



Turlock Active Transportation Plan Volume IV: Safe Routes to School Plan

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Project Number 13-64



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1 Introduction

As part of the Turlock Active Transportation Plan, the project team has conducted Safe Routes to School infrastructure focused audits throughout the city. Those audits and the findings presented in this report are only one part of the equation. Accordingly, this report presents an overview of Safe Routes to School that may be used by schools, parents, the school district, and the City to support healthy travel to school and address congestion and safety at the school gate. This report can be used in the following ways:

Parents can use this report to understand the conditions at their children's school and to become familiar with the ways a SRTS program can work to make walking and biking safer. Concerned parents or city residents have a very important role in the Safe Routes to School process. Parent groups, both formal and informal have the ability and the responsibility to help implement many of the educational and encouragement programs suggested in this plan. Parent groups can also be critical to ongoing success by helping to fundraise for smaller projects and programs that are implementable without serious effort on behalf of the district or local agency.

School district and school administrative staff can use this report to prioritize improvements identified on District property and develop programs that educate and encourage students and parents to seek alternatives to single family vehicle commutes to school. District officials are perhaps the most stable of the stakeholders for a Safe Routes to School program and have the responsibility for keeping the program active over time. District staff can work with multiple schools sharing information and bringing efficiencies to programs at each school working on Safe Routes.

School Administrators can help with making policy and procedural changes to projects that are within school grounds and have the responsibility to distribute informational materials to parents within school publications.

City staff can use this report to identify citywide issues and opportunities related to walking and biking and to prioritize infrastructure improvements. City staff can also use this report to support Safe Routes to School funding applications to the state Active Transportation Program. For all infrastructure recommendations, a traffic study and more detailed engineering will be necessary to evaluate project feasibility, and additional public outreach may be required before final design and construction. For recommendations within the public right-of-way, the City will determine how (and if) to incorporate suggestions into local improvement plans and prioritize funding to best meet the needs of each school community.

Police Department staff can use this report to understand issues related to walking and biking to school and to plan for and prioritize enforcement activities that may make it easier and safer for students to walk and bike to school. The Police Department will also have a key role in working with school administration in providing officers and assistance to some of the proposed education and encouragement programs.

Public health staff can use this report to identify specific opportunities to collaborate with schools and the City to support safety improvements and encourage healthy behaviors in school children and their families.

2 A Primer on Safe Routes to School

2.1 What is Safe Routes to School?

Safe Routes to School (SRTS)¹ is a program with a simple goal: helping more children get to school by walking and bicycling. Envision active kids using safe streets, helped by engaged adults (from teachers to parents to police officers), surrounded by responsible drivers.

Safe Routes to School programs use a variety of strategies to make it easy, fun and safe for children to walk and bike to school. These strategies are often called the “Five Es.”

- Education: programs designed to teach children about traffic safety, bicycle and pedestrian skills, and traffic decision-making.
- Encouragement: programs that make it fun for kids to walk and bike. These programs may be challenges, incentive programs, regular events (e.g. “Walk and Bike Wednesdays”) or classroom activities.
- Engineering: physical projects that are built to improve walking and bicycling conditions.
- Enforcement: law enforcement strategies to improve driver behavior near schools.
- Evaluation: strategies to help understand program effectiveness, identify improvements, and ensure program sustainability.



Figure 1: Riding on Crowell Road near Brown Elementary School: students of all ages can bike to school with the right training, support, and infrastructure.

¹ Safe Routes to School is known by two acronyms in California: SRTS refers to federally funded and national programs, and SR2S refers to state funded programs.

2.2 Benefits of Walking and Bicycling to School

Safe Routes to Schools programs directly benefit schoolchildren, parents and teachers by creating a safer travel environment near schools and by reducing motor vehicle congestion at school drop-off and pick-up zones. Students that choose to bike or walk to school are rewarded with the health benefits of a more active lifestyle, with the responsibility and independence that comes from being in charge of the way they travel, and learn at an early age that biking and walking can be safe, enjoyable and good for the environment.

Safe Routes to Schools programs offer ancillary benefits to neighborhoods by helping to slow traffic and by providing infrastructure improvements that facilitate biking and walking for everyone. Identifying and improving routes for children to safely walk and bicycle to school is also one of the most cost-effective means of reducing weekday morning traffic congestion and can help reduce auto-related pollution.

In addition to safety and traffic improvements, a SR2S program helps integrate physical activity into the everyday routine of school children. Health concerns related to sedentary lifestyles have become the focus of statewide and national efforts to reduce health risks associated with being overweight. Walking or bicycling to school is an easy way to make sure that children get daily physical activity.

SRTS benefits children:

- Increased physical fitness and cardiovascular health
- Increased ability to focus on school
- A sense of independence and confidence about their transportation and their neighborhood

SRTS benefits neighborhoods:

- Improved air quality as fewer children are driven to school
- Decreased crashes and congestion as fewer children are driven to school
- More community involvement as parents, teachers and neighbors get involved and put “eyes on the street”

SRTS benefits schools:

- Fewer discipline problems because children arrive “ready to learn”
- Fewer private cars arriving to drop off and pick up children
- Opportunities to integrate walking, bicycling and transportation topics into curriculum
- Increased efficiency and safety during drop off and pick up times

2.3 Why is a Safe Routes to School Program Important?

Background

Although most students in the United States walked or biked to school pre-1980's, the number of students walking or bicycling to school has sharply declined. Statistics show that 48 percent of students between 5 and 18 years of age walked to school in 1969, with 87 percent walking or bicycling within a mile of school. In 2009 fewer than 14 percent of all students walked to get to school². This decline is due to a number of factors, including urban growth patterns and school siting requirements that encourage school development in outlying areas, increased traffic, and parental concerns about safety. The situation is self-perpetuating: As more parents drive their children to school, there is increased traffic at the school site, resulting in more parents becoming concerned about traffic and driving their children to school.

According to a 2005 survey by the Center for Disease Control, parents whose children did not walk or bike to school cited the following barriers:

- Distance to school 61.5%
- Traffic-related danger 30.4%
- Weather 18.6%
- Crime danger 11.7 %
- Prohibitive school policy 6.0%
- Other reasons (not identified) 15.0%

A comprehensive Safe Routes to School program addresses the reasons for reductions in walking and biking through a multi-pronged approach that uses education, encouragement, engineering and enforcement efforts to develop attitudes, behaviors and physical infrastructure that improve the walking and biking environment.

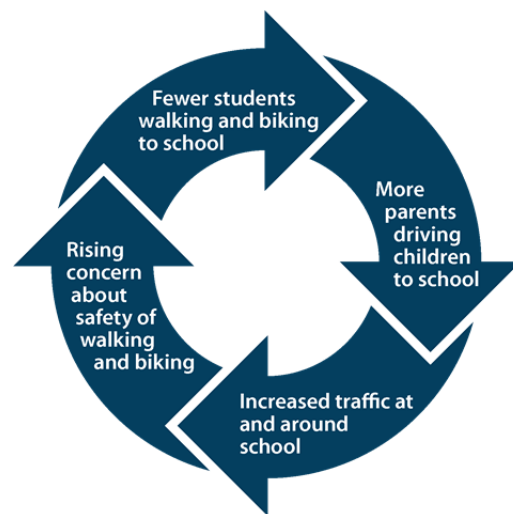


Figure 2: The downward cycle of traffic and reduced walking and bicycling



Figure 3: Crossing guards note that turning motorists often do not yield to students near Osborn Elementary School

² National Safe Routes Partnership, 2009

Target Audience: Middle School Students

Middle school students are a great audience for a Safe Routes to School program, because they have more developed cognitive ability than elementary school students, allowing them to judge unsafe conditions and understand why they need to exhibit safe behavior. Children this age are also likely to have a more comprehensive understanding of road rules and have the peripheral vision development to judge the speed of cars. Further, middle school students have an expanded awareness of social, cultural, and environmental issues and are more likely to understand the values of walking and bicycling.

Planning educational and encouragement activities for middle school students presents opportunities and challenges. This age group is seeking and gaining more independence, but is vulnerable to self-consciousness and peer pressure. Bicycling and walking are viable options for many children this age and may help provide their sought-after independence, but children may perceive walking and bicycling to school as “uncool” or they may be concerned about gaining peer approval. Fortunately for Turlock, biking to school is already a popular activity, and encouragement and education programs can build on this positive behavior.

The success of educational and encouragement programs lies in providing middle school students with opportunities for self-expression, hands-on learning, and playing a role in the implementation of their own Safe Routes to School programs. Students can design and create outreach materials, coordinate logistics for assemblies or publicity campaigns, and use technology and other skills to understand and share their understanding of the value of walking and bicycling.

Potential Programs

The following is a sample of possible programs. More ideas are available on the National Safe Routes to School Partnership website. For each program concept, the recommendation includes the primary intended outcomes, potential lead and partners, a recommended timeframe for implementation, resources and sample programs, and a short description.

Successful programs typically have the backing of a Safe Routes to School Coordinator for each school, who can be an administrator, teacher, or parent volunteer.

2.4 International Walk and Bike to School Day

Primary Outcomes	Increased walking and bicycling; youth empowerment
Potential Lead	Safe Routes to School Coordinator; teachers, administrators, and/or staff
Potential Partners	Teachers/administrators/staff; PTA/parents; TUSD, Stanislaus County Health Services, Turlock Police Department; City of Turlock
Timeframe	Annually on or around International Walk and Bike to School Day in October
Planning Resources	International Walk to School: http://www.iwalktoschool.org/ Walk Bike to School: http://www.walkbiketoschool.org/
Sample Program	Sonoma County Safe Routes To School Day: http://www.sonomasaferoutes.org/

Walk and Bike to School Day is an international event that attracts millions of participants in over 30 countries in October of each year. The event encourages students and their families to try walking or bicycling to school. Parents and other adults accompany students, and staging areas can be designated along the route to school where groups can gather and walk or bike together. These events can be held for one or more days.



Figure 4: International Walk to School Day draws large numbers of students and families to walk to school

Walk and Bike to School Day events are often promoted through press releases, backpack /folder/electronic mail, newsletter articles, and posters.

Incentives

Students often earn incentives for participating, such as healthy snacks, buttons, or stickers. The event planning team can work with local businesses, such as grocery stores, to provide donations to students participating in the events. There can also be a celebration at school following the morning event, such as an awards ceremony, lunch time party, or a raffle. Some schools have recruited “celebrity” walk leaders, such as local high school football team members, the mayor, police officers, etc. This can greatly increase participation.

Walking School Buses and Walkpools

Elementary age children are usually willing to walk to school with parents (whether informally or in an organized “Walking School Bus”). Middle school age children prefer independence from their parents. To address parental concerns about personal security, students can be encouraged to meet up with fellow students on their block and walk together in a “Walkpool” (instead of “carpool”).

2.5 “Open Your Front Door” Walk and Bike to School Maps

Primary Outcome	Improved walking and bicycling safety; increased walking and bicycling
Potential Lead	City of Turlock Planning Department
Potential Partners	Teachers/administrators/staff; PTA/parents; TUSD, Stanislaus County Health Services, Turlock Police Department
Timeframe	Distribute when students and families are adjusting to new habits, e.g., back-to-school, following winter/spring break, as weather gets warmer. Revise and redistribute annually, if possible.
Planning Resources	National Center for Safe Routes to School’s Map-a-Route Tool: http://maps.walkbiketoschool.org/
Sample Maps	Bozeman, MT: http://www.bozeman.k12.mt.us/schools/safe_routes/ Santa Clarita, CA: http://www.santa-clarita.com/index.aspx?page=177 Rochester, NY: http://www.walkinginfo.org/pedsafe/casestudy.cfm?CS_NUM=33

One obstacle currently keeping kids from walking or biking is the perceived notion by parents that it takes too much time or is too dangerous. In truth, a high percentage of students live within two miles of their school (or shuttle school), and most streets and sidewalks near schools are safe for walking and biking. The “Open Your Front Door” maps will start to break down those perceptions by showing preferred routes through neighborhoods; distance and average travel time by foot and by bike; difficulty level based on the topography; locations of crosswalks, stop signs, and bike racks; and high-traffic areas where extra caution is needed.

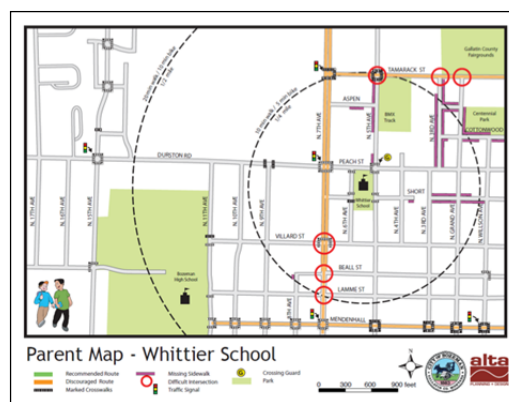


Figure 5: Walk and Bike to School Maps show the safest streets and crossings for getting to school

The Walk and Bike to School Maps may also show park and walk locations, traffic signals, bikeways, paths/trails, school entrances, and crossing guard locations to encourage walking and biking to school. Parent education and encouragement tips can be included on the maps, along with contact information for coordinating a walking school bus. These can be tailored to be directed towards the students themselves as well.

Based on the resources available, the lead agency will determine whether the maps will be distributed electronically or in paper form, as well as how the maps will be produced (e.g., using mapping or drawing technologies, such as GIS or Adobe Illustrator). The lead agency will also address any liability concerns and get approval from the district and administration. Based on any liability constraints, the lead will also determine whether the map will show suggested routes or just factual information that allows families to choose their own routes.

2.6 Law Enforcement: Digital Speed Signs

Primary Outcomes	Improved driving safety behavior
Potential Lead	Turlock Police Department
Potential Partners	City of Turlock Public Works Department
Timeframe	Periodically, perhaps quarterly, beginning at the start of the school year
Planning Resources	Safe Routes to School Online Guide: http://guide.saferoutesinfo.org/enforcement/index.cfm
Sample Programs	Charles County, MD: http://www.ccsso.us/index.php?option=com_content&task=view&id=614 Chicago, IL: http://www.cityofchicago.org/city/en/depts/cdot/provdrs/ped/svcs/crosswalk_enforcement_initiatives.html

Enforcement tools are aimed at ensuring compliance with traffic and parking laws in school zones. Enforcement activities help to reduce common poor driving behavior, such as speeding, failing to yield to pedestrians, turning illegally, parking illegally, and other violations. Law enforcement actions include school zone speeding enforcement, crosswalk stings, and other enforcement activities.

Several school administrators interviewed for this plan listed traffic congestion and traffic that’s too fast as top safety issues. This enforcement “wake-up call” would act as a reminder to drivers about safe school-zone driving expectations and potentially a positive media event in an effort to start changing driving behaviors.



Figure 6 Law enforcement efforts near schools, such as mobile speed feedback signs, complement education and encouragement activities

2.7 Walking Wednesdays / Park-and-Walk Program

Primary Outcomes	Increase bicycling and walking to school; reduced traffic congestion around schools
Potential Lead	PTA/parents or a Safe Routes to School Coordinator
Potential Partners	Teachers/administrators/staff; PTA/parents; TUSD; Turlock Police Department; City of Turlock Planning Department
Timeframe	Weekly on Wednesdays
Planning Resources	National Center for Safe Routes to School Guide: http://guide.saferoutesinfo.org/encouragement/park_and_walk.cfm
Sample Program	Arborfield, England: http://guide.saferoutesinfo.org/encouragement/park_and_walk.cfm

This program is designed to encourage families to park several blocks from school and walk the rest of the way to school. Not all students are able to walk or bike the whole distance to school; they may live too far away or their route may include hazardous traffic situations. It also helps reduce traffic congestion at the school.

The team leading the effort could identify appropriate park-and-walk locations within a quarter mile of the school, typically parking lots that are vacant or underutilized during school drop-off and pick-up times. Once identified, the team could work with property owners to receive permission to use the parking lots for the park-and-walk activities.



Figure 7: A Park and Walk program engages students who live too far to walk or bike the whole distance to school

On Wednesdays, schools could encourage parents to drop their children at a spot at least a quarter mile from school. To expand the reach, school buses would also drop students off at a park-and-walk location on Wednesdays so those students can walk a quarter mile before school. Parent park-and-walk locations could be recommended on the Open Your Front Door maps, and school bus park-and-walk locations could be designated for the school. Extra crossing guards could be provided to assist with crossing streets within a quarter mile of the school.

2.8 Bicycle Safety Training

Primary Outcomes	Improved bicycling safety behavior; youth empowerment
Potential Lead	City of Turlock Planning Department
Potential Partners	Teachers/administrators/staff; Stanislaus County Health Services Agency; PTA/parents; Turlock Unified District; Turlock Police Department ; League of American Bicyclists Instructors
Timeframe	Once each year for sixth graders (or another grade as decided by the school / program lead)
Planning Resources	National Center for Safe Routes to School Guide: http://guide.saferoutesinfo.org/education/key_messages_for_children.cfm#bicyclist
Sample Program	Oregon Bicycle Safety Curriculum: http://walknbike.org/bike-safety Marin County, CA: http://www.saferoutestoschools.org/curriculum.html

Currently, there is no ongoing program in the City of Turlock that provides bike safety training to students. A series of bike rodeos was held as part of the Turlock Active Transportation Plan development in 2014.

Bicycle safety training is generally most appropriate beginning in or after the third grade and helps children understand that they have the same responsibility as motorists to obey traffic laws. In-school curriculum often includes three parts: in-class lessons, mock street scenarios or skills practice, and on-street riding. Various existing curricula are available online from a number of sources at no cost, or schools may choose to develop one on their own.



Figure 8: In school lessons get students on the same page about safety and riding rules before skills practice

2.9 Kids on the Move! Media Campaign

Primary Outcomes	Increased walking, bicycling, transit, and/or carpooling; improved walking, bicycling, and/or driving safety behavior; health and/or environmental connections; youth empowerment
Potential Lead	Stanislaus County Health Services Agency and/or a Safe Routes to School Coordinator
Potential Partners	Teachers/administrators/staff; PTA/parents; Turlock Unified District; Turlock Police Department ; League of American Bicyclists Instructors
Timeframe	Ongoing/periodic, such as monthly newsletters
Planning Resources	National Center for Safe Routes to School Guide: http://guide.saferoutesinfo.org/media/index.cfm
Sample Programs	Alameda County, CA: http://www.alamedacountysr2s.org/events-and-news/#newsletter Portland, OR: http://www.portlandoregon.gov/transportation/45746

Some Turlock residents still view kids on our streets as irregular. The strongest Safe Routes to School efforts are those that, over time, begin to make change to the community culture by normalizing walking and bicycling. One of the ways to help promote walking and bicycling as normal, everyday activities is to disseminate consistent, ongoing communications to the school and surrounding community. A campaign could include newspaper articles, radio spots, Facebook posts, and videos on YouTube and local access TV. The campaign will give information about the benefits of walking and biking to school and how residents can work as a community to help students feel safe on our streets and sidewalks. Newspaper segments will be fun and eye-catching, while educating residents about benefits, providing quotes from kids about why they love walking and biking to school, and showing ways residents can help students feel safe on our roads.

2.10 Fix a Bike Program / Bike Swap

Primary Outcomes	Encouragement; youth empowerment
Potential Lead	Bicycle shop(s)
Potential Partners	PTA/parents; Stanislaus County Health Services; City of Turlock
Timeframe	Once each year
Planning Resources	Wheels for Winners Program: http://www.wheelsforwinners.org/curriculum.pdf
Sample Program	North Natomas 50 bike for 50 kids: http://northnatomastma.org/bike/50-bikes Davis bike swap: http://www.davisenterprise.com/local-news/briefly/get-ready-for-chavez-bike-swap/

Many children don't own a bike or when it gets a flat tire, parents don't have the skills, time or money to have it repaired. The program could begin as a small pilot in which select middle school students could work with volunteers to learn how to fix donated bikes. Students would be able to keep the first bike they fix; future bikes will go to other students in need. The program could include an education segment in which students learn safety, maintenance, and routes in their neighborhoods. Most importantly, at-risk students can attain bikes, and the "mechanics in training" will gain pride, ownership, mentors, and confidence.



Figure 9: North Natomas 50 bike for 50 kids event

2.11 Evaluation

Why Evaluate?

Evaluation is an important component of any Safe Routes to School effort. Not only does evaluation measure a program's reach and impact on a school community, it can also ensure continued funding and provide a path forward for ongoing and future efforts. Evaluation can measure participation and accomplishments, shifts in travel behavior, changes in attitudes toward biking and walking, awareness of the Safe Routes to School program, and/or the effectiveness of processes or programs.

Safe Routes to School evaluation is beneficial in the following ways:

- To demonstrate the value of continuing your program, with school faculty and administration, the district, parents, and elected officials.
- Provides a record of your efforts to serve as institutional memory, as parents and their children move on to other schools and as staff turns over.
- Confirms if you are accomplishing or working towards what you set out to do or if there is a mismatch in your efforts and your goals necessitating course corrections.
- Encourages continued funding for Safe Routes to School programs. Data collected and shared by local programs can influence decisions at the local, state and national level. In part, today's funding and grant programs exist because of the evaluations of past programs.

Evaluation Basics

At a minimum, SRTS evaluation should include the standard classroom hand tallies and parent surveys expected in order to be consistent with the national Safe Routes to School program. Evaluating the programs can - and should where possible - delve beyond this, but it need not be burdensome. Evaluating the program can be as simple as recording what you did and when you did it, and counting or estimating the number of students who participated or were reached. Recording planning efforts and taking photos is also helpful for the legacy of the program. In most cases, it is beneficial to measure more, such as school travel mode split and/or miles walked/biked, from which the school, district or city can estimate environmental, health, and other impacts.

There are two kinds of information that can be collected: quantitative data (numbers, such as counts, logs, and survey results) and qualitative data (words/images, such as observations, interviews, and records). Further, there are several different ways to collect information. This includes the following:

1. Conducting tallies/counts
2. Keeping logs (such as for mileage tracking)
3. Conducting surveys and interviews
4. Conducting observations and audits
5. Keeping planning and process records

Regardless of how elaborate you make your evaluation, it is important to plan ahead for measuring and tracking results. When you are designing your program, consider how you are going to evaluate it from the beginning, so that you can build in mechanisms for collecting the necessary data. For example, if showing changes in travel behavior over time is important to your effort, you will need to start by

collecting baseline data so you know how students are getting to school currently in order to be able to demonstrate any change later.

Below is a series of basic steps to take in designing and executing your program evaluation:

1. Establish your goals and plan the specific program.
2. Decide what, how, and when to measure.
3. Collect baseline information, if necessary.
4. Conduct the program and monitor progress.
5. Conduct any post-program data collection, if necessary.
6. Interpret your data.
7. Use and share your results.

More resources for evaluation can be found on the National Center for Safe Routes to School's website here: <http://guide.saferoutesinfo.org/evaluation/index.cfm>.

3 School Infrastructure Audits

3.1 Method

Audits and recommendations have been conducted with reference to the California 2012 edition of the Manual of Uniform Traffic Control Devices (MUTCD), in particular Part 7 Traffic Control for School Areas. Alta and Omni Means transportation planners and engineers conducted the audits between May 12 and May 16, 2014.

3.2 Audit General Recommendations

Turlock's schools are geographically well distributed, which means that most students and parents are located within a feasible walking and cycling distance. The school district should:

1. Continue to provide neighborhood sized schools conveniently located throughout the community to support healthy travel choices and minimize the need to use automobiles.
Resource: Smart School Siting <http://changelabsolutions.org/publications/smart-school-siting>

All stakeholders should initiate a Safe Routes to School Program to:

2. Minimize the need for parking and roadway expansion by encouraging healthy travel options
3. Continue the bicycle skills training program (described in more detail on page 10) to encourage safe and comfortable bicycle travel to school
4. Collect data on school travel mode through student "hands-up" counts at least twice annually, and counts of bicycles parked in bike racks at each school

The City of Turlock should:

5. Conduct speed surveys on streets around schools and consider traffic calming strategies where the surveys suggest traffic speeds are too high for pedestrian areas. Existing reduced speed limits are associated with "when children are present" signs which is defined as "while children are going to or leaving the school, either during school hours or during the noon recess period," under California Vehicle Code Section 22358.4. State Assembly Bill AB 321 (2008) allows local governments to extend school zones to 1,000 feet and reduce speed limits within 500 feet of a school site to 15 mph on residential streets or two-lane roads, where speed limits are already 30 mph or less
6. Replace all transverse crosswalk markings in school zones or along suggested routes to school with high-visibility crosswalk markings.
7. Perform an engineering audit of streets adjacent to older schools to assess potential ADA improvements. Develop an ADA prioritization plan and dedicate funding for such improvements
8. Educate bicyclists on riding 4' from parked cars; remark bike lanes with two stripes as per Figure 11 wherever possible during routine resurfacing and remarking program

The Turlock Police Department should:

9. Proactively engage with the school district each year to disseminate educational messages addressing recurrent parking infringements and unsafe behaviors
10. Continue random police patrols at each school 1-2 days per month to encourage good behavior
11. Utilize mobile speed feedback signs to remind motorists of their speed in reduced speed zones



Figure 10: A typical 13' wide shared bike / parking lane in Turlock, showing bicyclists at edge of door zone

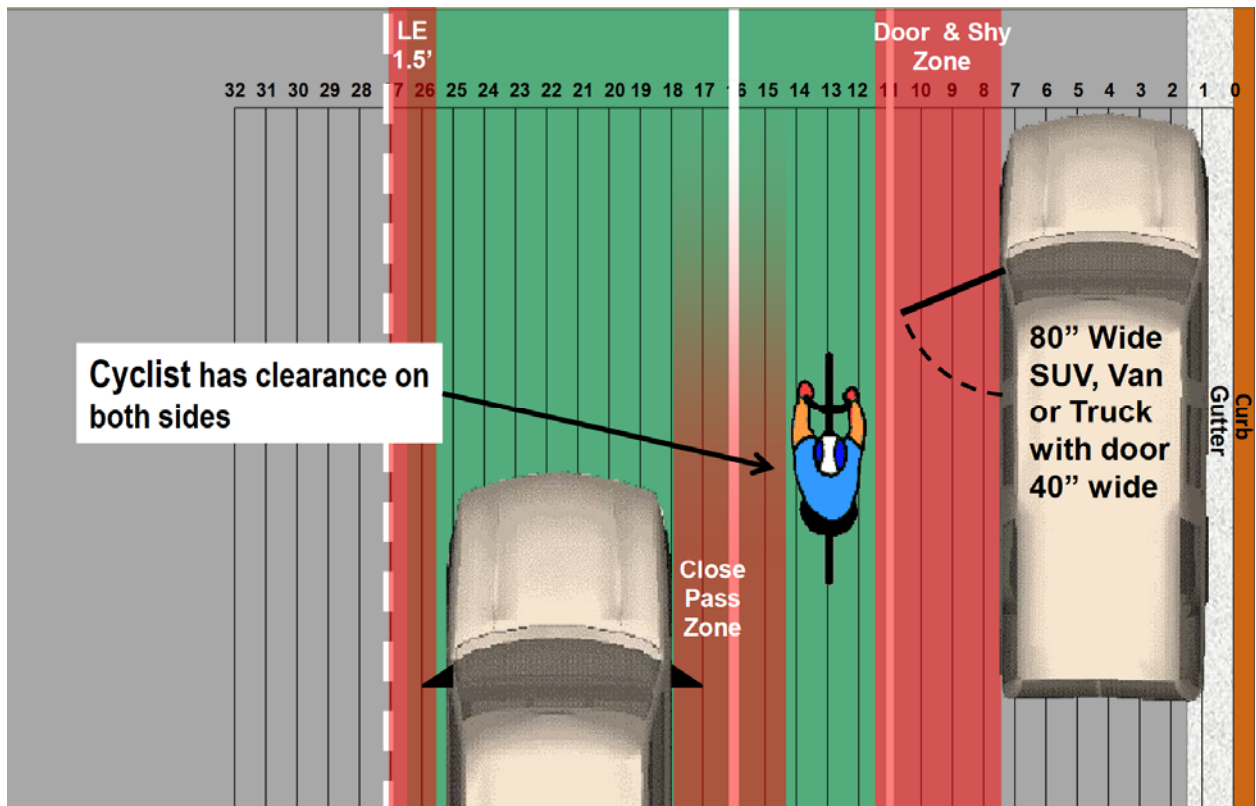


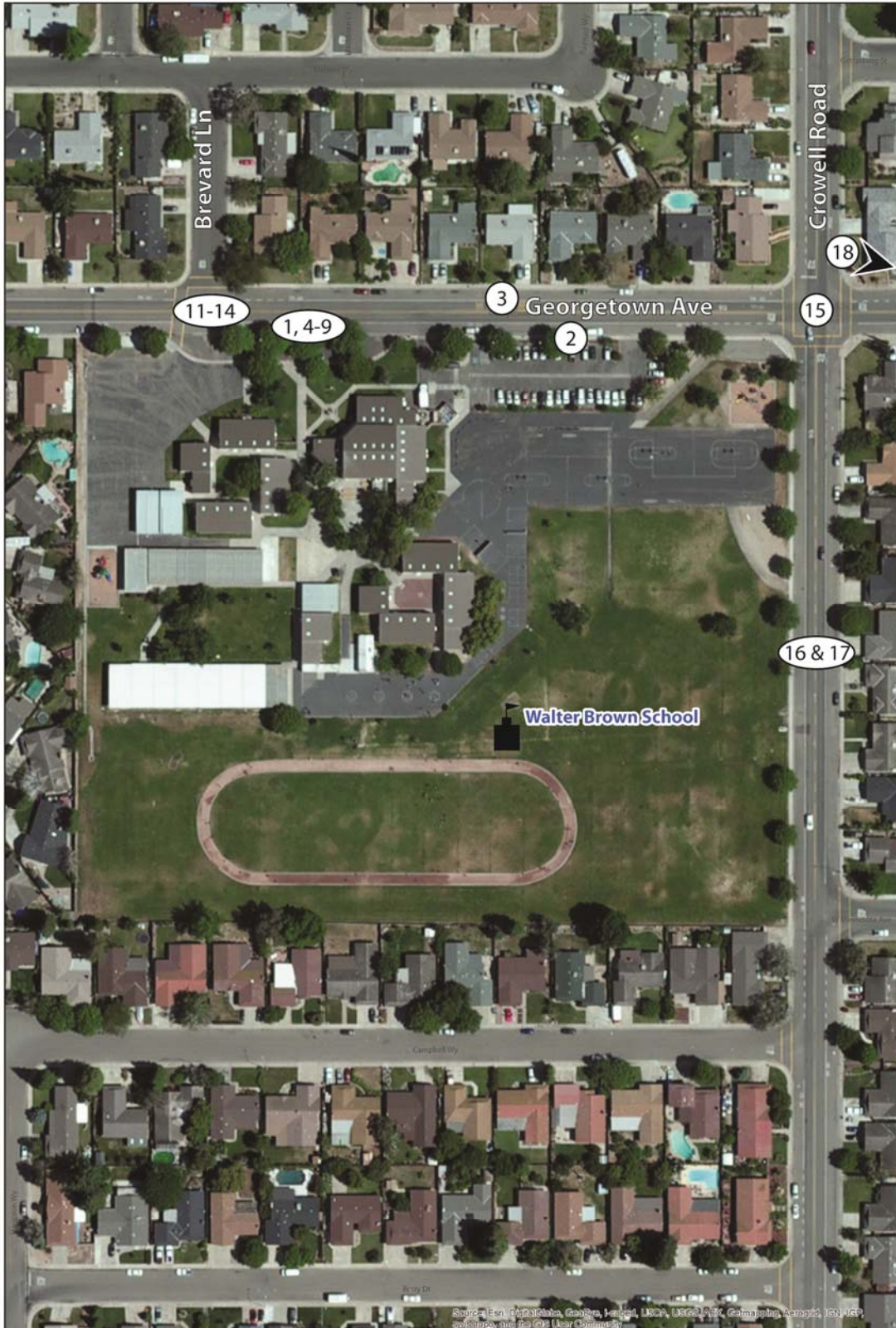
Figure 11: Bicyclist clearance zones. Scale is in feet from curb face (source: Caltrans seminar - Understanding Bicycle Transportation)

3.3 Brown Elementary School

Like many schools in Turlock, Class II bike lanes near this school are shared with parking, placing bicyclists in the door zone.

Observations and Existing Conditions	Recommendations
School Frontage – Georgetown Ave	
1. No sidewalk is paved at primary loading zone on Georgetown Ave. Children are dropped off in the grass, which becomes muddy during rainy season.	Install sidewalk along loading zone.
2. Sidewalk is uneven, creating challenges for wheelchair users or parents with strollers.	Repair sidewalk to meet ADA standards.
3. School zone pavement markings are faded.	Refresh markings.
4. Loading zone signage is not CAMUTCD compliant.	Update signage to meet CAMUTCD standards.
5. Children who are dropped off at primary loading zone must cross bus loop to access campus.	Install curb ramp and crosswalk through bus zone to align with existing curb ramp.
6. Some parents are parking in the loading zone, creating additional congestion.	Implement student valet program to encourage drivers to pull all the way forward, prevent parking in the loading zone, and assist students crossing the bus loop.
7. If loading zone is full, parents use bus loop or block entrances to bus loop and staff parking	Add drop-off prohibition signage, increase education and enforcement efforts
8. Parents double-park in bike lane to drop off kids.	Add drop-off prohibition signage, increase education and enforcement efforts
9. Illegal U-turns are being made in front of the school on Georgetown Ave.	Conduct periodic enforcement action Educate parents through newsletters
10. Monday trash collection and food delivery trucks conflict with morning student arrival time	Arrange for trash collection and food trucks to arrive after 8:45 a.m.
Georgetown Ave and Brevard Lane	
11. Uncontrolled crosswalk lacks advance warning signs; early morning sun makes it hard to see for eastbound traffic	Install advance warning signs to meet CAMUTCD standards; mark crosswalk with yellow high visibility ladder markings
12. Slow School Xing pavement markings are faded and too far from crosswalk.	Refresh markings and position them to meet CAMUTCD standards.
13. Low hanging tree foliage blocks crosswalk sign for eastbound traffic.	Trim tree to improve visibility and clearance for pedestrians.
14. Congestion at the loading zone/ bus loop / parking entrance makes the crosswalk difficult to navigate.	Station a crossing guard at this location
Georgetown Ave and Crowell Road	
15. Crossing guard advises need for a cone to prevent right turns while she is in the crosswalk	Conduct enforcement action to remind motorists of legal requirement to yield to crossing guards
Crowell Road	
16. Parents drop kids off on far side of Crowell Road leading to midblock crossings to access school gate.	Provide curb ramp at west end of the crosswalk at Minnesota Avenue; increase parent and student education
17. Parents double park in bike lanes to drop kids off.	Consider bike lane/no parking signage and/or red curbs Increase education and enforcement
Dels Lane and Georgetown Ave	
18. Two-way stop is challenging for students crossing Dels Lane; high speeds observed	Convert to all-way stop.

Safe Routes to School in Turlock



Brown Elementary School

alta Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means Map created: March 2014

0 0.01 0.02 Miles

3.4 Crowell Elementary School

This was one of the most enthusiastically attended Bike Rodeos indicating significant latent demand for active travel to school. A crossing of Hawkeye Avenue into Palm Street and prioritization of North Avenue for walking and bicycling can support active travel.

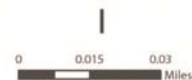
Observations and Existing Conditions	Recommendations
School Frontage – North Ave and Alleyway	
1. Long portion of North Ave curb is marked for bus zone and parents currently drop off at this curb	Match length of bus zone to number of buses
2. Staff parking lot driveway requires staff attendance to limit access to students with special needs.	Install signage at driveway regarding access rules
3. Parents park across the street and wave their kids across midblock, which the school discourages. Parents have responded rudely to attempts to enforce this rule.	Increase education about use of Geer and Loyola crosswalks Consider raised crosswalk with curb extensions west of the parking lot to minimize number of conflict points and match student desire lines to facilities.
4. A neighboring church has offered that parents may park at the back of their parking lot to walk their children into school. Many parents park at the front of this lot, to avoid walking through the parking lot to get to school. Pedestrian gate is locked.	Work with church to open this gate during morning arrival and afternoon dismissal to allow students to access campus directly instead of walking around to the front of the school. Mark crosswalk across drop-off alley from gate
5. One-way alley (Hawkeye Ave to North Ave) provides drop-off access for parents along the west edge of campus; long queues observed; exit is right turn only but many parents make lefts; right turners conflict with Loyola Ave crosswalk.	Install flexible posts along centerline to prevent left turns. As per recommendation 3, consider relocating this crosswalk west of the parking lot
6. Diagonal parking on left-hand side of alley is used by teachers; when school started this parking was almost fully utilized.	Consider reversing alley travel (southbound) to provide staff parking on the east side, allow loading adjacent to campus Consider implementation of a staff travel plan
North Ave and Loyola Way	
7. ADA ramps are missing at crosswalks. A wheelchair user and a mobility device user were both observed traveling in the street near these crosswalks to access driveway ramps.	Install curb ramps to meet ADA requirements.
8. Crosswalks on north and east legs are marked with yellow transverse markings.	Mark crosswalks with yellow high-visibility ladder-style crosswalk markings.
9. Slow school xing markings are not CAMUTCD compliant – should be 100' from crosswalk.	Replace markings to meet CAMUTCD
10. Advance warning signs are missing.	Install advance warning signs to meet CAMUTCD
11. Crossing guard has significant difficulty getting drivers to yield for pedestrians	Install RRFB Increase enforcement
12. Drivers illegally pass cars that have stopped to allow pedestrians to cross.	Consider installing curb extensions at crosswalk on North Ave to shorten crossing distance and prevent illegal passing.
Hawkeye Ave and Palm St	
13. No crosswalks are marked across Hawkeye Ave; many students live in the apartments across the street. Student desire line is between Palm Street and the path parallel to the alley.	Consider a pedestrian hybrid beacon or RRFB

Safe Routes to School in Turlock



Crowell Elementary School

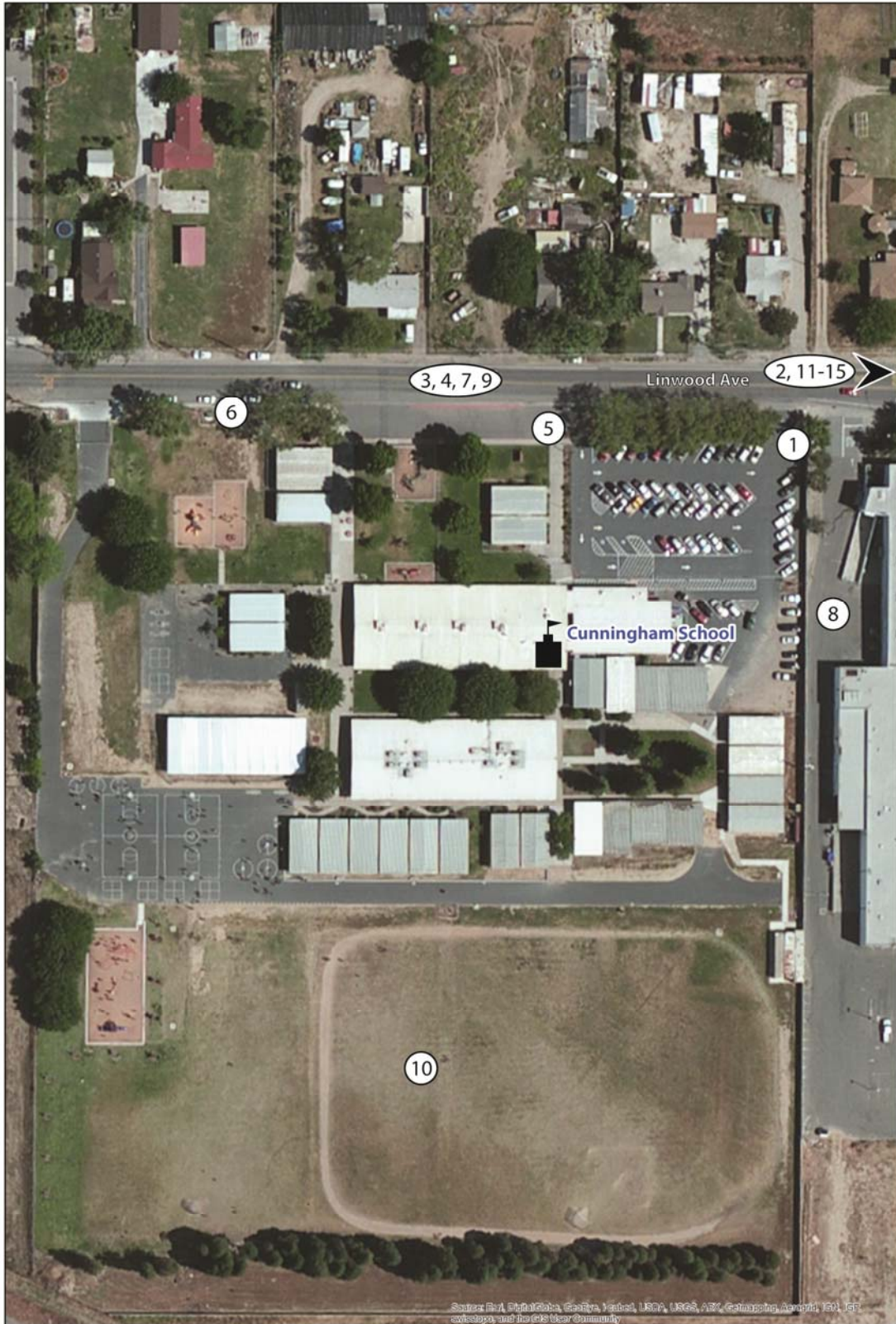
alta Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means Map created: March 2014




3.5 Cunningham Elementary School

The key infrastructure improvements for this school would be completion of street frontage improvements to West Linwood Avenue along the school frontage and filling in sidewalk and crossing gaps along Lander Avenue (corridor improvements would also benefit Wakefield Elementary)

Observations and Existing Conditions	Recommendations
School Frontage – Linwood Ave	
1. Congested fenced walkway at east edge of campus provides access without crossing parking lot.	Consider removal of two angled parking spaces at end of the double aisle to widen the walkway (TUSD)
2. New bike lanes west of campus on both sides of road are not well connected to Lander Ave	Complete street frontage improvements (long term) Mark bike lane on north side and narrow travel lanes to provide more space on south side (short term)
3. No crossings are provided to access the campus except at Lander Ave	Provide mid-block crossing to access school from the north side of Linwood, west of parking lot entrance, with RRFB and sidewalk improvements along the north side of the street.
4. Sidewalk is uneven along school frontage.	Reconstruct damaged sidewalk (short term)
5. Crosswalk across bus loop is missing ADA ramps and has irregular geometry and insufficient width.	Provide ADA compliant ramps and a shorter (perpendicular) crosswalk to access school entrance.
6. Continuous fencing is not provided along frontage.	Provide continuous fencing and gates to restrict unauthorized access to school.
7. Pavement is in poor condition along Linwood Ave, and markings do not meet CAMUTCD standards.	Repair failing asphalt and restripe the roadway to meet CA MUTCD standards.
8. Parents parking in private (commercial) driveway to drop children off and avoid Linwood Ave queues	Reconfigure drop-off area in parking lot to reduce the impacts to traffic along Linwood Ave.
9. When the pickup/drop-off area is filled in the school parking lot, queues form in both directions along Linwood: there was a 14 car queue in the WB direction waiting to turn left into parking lot. Through traffic was passing the queued cars in the bike lane. EB traffic had queued cars stopping along the painted red curb for fire access to avoid impacting through traffic.	Reconfigure drop-off area to reduce queuing on Linwood Avenue. Restripe roadway to provide left turn pocket to reduce unsafe passing maneuvers (this would be best implemented with road widening and full street frontage improvements so as to include bike lanes) Provide right turn pocket near bus drop-off area.
10. It is planned to construct staff parking in rear of school to provide better use of parking lot.	Improvements should move forward, increasing flexibility of reconfiguring parking and drop-off areas.
Linwood Ave and Lander Ave	
11. No bike lanes are provided along Lander Avenue.	Provide bicycle lanes along Lander Avenue and at signalized intersection with Linwood Avenue
12. No warning of school crossing at Linwood and Lander Signal;	Provide warning signage at intersection to watch for and yield to pedestrians.
13. Pedestrian ramps at Linwood/Lander Avenue do not meet ADA standards; the southwest curb ramp is severely damaged from truck tires.	Reconstruct pedestrian ramps to meet current standards. Redesign southwest curb return to accommodate truck movements.
14. Pedestrian crossing signal was not working on southwest corner of the intersection.	Repair broken pedestrian crossing signal.
15. Queue at Linwood/Lander Avenue signal backs up to school; left turn from Linwood Ave must yield to through traffic causing additional queuing.	Modify signal timing to accommodate school traffic. Or Provide a demand-actuated signal to reduce queuing.



Cunningham Elementary School

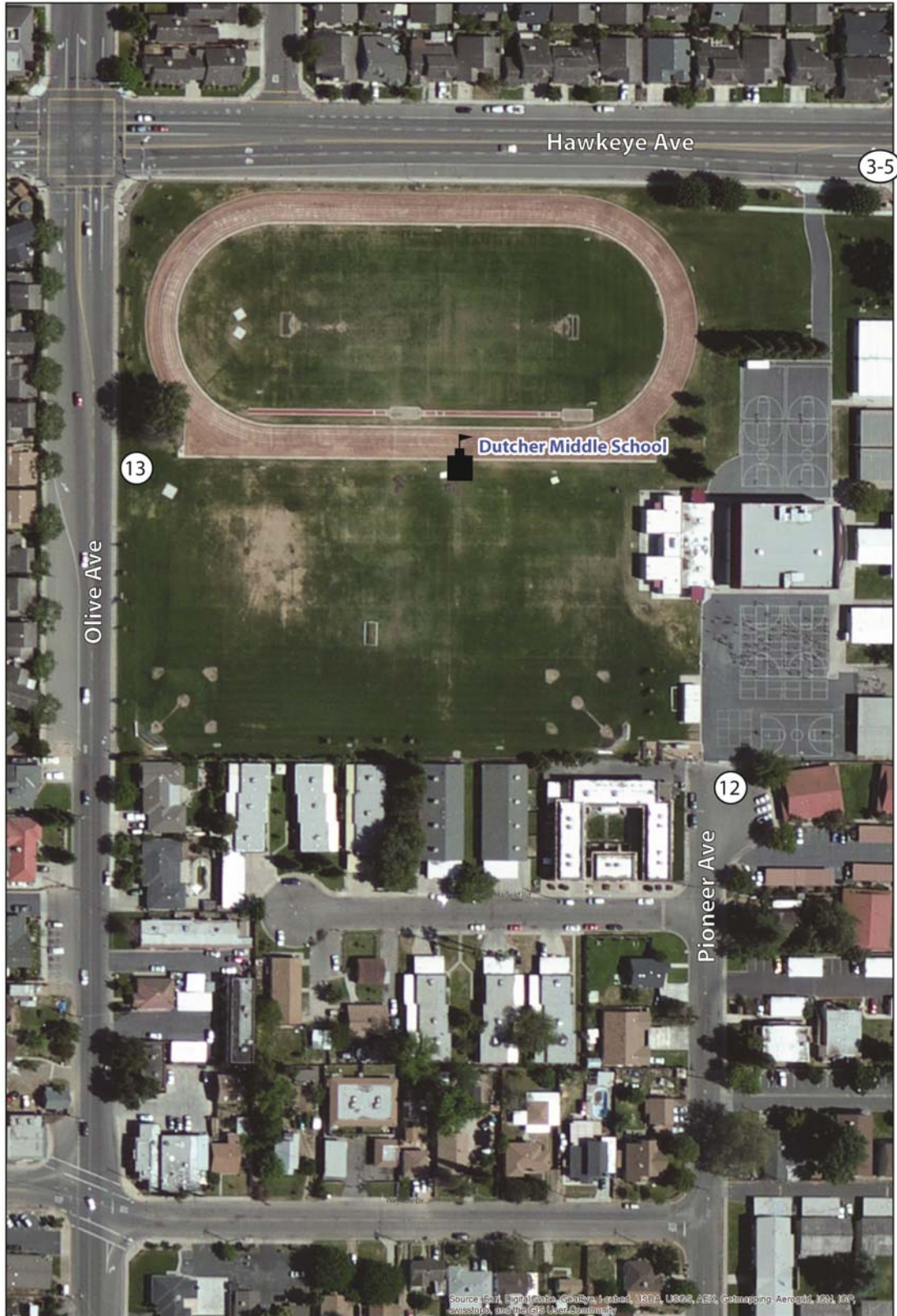
 Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means
Map created: March 2014

0 0.01 0.02 Miles

3.6 Dutcher Middle School

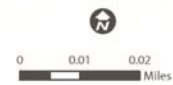
The wider network in the vicinity of this school could benefit from rehabilitation and non-motorized network improvements. For example, North Olive Avenue and East Main Street have a number of sidewalk gaps, with the former being a prime candidate for a priority bicycle route.

Observations and Existing Conditions	Recommendations
Drop-off Loop (off Colorado Ave)	
1. Sidewalk does not extend the full length of the drop-off loop. Parents and buses drop off children into the grass.	Install sidewalk along full length of drop off loop to connect with existing sidewalk along Colorado Ave.
2. Congested at ‘front’ end of loop; parents pull up to first available curb space instead of pulling forward to allow room for other cars behind them.	Install “Do not block middle lane” signage Increase education to parents and students about proper use of loop
Bus Loop (off Hawkeye Ave)	
3. Many parents currently use bus loop for drop off.	Install signage; increase education and enforcement
4. Entrance and exit to bus loop conflict with bike lane on Hawkeye Ave.	Use green thermoplastic in bike lane at conflict points
5. Speed limit signs are posted in grass.	Move signs closer to the roadway to increase visibility.
School Frontage – Colorado Ave	
6. Parents park in bike lane to drop off at the curb instead of using drop-off loop.	Add green backed bike lane symbols to bike lane Consider bike lane / no parking signage
7. School zone markings are faded.	Refresh markings.
8. Pavement quality in bike lane is poor.	Resurface roadway (will require milling to provide flush joint to gutter pan)
9. Street sweeping occurs during arrival on Thursdays.	Reschedule street sweeping to begin after 8:45
10. Speeding along Colorado Ave is a concern.	Increase enforcement; provide active speed feedback sign
Hawkeye Ave and Colorado Ave	
11. Significant congestion from drop-off loop entrance creates challenges at this intersection.	Consider eastbound lane drop following Olive Ave intersection to eliminate right turn trap lane at Colorado. Provide buffered bike lane or minimum 6’ bike lane adjacent to parking eastbound to Colorado. Consider west leg layout changes including parking prohibition westbound to provide a through bike pocket eastbound <u>or</u> staggered stop line for the curbside bike lane eastbound to highlight bicycle presence to right turning vehicles
Pioneer Ave Gate	
12. Open before and after school; locked during school hours; provides direct access to bike parking area	Encourage parents and students to use this route for walking and cycling access. Fill in sidewalk gaps on Wayside Drive to make better use of Pioneer Ave access route
Olive Ave Gate	
13. Leads to grass field	Develop paved path from gate to main campus



Dutcher Elementary School

Data obtained from: The City of Turlock,
Sanislaus County, and Omni-Means
Map created: March 2014

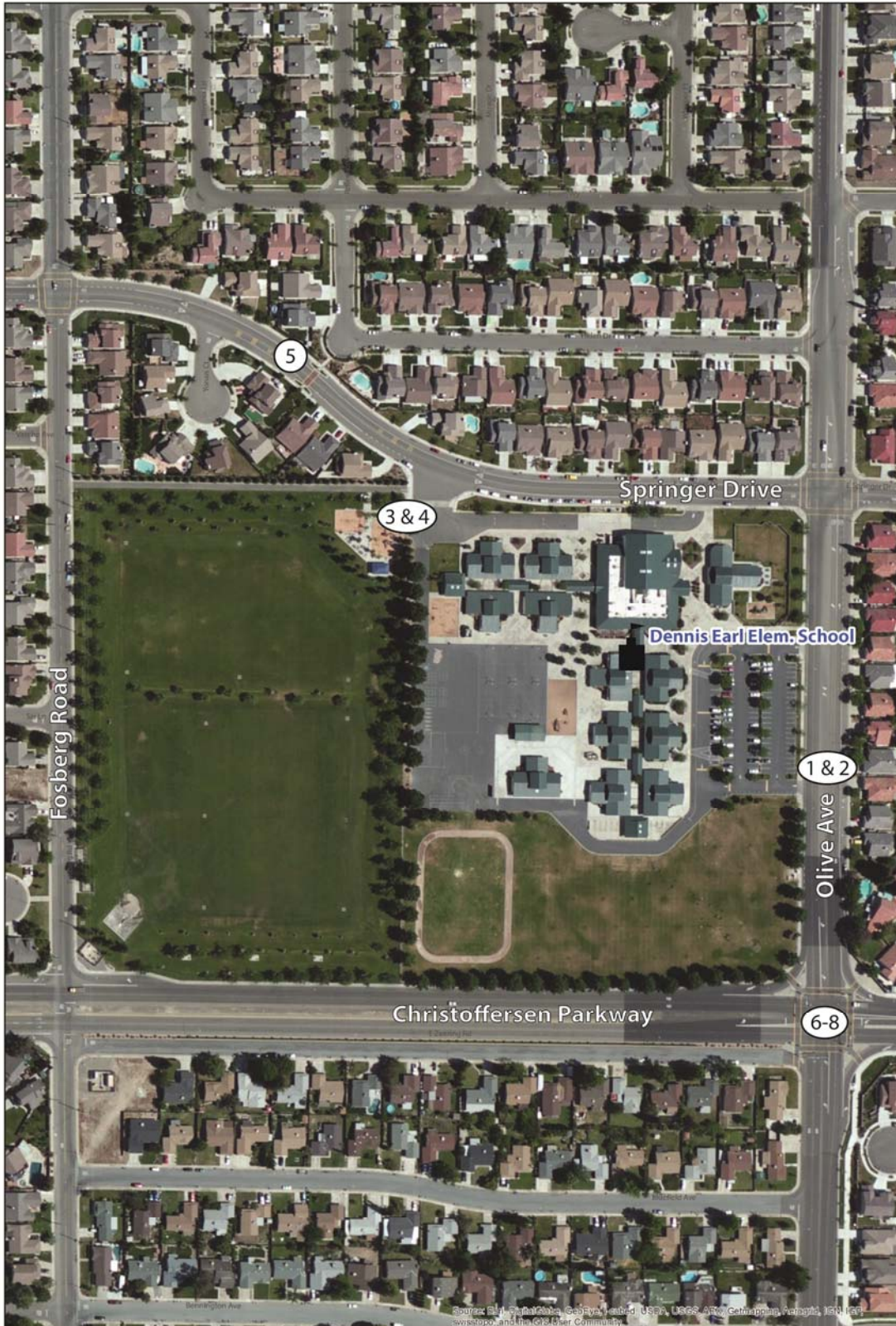


3.7 Earl Elementary School

This school has 8 bike parking racks that were lightly used on the day of the audit. An additional bike rack could be located near the school office for parent and staff use. A challenge to active travel here is the lack of a crossing at Fosberg Road, which cuts off many residents in the southern neighborhoods. West Springer Drive should be designated as a pedestrian and bicycle priority route as there are no high quality alternatives. The raised crosswalk on Springer Drive leading into Reflection Avenue / Helen Drive should be held up as a model for the rest of the city, although minor improvements are recommended.

Observations and Existing Conditions	Recommendations
School Frontage – Olive Ave	
1. Long queues form in median on Olive Avenue to enter school parking lot.	Median storage is sufficient, no improvement suggested.
2. Misleading pavement markings in median gives drivers the impression they can turn left into the school exit only driveway.	Remove left turn arrow pavement marking in median to avoid driver confusion.
Springer Drive	
3. Heavy foot traffic along shared use path at Christoffersen Park and westward along Springer Drive.	Potential to add additional access controlled gate along western edge of school to accommodate a natural desire line for pedestrians and cyclists through Christoffersen Park.
4. Access point on Springer Drive near the shared use path at Christoffersen Park is very wide. Observed vehicles blocking bus driveway, making illegal u-turns, parking in fire lane, pedestrians crossing street not at designated crosswalks.	Provide intersection control such as a mini roundabout or traffic circle to prohibit illegal maneuvers and reduce conflict points.
5. Midblock crossing on Springer Drive has poor sight distance and signage is difficult to see due to the geometry of the road. There is a low point on the southern landing of the crossing where water is ponding.	Relocate crosswalk signage to planter area in concrete bulb out to increase visibility. Construct drainage inlet at low point to reduce ponding.
Christoffersen Pkwy and Olive Ave	
6. No bike lanes are provided along Christoffersen Parkway (40' wide for two traffic lanes in each direction), currently people ride on the 5 foot sidewalk with pedestrians.	Provide buffered bike lanes on Christoffersen Pkwy
7. Olive Ave bike lanes are dropped at intersection; free right turns with short receiving lanes create conflict points between merging vehicles and through bicyclists	Consider removal of free right turns Install bike lanes up to the intersection on all approaches and departures, with green color at conflict / merge points
8. Northbound Olive Ave bike lane is shared with parking	Provide additional lane line to delineate between parking and bike lane; consider lane narrowing to achieve a wider bike lane.

Safe Routes to School in Turlock



Earl Elementary School

alta Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means Map created: March 2014

0 0.02 0.04 Miles

3.8 Julien Elementary School

This school had a full bike rack on the day of the audit, indicating a need for more bike parking capacity. A key opportunity would be to better link the Canal Dr Class I path to the north.

Observations and Existing Conditions	Recommendations
School Frontage: East Canal Drive	
1. In the PM condition, observed vehicles traveling above posted 25mph on Canal Street in the vicinity of the school while pickup/drop-off activities are occurring and pedestrians are crossing the Canal Street.	Increase enforcement and education Provide active speed feedback signage Increase the number of speed limit signs Install school zone pavement markings
2. In the PM condition, observed queues form and the pick-up drop-off area along Canal Street causing motorists to double park vehicles in attempt to stay out of the traveled way. It is planned to convert drop off lane into additional roadside parking.	The main vehicle pick-up drop-off area should be provided along Canal Street since this heavily used. Move forward with additional roadside parking stalls. Restripe roadway in front of school to provide larger waiting area with hatching to warn motorists of loading/unloading zone.
Johnson Road	
3. Alley corner sight distance to access Johnson Road is not sufficient.	Trim overgrown shrubs. Provide warning signage to alert motorists of the potential of cyclists.
Canal Drive and Johnson Road	
4. One crossing guard is utilized at the irregular intersection of Johnson Road and Canal Drive. It is difficult to control traffic safely with such a wide intersection.	Utilize an additional crossing guard on the north side of the intersection to help with traffic control through the intersection. Provide high visibility ladder style crosswalks Install curb extension on southwest corner to shorten Canal Drive crossing distance and improve pedestrian conspicuity Consider traffic signals or reduction in number of lanes on Canal Drive
Wallace Street and Carrigan Street	
5. Wallace Street is heavily congested with parent pickup and drop-off, with only one 5' wide sidewalk on the west side.	Consider widening the sidewalk into the roadway (prohibiting parking on west side only) and creating a bicycle boulevard / wide shared use path) or widening sidewalk into the school property.
6. Carrigan Street provides an opportunity for east/west route to the rear of the school and the high school but is potholed and rough	Repave Carrigan Street
7. There is no convenient crossing of Johnson Road	Provide high visibility ladder style crosswalks on all three legs of the Carrigan / Johnson intersection



Julien Elementary School

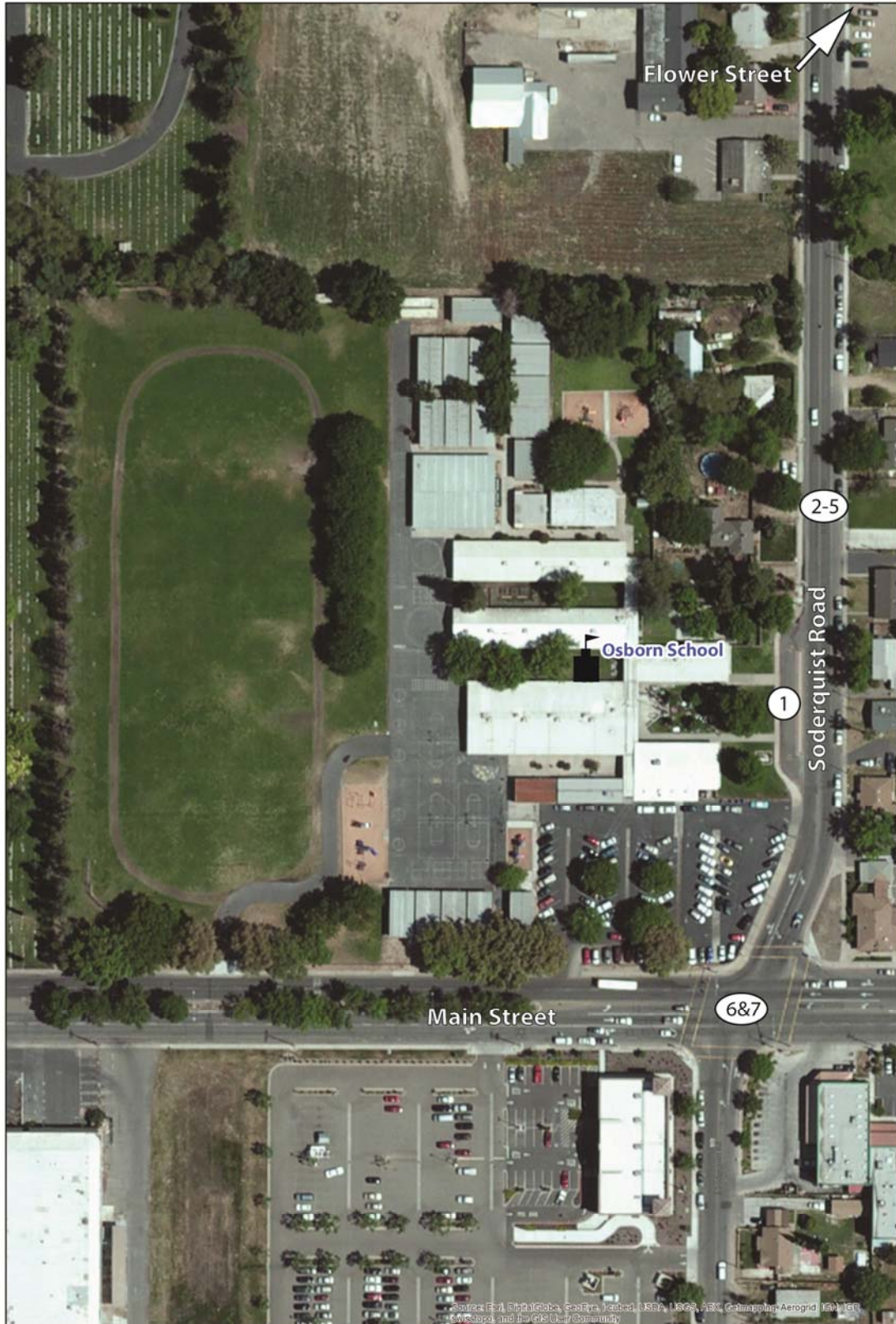
altea Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means
Map created: March 2014



3.9 Osborn Elementary School

Located in an older part of town, this school appears to have a high walk and bike mode share. Bicycle network improvements on West Main Street and North Tully Road would further enhance active travel to this school. The key opportunity here would be improvements to the Soderquist / Main signalized intersection, which has long crosswalks on the mainline and aging pedestrian facilities.

Observations and Existing Conditions	Recommendations
School Site – Bus loop and main entrance	
1. In bus loop, the sidewalk is narrow given the high peak pedestrian volumes.	Widen sidewalk (TUSD)
School Frontage: North Soderquist Road	
2. Parents make u-turns on North Soderquist Road	Increase education and enforcement efforts
3. Parents stop in bike lane to drop off students	Install bike lane / no parking signs Increase education and enforcement efforts Advise parents of alternative drop-off points including Flower Street
4. Northbound bike lane is shared with parking, encouraging bicyclists to ride in the door zone; southbound lane is too narrow for comfortable cycling	Add a bike lane stripe between the bicycle operating space and parking lane to improve parking discipline against the curb; narrow travel lanes to 10' to widen bike lanes. Improve all markings for higher visibility; consider green bike lanes in conflict areas.
5. Sidewalk on west side of Soderquist Road has multiple utility poles and other obstructions that reduce the navigable width below ADA standards	Relocate utility poles OR provide sidewalk that meets minimum width standards
West Main Street	
6. Right turning vehicles into North Soderquist Road often do not yield to pedestrians, even with a crossing guard present. Guard uses a cone to help stop turning cars	Consider curb realignment of northeast corner to shorten crossing distance for Main Street and clarify lane use. Prohibit right turns on red from southbound Soderquist Road onto westbound Main Street.
7. Main Street has no bicycle facilities	Consider Class II bike lanes on corridor



Osborn School

alita Data obtained from: The City of Turlock, Sanislaus County, and Omni-Means
Map created: March 2014

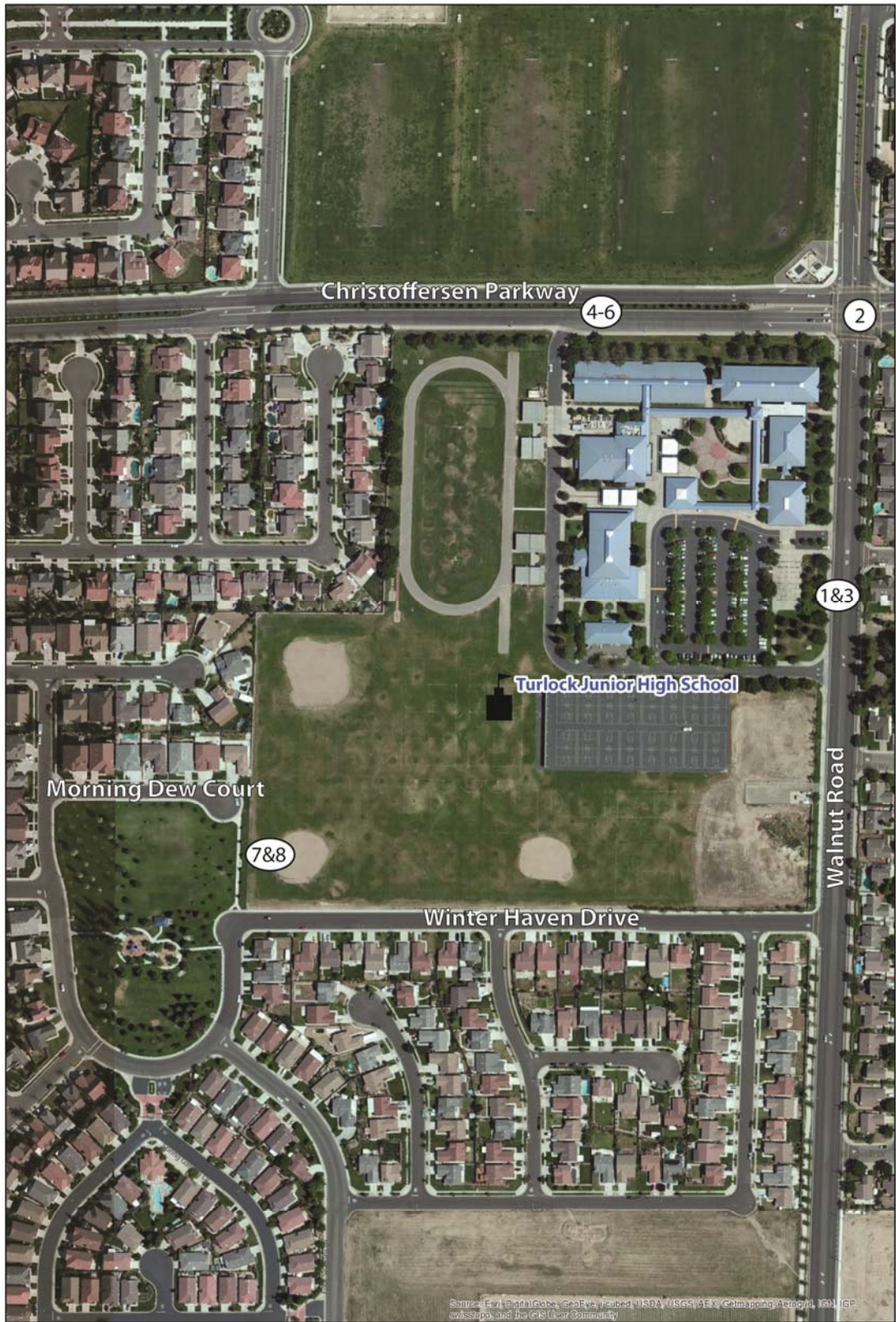


3.10 Turlock Junior High School


Many students bicycle to school, with the large bike parking area (16 stands with capacity of at least 20 bikes per stand) nearly full on the day of the audit. This was in spite of surrounding roadways which are oriented towards high speed, high capacity auto travel. A major opportunity to connect to neighborhoods through the sports fields should be investigated further. Administrators are very supportive of active travel but were surprised to hear about the learning benefits of such travel, indicating a need to disseminate such information at the school district level.

Observations and Existing Conditions	Recommendations
School Frontage – Walnut Road	
1. 40mph five lane cross section with 5' bike lanes is a minimal level of service for bicyclists.	During next repaving or remarking of Walnut Road, consider lane narrowings to widen and/or buffer the bike lane
2. Bike lanes are dropped at signalized intersection with Christoffersen Parkway.	Provide bike lanes at the signalized intersection to meet AASHTO and CAMUTCD standards.
3. Existing crosswalks are spaced ½ mile apart at Christoffersen and Monte Vista, leading to significant out-of-direction travel for pedestrians and bicyclists attempting to access the school from Winter Haven Drive, Wagtail Way or Bluethroat Drive.	Consider a mid-block crossing point with Pedestrian Hybrid Beacon or RRFB to encourage walking and cycling across this corridor.
Christoffersen Parkway	
4. No bike lanes are provided along Christoffersen Parkway, leading many people to ride on the sidewalk with pedestrians.	Provide bike lanes along Christoffersen Parkway to meet AASHTO and CAMUTCD standards.
5. Loading/unloading zone that is provided along Christoffersen Parkway was utilized. In the PM condition, observed that the loading zone was completely filled with waiting cars, forcing new arrivals to stop along the painted red curb for fire access and/or block the bus driveway provided on the north side of the school.	Increase length of loading/unloading zone west of bus driveway to provide more capacity or reduce demand through SR2S travel planning encouragement efforts
6. Observed vehicles traveling faster than posted 25 mph speed limit along Christoffersen Parkway.	Conduct speed survey Increase enforcement and education Provide active speed feedback signage Increase the number of speed limit signs
Winter Haven Drive / Morning Dew Ct	
7. No paved path is provided across field to access controlled gates along Winter Haven Drive. In bad weather, students could be traveling through muddy terrain.	Provide an all weather paved path between the sports fields (TUSD)
8. Morning Dew Ct is a logical connection that would save many students time and avoid busy roads	Provide an all weather paved path between the sports fields (TUSD)

Safe Routes to School in Turlock



Turlock Junior High School

 Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means
Map created: March 2014

0 0.025 0.05
Miles


3.11 Wakefield Elementary School

This school is located in an older neighborhood with two lane roadways surrounding the school on all four sides. Although bike lanes are not provided and would not fit while retaining on-street parking, the speeds and volumes of traffic are likely to be compatible with active travel to school. South Avenue has existing traffic calming humps indicating previous efforts to address motorists’ speeds. The most influential improvement in the area would be to enhance pedestrian crossings along four-lane Lander Avenue (with most being uncontrolled at present) and start a SR2S program at the school.

Observations and Existing Conditions	Recommendations
School Frontage – South Ave	
1. School markings are faded.	Refresh pavement markings to meet CAMUTCD standards.
2. Loop on South Ave is not marked to indicate loading or parking. It is currently used for parking, and minimal drop-off.	Formalize loading zone with CAMUTCD signage and curb paint, and conduct an outreach program to educate parents on its use.
3. Speeding traffic is an administrator concern.	Increase enforcement and education Provide active speed feedback signage Increase the number of speed limit signs
4. South Ave is overly wide in front of the school; parents use the extra road space to double park behind diagonal staff parking to drop off kids	Consider removal of diagonal parking on South Street, which is inconsistent with residential collector standard. Consider preparation of a Complete Streets based alignment design that includes parking, bike lanes and high visibility crosswalks on South Ave between Spruce Ave and S. Orange St.
South Ave and Martinez St	
5. Yellow transverse crosswalks are marked across south and east legs. Markings are faded.	Mark crosswalk with yellow high-visibility ladder-style markings.
6. Slow school xing markings are missing.	Install pavement markings to meet CAMUTCD standards.
South Ave and Orange Ave	
7. Crossing guard stationed at signal. Pedestrians don’t obey don’t walk signal and some drivers fail to yield when making right turns on red.	Review signal timing to determine pedestrian LOS Increase education and enforcement efforts Consider right on red restriction during school hours.
Orange Ave	
8. Pavement quality on Orange Ave is poor.	Repair or reconstruct roadway surface.
9. Parents double park at the cafeteria entrance on Orange Ave to drop off kids.	Increase education and enforcement efforts



Wakefield Elementary School

 Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means
Map created: March 2014

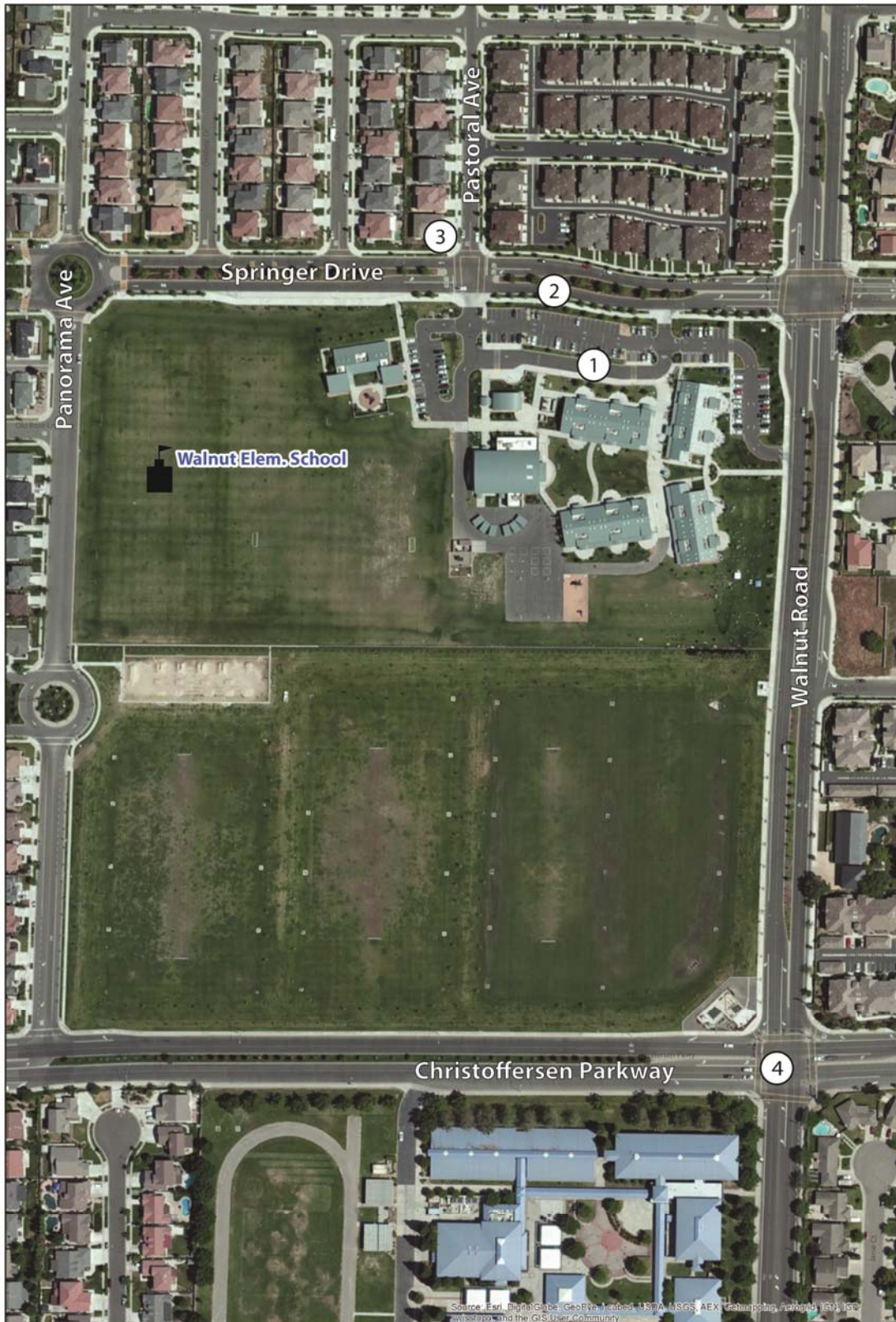
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Miles

3.12 Walnut Elementary School

This school has by far the most extreme congestion and frustration issues in the City, based on the auditor’s findings. The main parking lot is accessed from an attractive tree lined two-lane traditional neighborhood street, limiting car access while Christoffersen Parkway severs walking and cycling access to and from southern neighborhoods. Along with a reallocation of space at the Christoffersen / Walnut intersection (removal of free rights and reduction in pedestrian crossing distances), it may be that this school is the best candidate in the city for a very strong SR2S program to help alleviate traffic congestion and provide more choices to parents and students.

Observations and Recommendations	Recommendations
School Frontage – Springer Drive	
<p>1. Parking lot filled with waiting vehicles, causing major queuing and delay east and west of the school along Springer Drive, and affecting through traffic. Queues form all the way to the intersections of Walnut Drive (signal) and Panorama Avenue (roundabout) Driver confusion and frustration was evident as some motorists did not want to block the intersection; other cars were observed passing in incorrect lanes to enter parking lot</p>	<p>Provide additional loading areas on campus to reduce impacts to frontage roads. Increase the amount of storage in turning lanes to avoid delay in through traffic movements. Improve signage and pavement markings to clearly delineate which movements are acceptable.</p>
Walnut Drive	
<p>2. Cars parked along Walnut Drive blocking bike lane; area is signed for no parking but curb is not painted red.</p>	<p>Extend painted red curb along Walnut Drive to minimize obstruction of bike lanes.</p>
Springer Drive and Pastoral Ave	
<p>3. The entrance to the school parking lot at the intersection of Springer Drive and Pastoral Avenue provides crosswalks on the west, north, and eastern legs. However, current policy is that crossing guards can only accommodate movements on the west and northern crossing, leaving east crosswalk pedestrians unprotected.</p>	<p>Add another crossing guard or install a temporary sign on the curb at the east crosswalk encouraging pedestrians to use the staffed crosswalk</p>
Christoffersen Parkway	
<p>4. No bike lanes are provided along Christoffersen Parkway, forcing cyclists to share the 5 foot sidewalk with pedestrians. Bike lanes are dropped at the signalized intersection of Christoffersen Parkway and Walnut Avenue.</p>	<p>Provide bike lanes along Christoffersen Parkway and at signalized intersection with Walnut Road to meet AASHTO and CA MUTCD standards. Remove free right turns and decrease pedestrian crossing distances.</p>

Safe Routes to School in Turlock



Walnut Elementary School

alta Data obtained from: The City of Turlock, San Joaquin County, and Omni-Means
Map created: March 2014



3.13 Medeiros Elementary

This very new school has excellent facilities for non-motorized access, including a wide concrete path meandering along the east frontage through grassy fields. The school district should consider installation of shade structures in the playground area and over bicycle parking areas.

16 bikes were parked in the bike parking area and the Bike Rodeo was well attended, although many more students would have attended had the helmet and parental signature requirements been better advertised.

Observations and Recommendations	Recommendations
School Frontage – West Springer Drive	
1. Bike lanes are shared with parking, placing bicyclists in the door zone. Travel lanes are 12' wide.	Add a bike lane stripe between the bicycle operating space and parking lane to improve parking discipline against the curb; narrow travel lanes to 11' to widen bike lanes
Sandy Way	
2. There are no crosswalks on Sandy Way except at McKenna Drive.	Install crosswalks on all four legs of Sandy Way and Memory Ln
McKenna Drive	
3. There are no crosswalks on McKenna Drive except at West Springer Drive and Sandy Way; this leaves students traveling to/from Ashford Drive and Woodland Drive with a long out of direction route.	Consider mid-block crosswalk at Woodland Drive with crossing guard

3.14 Summary

A separate spreadsheet summarizing the above issues and recommendations has been produced. Analyzing the number of recommendations per school (by lead responsible agency) yields the totals given in the following table.

School	POLICE	CITY	TUSD	School Admin
Brown	6	14	1	6
Crowell	1	11	1	3
Cunningham		12	5	1
Dutcher	2	12		2
Earl		7		
Julien		8		
Medeiros		3		
Osborn	2	6	2	3
Turlock Jr High	1	8	2	1
Wakefield	3	9		3
Walnut	1	4		1
Grand Total	16	94	11	20

While all schools should undertake regular bicycle rack counts to assess the need for capacity improvements, Julien Elementary and Turlock Junior High schools were observed to have nearly full bicycle racks on the day of the audit.



Figure 12: Julien Elementary School bike parking is often overflowing

4 Infrastructure Toolkit

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

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

This toolkit is intended to provide an introduction to the specific infrastructure improvements commonly used for Safe Routes to School. It is included in this report in an effort to make it an easily available reference. The City of Turlock Active Transportation Plan includes a more comprehensive toolkit that should be referenced along with all applicable federal, state and local standards and guidelines. Not all treatments are appropriate at every school location. In all cases, engineering judgment should be exercised when determining the best infrastructure solution.

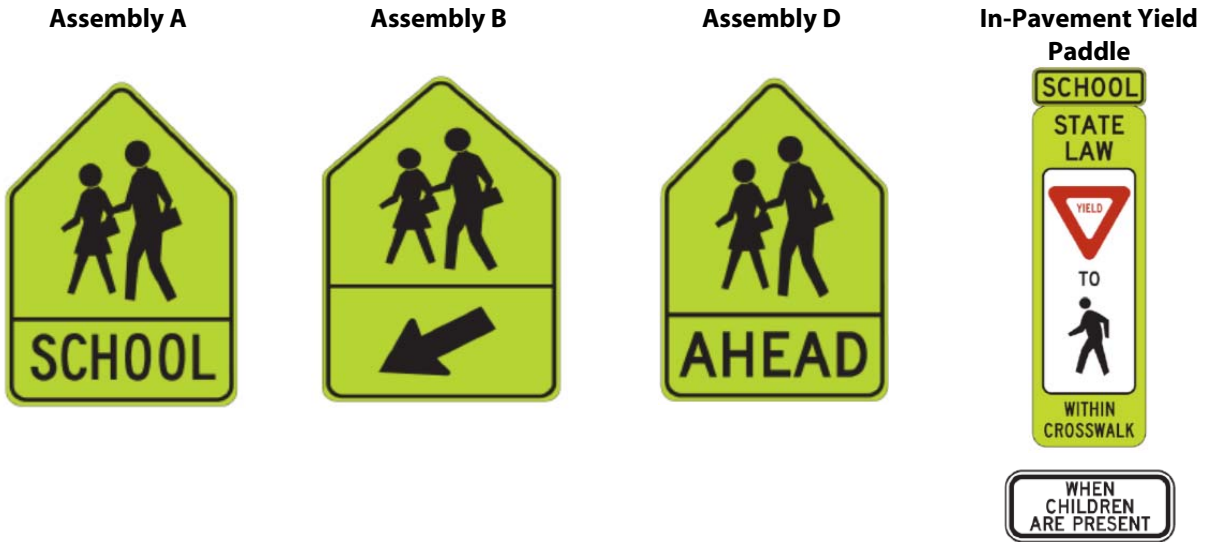


Figure 13: Path leading into Earl Elementary School

4.1 Signage

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

Warning Signs



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

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

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

May be installed in an uncontrolled crosswalk

Regulatory Signs



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

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

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

May be installed up to 500 feet in advance of a school. Engineers determine the posted speed.

4.2 Striping & Markings

School related striping includes crosswalks and curb colors. Bicycle lane striping and markings can be also considered school-related. Durable thermoplastic is recommended for striping improvements.

Curb Colors

- School Loading Zone curbs are white.
- Freight/Bus Loading Zone curbs are yellow.
- Accessible curbside parking curbs are blue.
- No Parking Zone curbs are red.

Crosswalks

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

High Visibility Crosswalk



High visibility crosswalks have longitudinal and latitudinal lines.

Transverse Crosswalk



Transverse crosswalks have latitudinal lines.

Lighted Crosswalk



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

School Crossing Pavement Markings

As a supplement to a marked crosswalk, the SCHOOL word marking may provide additional warning to drivers about the potential presence of school children.



4.3 Additional Tools



Active Warning Beacon

Active warning beacons are user-actuated flashing lights that supplement warning signs at unsignalized intersections or mid-block crosswalks. Rectangular Rapid Flash Beacons (RRFBs), a type of active warning beacon, use an irregular flash pattern similar to emergency flashers on police vehicles.



In-Street Yield to Pedestrian Sign

In-street pedestrian crossing signs reinforce the presence of crosswalks and remind motorists of their legal obligation to yield for pedestrians in marked or unmarked crosswalks. This signage is often placed at high-volume pedestrian crossings that are not signalized. On streets with multiple lanes in each direction, additional treatments such as median islands or active warning beacons may be more appropriate.



Pedestrian Hybrid Beacon

Pedestrian hybrid beacons are traffic control signals commonly used to stop traffic along a major street to permit safe crossing by pedestrians or bicyclists. The signals provide very high levels of compliance by using a red signal indication, while offering lower delay to motorized traffic than a conventional signal.



Median Refuge Island

Median refuge islands are protected spaces placed in the center of the street to facilitate bicycle and pedestrian crossings. Crossings of two-way streets are simplified by allowing bicyclists and pedestrians to navigate only one direction of traffic at a time. This may also function as a *traffic calming* technique when configured to manage access to streets.



No Turn On Red

No Turn on Red restrictions prevent turns during the red signal indication to reduce motor vehicle conflicts with bicyclists and pedestrians using the crosswalk.



Leading Pedestrian Interval

A leading pedestrian interval is a condition where a pedestrian signal displays a WALK signal for pedestrians prior to displaying a green signal for adjacent motor vehicle traffic. This early display gives pedestrians a head start and may increase the percentage of drivers who yield to crossing pedestrians.



Raised Crosswalk

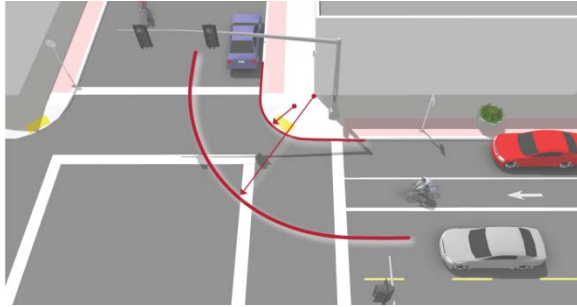
Raised crosswalks are crossings elevated to the same grade as the sidewalk or shared-use path. Raised crosswalks may be designed as speed tables, and have a slowing effect on crossing traffic.



Countdown Pedestrian Signal

Countdown pedestrian signals are particularly valuable for pedestrians, as they indicate whether a pedestrian has time to cross the street before the signal phase ends. Countdown signals should be used at all signalized intersections.

Signals should be timed to provide enough time for pedestrians to cross the street. The MUTCD recommends a longer pedestrian clearance time in areas where pedestrians may walk slower than normal, including the elderly and children.



Minimize Corner Radii

The size of a curb’s radius can have a significant impact on pedestrian comfort and safety. A smaller curb radius provides more pedestrian area at the corner, allows more flexibility in the placement of curb ramps, results in a shorter crossing distance and requires vehicles to slow more on the intersection approach. During the design phase, the chosen radius should be the smallest possible for the circumstances.



ADA Compliant Curb Ramps

Curb ramps allow all users to make the transition from the street to the sidewalk. A sidewalk without a curb ramp can be useless to someone in a wheelchair, forcing them back to a driveway and out into the street for access.

Although diagonal curb ramps might save money, they create potential safety and mobility problems for pedestrians, including reduced maneuverability and increased interaction with turning vehicles, particularly in areas with high traffic volumes.



Curb Extensions

Curb extensions are areas of the sidewalk extended into the roadway, most commonly where a parking lane is located. Curb bulbs help position pedestrians closer to the street centerline to reduce crossing distances and improve visibility and encourage motorists to yield at crossings.



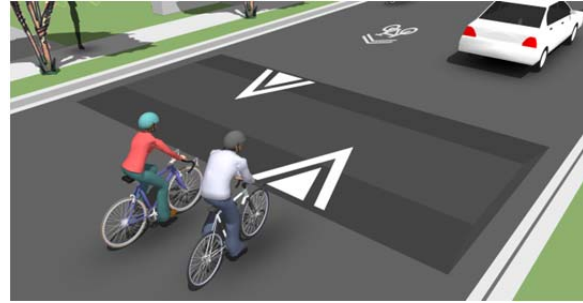
Advance Stop Bar

Advance stop bars increase pedestrian comfort and safety by stopping motor vehicles well in advance of marked crosswalks, allowing vehicle operators a better line of sight of pedestrians and giving inner lane motor vehicle traffic time to stop for pedestrians.



Shared Use Paths

Shared Use paths may be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. These facilities are frequently found in parks, or as neighborhood cut-throughs to shorten connections and offer an alternative to busy streets.



Traffic Calming

Reducing speeds or volumes along streets improves the pedestrian environment by limiting exposure, enhancing drivers' ability to see and react, and diminishing the severity of crashes if they occur. Common traffic calming techniques include speed humps, neighborhood traffic circles, chicanes, and pinch points.



Bike Lanes

Bicycle lanes designate an exclusive space for bicyclists with pavement markings and signage. The bicycle lane is located adjacent to motor vehicle travel lanes and bicyclists ride in the same direction as motor vehicle traffic. Bicycle lanes are typically on the right side of the street (on a two-way street), between the adjacent travel lane and curb, road edge or parking lane.



Buffered Bike Lanes

Buffered bicycle lanes are conventional bicycle lanes paired with a designated buffer space, separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.