwise and construct an exit driveway at the east end of the parking lot.

Figure 13-7: Joseph Wardlaw Elementary Recommended Improvements

Joseph Wardlaw Elementary Existing Conditions and Recommendations

Oakwood Avenue

Oakwood Avenue is the only road providing vehicle access to the Joseph Wardlaw Elementary parking lot. The roadway is 4 lanes wide, with no on-street parking, no bicycle facilities, and a low traffic volume. On the day of the walk audit, drivers were observed parking in the right lane of traffic to wait for students.

Walk audit participants observed student crossing Oakwood Avenue mid-block immediately south of the parking lot driveway. There is an existing crosswalk across Oakwood Avenue approximately 500 feet to the north at Redwood Parkway, but no nearby crossings to the south. There is currently no convenient way for students and parents to get to the west side of the street, where many drivers park when they approach the school from Redwood Parkway. Pedestrians were observed using the landscaped median on Oakwood Avenue just south of the parking lot entrance as a pedestrian refuge when crossing the street.

Pedestrians crossing Oakwood Avenue mid-block

Oakwood Avenue is the primary route for student pedestrians traveling south. Just south of the open space along the Black Rock Spring Trail, there is a small pathway connecting Oakwood Avenue with the cul-de-sac Parkhaven Way, providing pedestrian access to the neighborhood to the south. Parents expressed concerns about driver speed on Oakwood Avenue, as there are few stops or traffic calming features in advance of the school when driving northbound.

Recommendations (ID #1 & ID #2)

The City should allow curbside parking on the east side of the street between Parkhaven Way in the south and the school parking lot. This would serve the dual purpose of creating a formalized area for loading students, while providing a buffer for southbound pedestrians on Oakwood Avenue. **(ID #1)**

The creation of a parking lane/loading zone on the eastern side of Oakwood Avenue would be accomplished by implementing a road diet on Oakwood Avenue. This road diet would reduce the roadway to one travel lane in both directions, provide a parking lane on the east side of the street, a standard bike lane on the east side of the street, and a buffered bike lane on the west side of the street. Between the two travel lanes would either be a landscaped median or pockets for turning drivers. The City should conduct a traffic study to determine the feasibility of a road diet.

Accompanying this road diet, the City should install a new crosswalk across Oakwood Avenue, south of the parking lot driveway. The crosswalk should be striped as high-visibility yellow, with Assembly B signage installed at the crossing and Assembly D signage installed in advance of the crossing. SLOW SCHOOL XING pavement markings should be applied to the roadway in advance of the crossing in both directions. The City should retrofit the existing landscaped median where this crosswalk will be placed, converting it into a pedestrian refuge island.

Drivers park along the length of Oakwood Avenue when picking up students

The City should secure an easement to construct a pathway from the new crosswalk at Oakwood Avenue up to the eastern end of Glenview Circle. If a pathway is not feasible in this location, the City should consider constructing an alternative trailhead from the Black Rock Springs Trail up to Glenview Circle. Study and outreach with neighbors should be prioritized by the city on such a project, which may require retaining walls to secure the pathway on the hillside. **(ID #2)**

The improvements in **ID #1** & **ID #2** are meant to work in conjunction with **ID #3** & **ID #4**, providing more comfortable pedestrian & bicycle routes for students coming to school from the north and the west.

Redwood Parkway at Topley Drive (Glenview Circle Route Project)

Redwood Parkway, another of the community's primary arterial roadways, has two lanes of travel in each direction, bike lanes, no on-street parking, and a landscaped median that narrows at intersections to allow for turn pockets. Topley Drive is the first intersection with Redwood Parkway to the west of Oakwood Avenue. The intersection is STOP controlled for Topley Drive, with free-flowing traffic on Redwood Parkway. The intersection has white transverse crosswalks in all four legs. For those living north of Redwood Parkway, Topley Drive is the most direct route to use when traveling to Joseph Wardlaw Elementary.

Parallel to Redwood Parkway, to the south, is Glenview Circle. Glenview Circle ends in a cul-de-sac on the hillside overlooking the location of the proposed crosswalk on Oakwood Avenue in **ID #2**. Staff has identified Glenview Circle as a strong candidate for an alternative, quieter, and safer walking route for students, one that could possibly be used as a walking school bus route.

Recommendation (ID #3)

The City should facilitate travel from north of Redwood Parkway by improving the intersection at Topley Drive. The City should conduct a traffic warrant to determine the suitability of installing a traffic light at this intersection with pedestrian countdown heads. If a signal warrant cannot be obtained for this intersection, the City should instead install pedestrian-activated rapid-rectangular flashing beacons (RRFBs) for pedestrians crossing Redwood Parkway, installed as part of W11-2 signage. Because this intersection is more than 600 feet away from Joseph Wardlaw Elementary, it is not eligible for school zone signage at this crossing. The white transverse crosswalks in all legs should be replaced with high-visibility white crosswalks.

Students walking on the informal path to Oakwood Ave

Joseph Wardlaw Parking Lot Driveway

During the walk audit, participants observed both students and parents walking across the landscaped area to the south of the parking lot driveway to reach Oakwood Avenue before crossing the street with the assistance of the landscaped median. Even though there is a sidewalk on the southern side of the driveway, this informal path was well-used.

Recommendation (ID #4)

The District should formalize this pathway, either paving it or using decomposed granite. The District should also erect signage to help parents and students traveling along this pathway.

Redwood Parkway at Ascot Parkway

Immediately to the north of the school, the intersection of Redwood Parkway at Ascot Parkway is the meeting of two major arterial roadways. Students walking or biking east must travel through this intersection.

The intersection is signalized, with white transverse crosswalks in all legs. Both streets having two travel lanes in either direction with bike lanes, no on-street parking, and medians that narrow at intersections for turn pockets. This intersection also has high-speed free-right turn lanes in all legs of the intersection, with pedestrian islands built into all corners in between the free-right lanes and the intersection itself. There are white transverse crosswalks between the sidewalks and the pedestrian islands, with out-of-date Assembly D signage and YIELD signs posted in advance of each crossing.

Recommendation (ID #5)

The City should replace the existing white transverse crosswalks in the legs of the intersection, and between the sidewalks and pedestrian islands, with high visibility yellow crosswalks. The City should also update the Assembly D signage at this intersection, replace the current YIELD signs with R1-5 yield signage, and stripe yield "shark teeth" pavement markings in advance of the crossings to the pedestrian islands.

Ascot Parkway at Jesse Bethel High School Entrance

Located on Ascot Parkway, immediately east of school grounds, is the entrance driveway for Jesse Bethel High School. The intersection is signalized and has yellow transverse crosswalks in all three legs.

Recommendation (ID #6)

The City should replace the existing yellow transverse crosswalks with high-visibility yellow crosswalks.

Ascot Parkway at Right Turn Lanes

South of the parking lot driveway for Jesse Bethel High School, Ascot Parkway has dedicated right turn lanes in both directions. The northbound dedicated right turn lane provides access to the Jesse Bethel High School driveway and the southbound dedicated right turn lane provides access to the parking lot for Wardlaw Park East. Ascot Parkway also has bike lanes along its entire length, and walk audit participants observed queuing vehicles blocking the bike lane in both directions while waiting to access these dedicated right-turn lanes.

Drivers blocking the bike lane on Ascot Parkway

Recommendation (ID #7)

The City should improve the visibility of the bike lane transition phases immediately before the dedicated right turn lanes. This could be accomplished by colorizing the bike lane transition area with green paint, as is now expressly allowed by the Federal Highway Administration (FHWA). By highlighting the merging sections between the bike lanes and the dedicated right turn lanes, drivers will be more aware of the presence of bicyclists and bicyclists will be alerted to the possibility of merging vehicles.

Ascot Parkway at Wardlaw Park East/Skate Park Parking Lot Entrance

A rear pathway from Joseph Wardlaw Elementary leads out to Ascot Parkway, just above the driveway entrance to Wardlaw Park East. Immediately to the east on Ascot Parkway are bus pull-outs on both sides of the street for SolTrans busses. There is an advance flashing sign for northbound drivers on this stretch of Ascot Drive, alerting them to the traffic signal at the driveway to Jesse Bethel High School to the north. South

of the crosswalk at the high school driveway intersection, there are no marked crossings of Ascot Parkway for another half mile, at Locust Drive.

On the day of the walk audit, participants observed students from both Joseph Wardlaw Elementary and Jesse Bethel High School crossing mid-block at this location. Because SolTrans busses stop on both sides of the street, there is a need for pedestrians to cross conveniently in this location.

Students crossing Ascot Parkway mid-block

Recommendation (ID # 8)

The City should consider striping a new crosswalk across Ascot Parkway immediately to the east of the driveway to Wardlaw Park East. This crosswalk should be striped as high-visibility yellow, with SLOW SCHOOL XING pavement markings installed in advance of the crossing. The City should also install Assembly D signage in advance of the crossing and consider including rapid rectangular flashing beacons (RRFBs) as part of the Assembly B signage installed at the crossing itself. This crosswalk will need to retrofit the existing median into a pedestrian refuge island.

The advance flashing sign for the traffic signal at the high school driveway to the north may need to be removed in order to minimize conflicting signals for drivers approaching the new crosswalk. The City should weigh the benefits of this crossing against the removal of the advance flashing sign when considering implantation of this project.

The driveway entrance/exit to the Wardlaw Park East parking lot

Wardlaw Park East/Skate Park Parking Lot

The parking lot serving Wardlaw Park East and the adjacent skate park has a single driveway, immediately east of the pedestrian path from Joseph Wardlaw Elementary out to Ascot Parkway. The driveway is fairly narrow, and accommodates both the ingress and egress of vehicles. This parking lot is used as a loading zone by parents, and becomes very congested in the mornings and afternoons. Park patrons are heavily inconvenienced by this congestion, and were observed having a hard time reaching a parking space. Due to the single, narrow travel lane of the parking lot, turning around is difficult in congested conditions, further exacerbating the situation during loading periods.

Due to the narrowness of sidewalks, the intensity of activity, and overgrown vegetation, students often spill out onto the driveway entrance during loading periods. This exacerbates the already-narrow driveway entrance, and further contributes to congestion and back-up by drivers on Ascot Parkway.

Recommendation (ID #9)

The City should consider constructing a driveway outlet for this parking lot at its eastern end and converting circulation to one-way. This would reduce congestion around the existing driveway and reduce vehicle conflicts with congregating students.

Summary of Recommendations

Table 13-4 lists the recommended improvements to address safety and circulation issues around Joseph Wardlaw Elementary; Figure 13-6 maps existing conditions and Figure 13-7 presents an improvement plan of these recommendations. The project IDs in Table 13-4 correspond to those in Figure 13-7. The table identifies the agency likely to lead the improvement, recommended priority for implementation and a planning level cost estimate. The priority level is based upon the predicted safety improvement of the recommendation, the projected cost of the improvement, and the improvement feasibility.

Cost estimates do not include additional engineering or design work required for some of the recommendations.

Table 13-4: Joseph Wardlaw Elementary Recommended Improvements

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
1	Northbound Oakwood Avenue	• Permit parking between the parking lot driveway and Parkhaven Drive to accommodate existing loading and provide sidewalk buffer zone.	City of Vallejo	High	See 2a
2a	Oakwood Avenue, south of parking lot	• Consider a "road diet" on Oakwood Avenue south of the parking lot driveway to provide a loading zone on northbound Oakwood Avenue. • Stripe a high-visibility yellow crosswalk immediately south of the parking lot driveway and modify the existing median to provide a standard pedestrian refuge width.	City of Vallejo	High	$61,000
2b	Oakwood Avenue pathway	• Construct a trail connection from Oakwood Avenue to the end of Glenview Circle. • Conduct outreach with neighborhood before construction.	City of Vallejo	Middle/ High	$153,000
3	Redwood Parkway at Topley Drive	• Option A • Retain uncontrolled intersection, install pedestrian actuated "Rapid Rectangular" flashing beacons with W11-2 pedestrian crossing signage and stripe high-visibility white crosswalks. • Option B • Conduct a warrant for signalizing the Redwood Parkway and Topley Drive intersection and stripe high-visibility white crosswalks.	City of Vallejo	Middle/ High	$75,000
4	West School Yard	• Formalize (pave and sign) a path along the existing "desire line" connecting the Oakwood Avenue sidewalk to the school.	VCUSD	Middle/ High	$40,000
5	Ascot Parkway at Redwood Parkway	• Restripe existing white transverse crosswalks in the intersection and across the free-right turn lanes as high-visibility yellow. • Mark yield teeth and signage 20 feet in advance of crosswalks.	City of Vallejo	Middle/ High	$7,000
6 & 7	Ascot Parkway	• Restripe existing transverse crosswalks as high-visibility. • Provide extra markings in the bike lane at right-turn conflict areas.	City of Vallejo	Middle/ Low	$10,000

ID	Location	Recommendations	Lead Agency	Priority Level	Cost
8	Ascot Parkway at Wardlaw Park East	• Stripe high-visibility yellow crosswalk immediately east of the parking lot driveway. • Install pedestrian actuated "Rapid Rectangular" flashing beacons on crosswalk warning signage. • Install advance warning signage and SLOW SCHOOL XING pavement markings.	City of Vallejo	Middle	$50,000
9	Wardlaw Park East parking lot	• Consider converting parking lot circulation to counter-clockwise and construct an exit driveway at the east end of the parking lot.	City of Vallejo	Middle	$20,000
Total Cost					**$416,000**