Fresno Unified School District

SAFE STREETS FOR STUDENTS

JUNE 2024

A PILOT PROJECT TO IMPROVE TRAFFIC SAFETY AT FRESNO UNIFIED SCHOOLS

ACKNOWLEDGMENTS

- Fresno Unified Board of Education
- City of Fresno Public Works
- Fresno County Department of Public Works and Planning
- Safe2School
- Principal Armen Torigian, Bullard High School
- Principal Eric Martinez, Duncan Polytechnical High School
- Principal Courtney Curtis, Hoover High School
- Principal Brian Wulf, McLane High School
- Principal Michael Allen, Roosevelt High School
- Principal Tobaise Brookins, Computech Middle School
- Principal Sandra Auble, Cooper Academy Middle School
- Principal Landon Ailanjian, Kings Canyon Middle School
- Principal Julie Goorabian-Ellis, Scandinavian Middle School
- Principal Kevin Evangelinos, Tioga Middle School
- Principal Delia Nuno, Wawona K-8 School
- Principal Miguel Naranjo, Herrara Elementary School
- Principal Marisa Favila, Lincoln Elementary School
- Principal Debbie Duran, Roeding Elementary School
- Principal Yua Lee, Vang Pao Elementary School

TOOLE DESIGN

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1 PROJECT OVERVIEW

WHAT IS SAFE STREETS FOR STUDENTS?

In 2023, Fresno Unified School District ("the District") initiated "Safe Streets for Students", a pilot project to evaluate traffic safety conditions around 15 Fresno Unified schools. The outcome of the pilot is this action-oriented safe routes to school (SRTS) plan. This plan recommends engineering, policy, and program strategies to improve traffic safety around each of the 15 pilot schools, and systemic recommendations for schools across Fresno. Based on the success of the pilot program, the District is seeking funding to expand Safe Streets for Students to additional schools in 2025 and beyond.

From the District's 104 schools, Fresno Unified selected 15 pilot schools based on collision history and geographic distribution. The 15 schools cover all seven high school regions and all grade levels (including five high schools, five middle schools, four elementary schools and one K-8 school). Many of the selected pilot schools are located near other schools to maximize the number of schools that might benefit from the safety recommendations in this plan.

Students and families cross the street during dismissal at Vang Pao Elementary

This plan is part of the international Safe Routes to School (SRTS) movement that works to make it safe, convenient, and fun for students and families to walk and roll to school. "Rolling" includes bicycling and using other devices with wheels like scooters, skateboards, and wheelchairs.

2023 -2024 PILOT SCHOOLS

- Bullard High School
- Duncan Polytechnical High School
- Hoover High School
- McLane High School
- Roosevelt High School
- Computech Middle School
- Cooper Academy Middle School
- Kings Canyon Middle School
- Scandinavian Middle School
- Tioga Middle School
- Wawona K-8 School
- Hererra Elementary School
- Lincoln Elementary School
- Roeding Elementary School
- Vang Pao Elementary School

To develop this plan, the project team conducted on-the-ground site assessments at all 15 schools and in-person and virtual community engagement. This plan is a result of strong collaboration between the District, the City of Fresno Public Works Department, Fresno County Department of Public Works and Planning, and Safe2School, a non-profit organization that trains and oversees volunteer crossing guards at Fresno Unified schools.

SITE ASSESSMENTS

For each school, the Toole Design consultant team ("the consultant team") observed student arrival and dismissal and conducted a walk audit around the school campus and surrounding streets, focusing on key student travel routes.

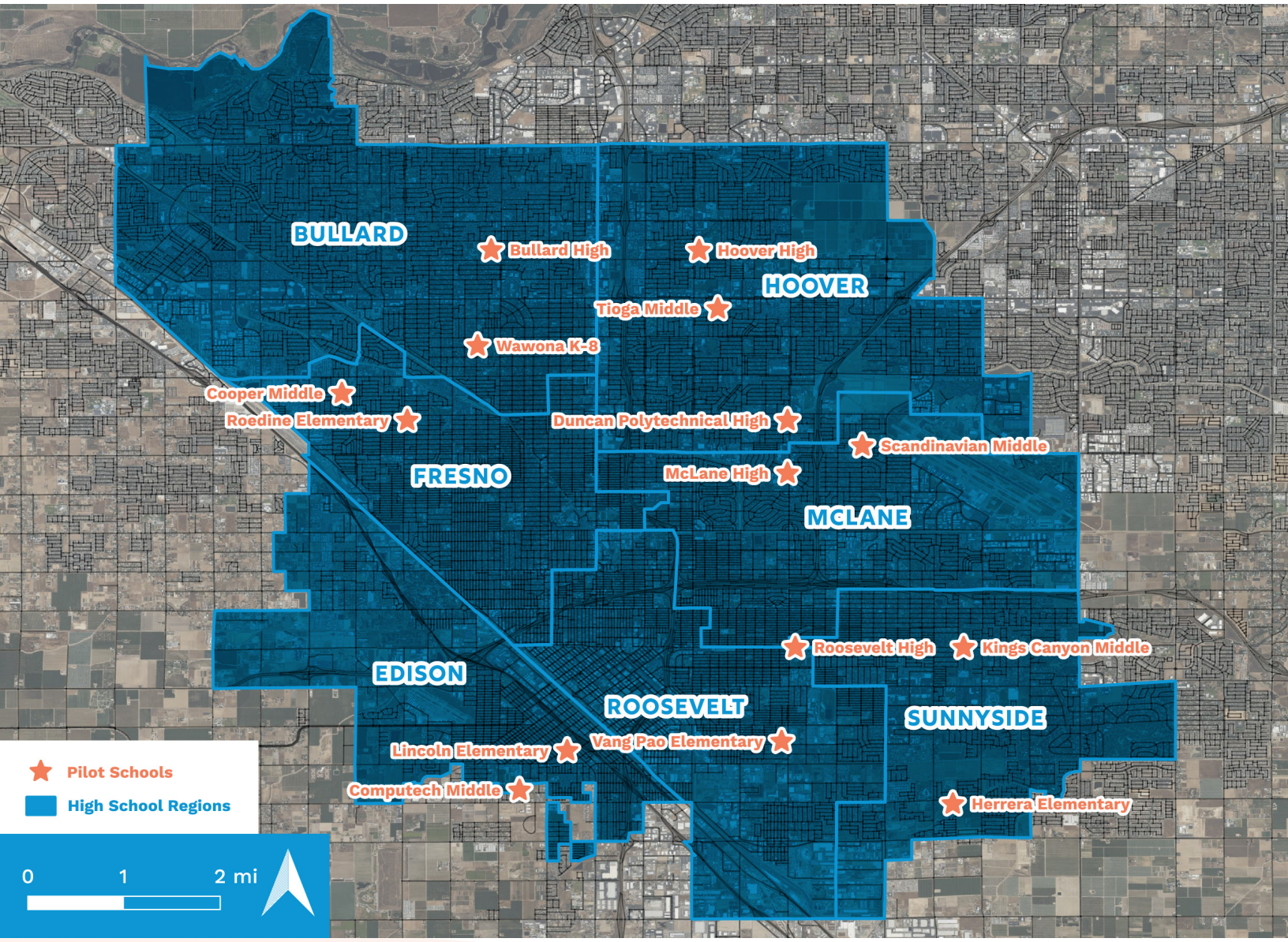
During **arrival and dismissal assessments**, the consultant team:

- Observed arrival patterns for 30-45 minutes before the first bell
- Observed dismissal patterns for 15 minutes before the dismissal bell until 30 minutes after the bell
- Observed traffic patterns for people driving, taking the bus, walking, and biking
- Assessed behavioral and infrastructure safety
- Spoke to crossing guards about issues and opportunities.

Walk audits took place during school hours and lasted up to 90 minutes. In addition to the consultant team, typical attendees included school principals or vice principals, other school leaders, school district officials, and safe routes to school leaders. The Bullard High School walk audit also included three Bullard High students, one of whom is a volunteer crossing guard. During audits, attendees observed and discussed traffic patterns, student travel routes, and street infrastructure. The consultant team assessed and documented street infrastructure using Fulcrum, a GPS-linked app.

A consultant team member takes notes during McLane High School dismissal

The Safe Streets for Students Pilot Project evaluated traffic safety around 15 schools across 7 regions.



BY THE NUMBERS

7
multilingual community workshops

15
schools assessed

350
survey responses

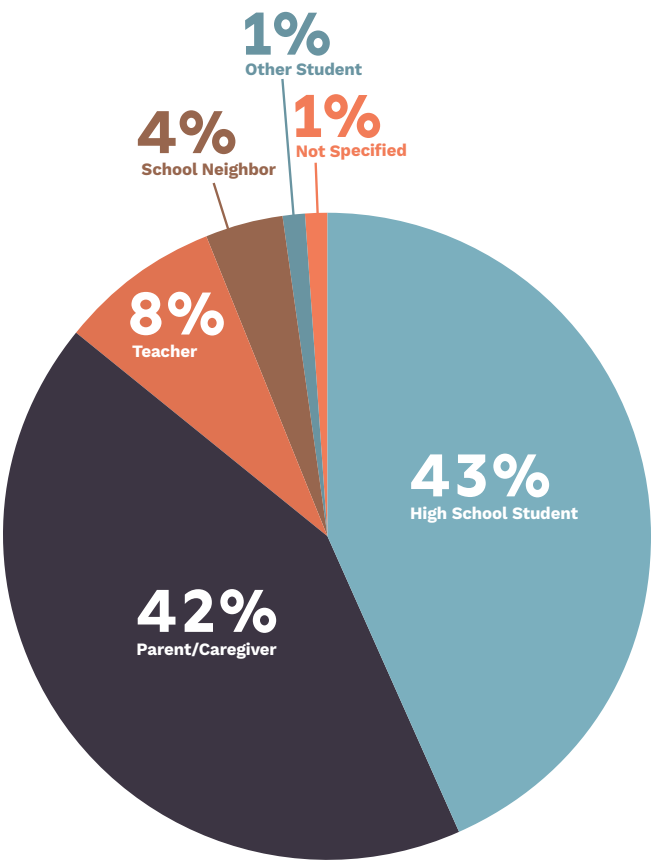
175+
recommendations developed

COMMUNITY ENGAGEMENT

In addition to site assessments, the project team created opportunities for the public to provide input on their experiences traveling to and from school. Parents, teachers, students, administrators, and volunteer crossing guards shared their thoughts and concerns at seven multilingual community meetings (one in each school region). Community members provided insight into safety challenges at specific locations around schools, which the project team used to inform walk audit routes and conceptual design.

The project team also collected feedback via an online survey and interactive map. The survey was customized for four different user groups including students, parents/caretakers, teachers, and school neighbors. Survey questions asked about travel behavior and safety concerns, and respondents could provide location-specific input on the map. Of the 350 people who responded to the survey, nearly half were students (44%) and nearly half were parents/caretakers (42%). At least 98% of student respondents were high schoolers (2% did not specify their school).

SUMMARY OF SURVEY RESPONSES



KEY SAFETY ISSUES

The site assessments and community engagement process highlighted the following key issues and concerns that prevent or deter students from walking and biking to school:

- **Driver Behavior:** Many drivers are distracted and/or speeding
- **Hostile Environment:** Walking and biking feels unsafe and uncomfortable due to high vehicle volumes and speeds, lack of protection from vehicle traffic, vehicle size, etc.
- **Too Many Vehicles:** Arrival and dismissal is slow and crowded
- **Travel Distances:** Vehicle-dependent urban form and sprawling land use make it challenging or inconvenient to walk or bike to school

These issues underscore the need to convert more trips from vehicles to walking, rolling, or transit (where appropriate). However, this plan recognizes that programs and policies that encourage and support walking and rolling will only work if there is a street network and built environment to support such behavior.

WHY SAFE STREETS FOR STUDENTS?

YOUTH HAVE UNIQUE SAFETY NEEDS

Safe travel has different implications for children and youth than for adults. Children and youth are still learning and growing; they have not fully developed their cognitive abilities, visual perception, and attention systems and therefore are especially vulnerable when it comes to traffic safety. Not only is their awareness less acute than that of adults, but they have not fully developed critical thinking skills to help guide their decisions. For example, children under 14 have difficulty judging a safe gap in traffic for crossing. Once they make the decision to cross, younger children take longer to act, potentially putting them in dangerous situations.[1] Crash impacts are also more dire for children compared to adults due to their smaller size.

A family waits to cross Heaton Avenue at school dismissal

1 Lambert, D., Pullen-Seufert, N. & Peters, O. (2024). Creating Accessible, Equitable, Safe, and Complete Networks for Young Pedestrians. Pedestrian and Bicycle Information Center.

A TRAFFIC SAFETY CRISIS IN FRESNO

Between 2018-2022, there were nearly 500 fatal or severe injury crashes in Fresno and half of all fatalities were people walking.[2] Official collision statistics only include those crashes reported to police, and according to Fresno Unified staff, many crashes that occur near schools or involve members of the school community go unreported. District staff report that each year the number of District students hit by vehicles exceeds the previous year, and among those crashes, there are occasionally fatal and severe outcomes. After a fatal crash claimed the life of a student outside of Hoover High School in October 2022, the District took immediate action to secure internal funding for this pilot project.

INFRASTRUCTURE INFORMS BEHAVIOR

Site assessments and community engagement indicate that reckless, unlawful, and distracted driver behavior - especially speeding - is a major concern in Fresno. To improve safety around schools, it is critical to understand how infrastructure influences human behavior.

As with most cities in the United States, Fresno is experiencing the consequences of sprawling 20th century urban development. The city is built around a network of major arterials that are designed to move as many vehicles as possible, as quickly as possible. These multi-lane arterials are long, straight, and wide, which creates little visual or physical friction for vehicles, thereby encouraging speeding. Most schools in Fresno are located on (or within one block of) high-speed, high-volume arterials. Students walking or rolling to school, including to and from bus stops, must cross arterials and are exposed to high-risk interactions with vehicles.

Infrastructure and urban form also influence pedestrian behavior. During community engagement, the project team heard about the prevalence of students crossing streets mid-block (outside of a crosswalk). This behavior is often the result of large block sizes and limited safe crossing opportunities.

Addressing street design is an essential part of changing human behavior and will be critical to slow speeds around schools in Fresno.

2 Transportation Injury Mapping System, University of California, Berkeley. Transportation Injury Mapping System, University of California, Berkeley.

A barricade at a former crosswalk near Cooper Academy Middle School discourages pedestrians from crossing

A TURNING POINT FOR FRESNO

Despite these challenges, Safe Streets for Students is happening at a timely moment, when many federal dollars are being invested in infrastructure that promotes safer streets. In May 2024, the City of Fresno launched their Vision Zero Action Plan, and Fresno County is anticipated to undertake a safety action plan starting in late 2024. The recommendations from the Safe Streets for Students pilot project will provide a strong foundation for the City and County safety action plans. Steps toward implementation are already being taken; with input from the District and consultant team, the City of Fresno applied for grant funding in June 2024 for intersection improvements near Bullard High School/Gibson Elementary School and near Roeding Elementary School.

2 INFRASTRUCTURE RECOMMENDATIONS

SAFE SYSTEM APPROACH

For each school, the consultant team recommends a set of safety interventions centered on slowing vehicle speeds to protect the most vulnerable street users–those walking and bicycling, and especially children. The recommendations are grounded in the Federal Highway Administration's Safe System Approach, which recognizes that:

- Death and serious injury are unacceptable;
- Humans make mistakes;
- Humans are vulnerable and there is a limit to what the human body can withstand;
- Responsibility is shared among all roadway users;
- Safety requires proactive design and policy, not reactive measures; and
- Redundancy is crucial. If one safeguard fails, there should be another in place to counteract mistakes of roadway users.[3] Accepting that humans make mistakes means that we must design our streets in a way that prevents fatal and serious injuries from occurring in the first place.

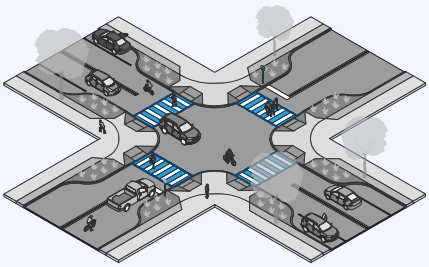
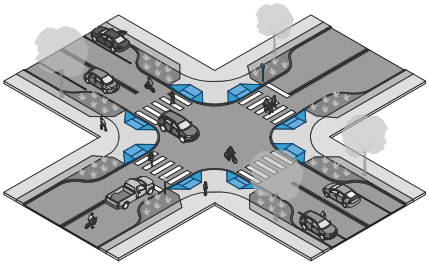
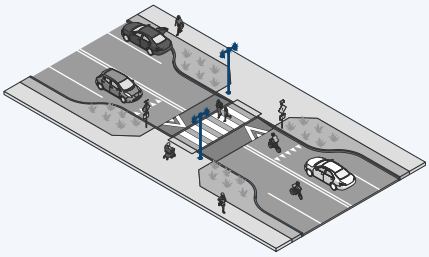
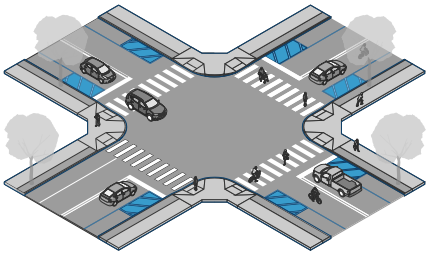
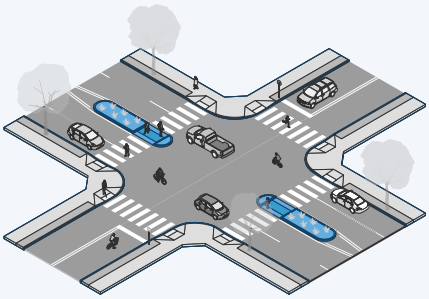
In response to this, four key strategies guide our recommendations:

- **Separation of street users in time**
  - Leading pedestrian interval (LPI) traffic signal phases give people walking time to cross before drivers can turn
- **Separation of street users in space**
  - Class IV separated bikeways include a painted buffer space plus a vertical barrier (flex post or bollard) separating people biking from vehicles
- **Reduction of vehicle speeds**
  - Posted speed limits (and signs in general) do not ensure compliance and **must** be complemented by design that supports the desired behavioral outcomes. Features that narrow the road, such as curb extensions, help vehicles slow down.
- **Increased attentiveness and awareness**
  - "Gateway treatments" alert drivers they are entering a school zone by including features that temporarily narrow the road, such as mini-roundabouts, curb extensions, or medians, that accompany ample school zone signage.

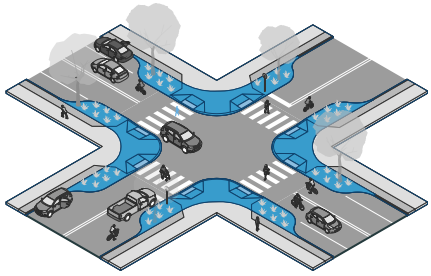
3 U.S. Department of Transportation Federal Highway Administration. Safe System Approach for the Urban Core Informational Report. https://highways.dot.gov/sites/fhwa.dot.gov/files/2023-11/fhwasa23001_508%28r2%29.pdf

GUIDE TO PEDESTRIAN CROSSING TREATMENTS

Crossings that are highly visible, comply with Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)[4], and minimize crossing distances are essential to a safe and comfortable pedestrian network. Here is a guide to the crossing treatments recommended in this plan.

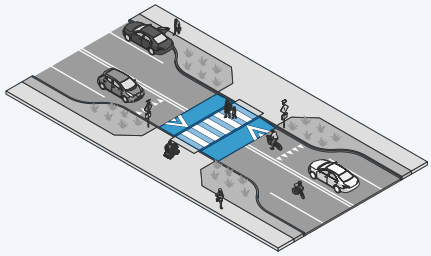
	**HIGH-VISIBILITY CROSSWALK**	Improves drivers' awareness of a crossing location through a striping design that includes continental crosswalk markings (i.e., parallel to the direction of travel for vehicles). Crosswalks should be yellow if within 600' of school grounds.
	**DIRECTIONAL CURB RAMPS**	Provides one dedicated curb ramp at each end of every crossing. All curb ramps should have detectable warning surfaces to alert pedestrians with vision disabilities that they are entering a vehicular space. Blended transitions are also acceptable instead of directional curb ramps.
	**PEDESTRIAN-SCALE LIGHTING**	Provides an appropriate level of lighting at an established crossing at night or low-light conditions. At crossing locations, pedestrian-scale lighting should be placed in front of the crosswalk to illuminate a pedestrian to drivers.
	**DAYLIGHTING**	Improves visibility at intersections and mid-block crossing locations by removing visual obstructions near the crossing. Daylighting may include removal of parking spaces, signage, and removal of parking space pavement markings.
	**MEDIAN REFUGE**	Provides a protected space for pedestrians to stand and wait in the middle of a two-way street so pedestrians only need to cross one direction of travel at a time.

4 Architectural and Transportation Barriers Compliance Board, 2023. Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way.



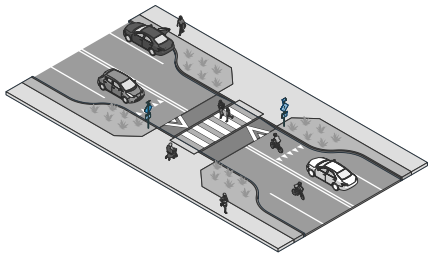
CURB EXTENSIONS

Extend the sidewalk into the street to reduce the crossing distance, limiting the exposure of crossing pedestrians and enhancing the sight distance between pedestrians and drivers.



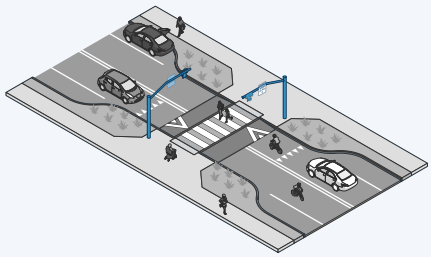
RAISED CROSSING

Reduces vehicle speeds and increases visibility of pedestrians by ramping up the street to sidewalk height at a crosswalk. Raised crossings are often placed at mid-block crossing locations and are particularly useful around schools where children are expected to cross frequently.



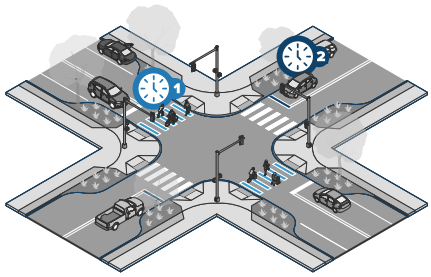
RECTANGULAR RAPID FLASHING BEACON (RRFB)

Flashes rectangular-shaped yellow lights when a pedestrian activates it via pushbutton or pedestrian detection. Results in increased yielding rates of drivers at crosswalks and increased visibility of pedestrians. RRFBs are typically used with a crossing warning sign and are placed on both ends of the crossing and in the crossing island, if present.



PEDESTRIAN HYBRID BEACON (PHB)

Includes one yellow and two red lenses on a signal pole to stop traffic when pedestrians are present. PHBs are activated by a pedestrian push button or pedestrian detection.



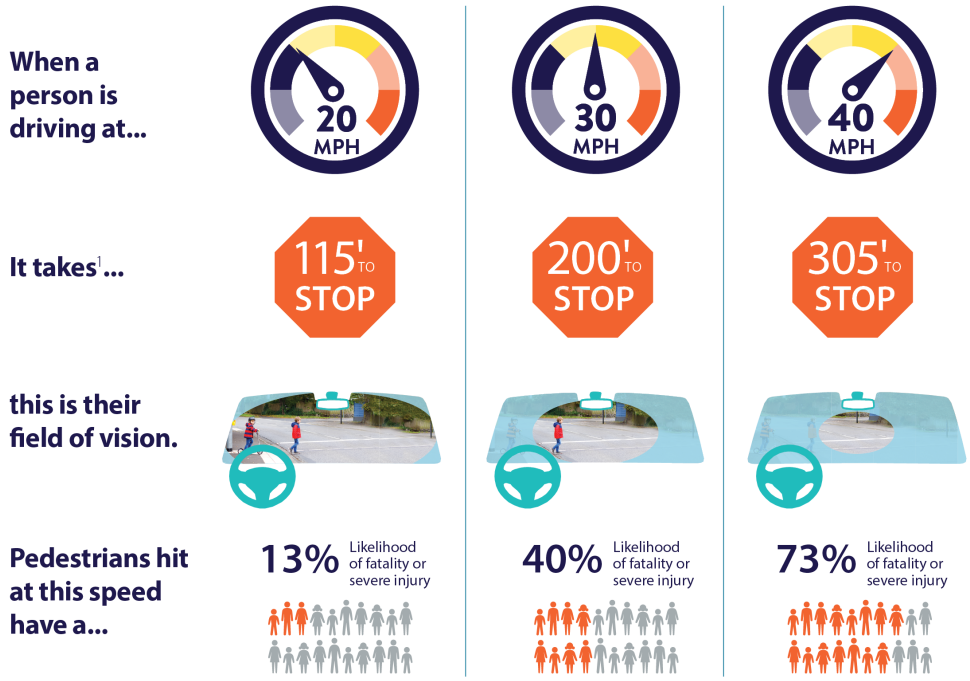
LEADING PEDESTRIAN INTERVAL (LPI)

Increases pedestrian visibility to turning vehicles by providing a green light for pedestrians three to seven seconds before vehicles are given a green light indication.

CITYWIDE RECOMMENDATIONS

This plan includes engineering recommendations for over 130 specific locations (documented in Appendix A). However, the consultant team also recommends the following recommendations be applied citywide:

- **Reduce posted speed limits on streets adjacent to schools.** Assembly Bill 43, introduced in 2021, allows California cities to reduce the speed limit to 25 MPH in business and residential districts without a traffic study. Additionally, the California State Motor Vehicle Code[5] allows cities to reduce the standard school zone speed limit of 25 MPH to 15 MPH within 500 feet of schools for streets that are 30 MPH or less. We recommend reducing overall speed limits for streets adjacent to schools to 30 MPH where feasible, then reducing the school zone speed limit to 15 MPH. **However, even speeds of 30 MPH come with great risks for pedestrians: A study by the AAA Foundation for Traffic Safety found that the average risk of severe injury or fatality for pedestrians struck by a motor vehicle traveling 30 MPH is 40 percent**, as illustrated below.[6]



[1] Includes 2.5 seconds breaking reaction time.

Sources: Bartmann, A., Spijkers, W., and Hess, M. 1991. Street Environment, Driving Speed and Field of Vision. Vision in Vehicles III.
W. A. Leaf, W.A. and Preusser, D.F. Literature Review on Vehicle Travel Speeds and Pedestrian Injuries Among Selected Racial/Ethnic Groups. DTNH22-97-D-05018 Task Order 97-03. U.S. Department of Transportation, 1999.
AASHTO Green Book—A Policy on Geometric Design of Highways and Streets, 7th Edition. American Association of State and Highway Transportation Officials, 2018.
Teff, B. 2013. Impact Speed and a Pedestrian's Risk of Severe Injury or Death. Accident Analysis & Prevention, 50(87): 1-8. DOI: 10.1016/j.aap.2012.07.022

5 California State Vehicle Code, Division 11, Chapter 7.

6 Tefft, 2013. Impact speed and a pedestrian's risk of severe injury or death. AAA Foundation for Traffic Safety.

- **Comply with the Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)** for all sidewalks and crossings. Examples in this plan include converting blended curb ramps to directional curb ramps and ensuring all curb ramps have detectable warning surfaces. The City of Fresno has an Americans with Disabilities Act (ADA) Facilities Transition Plan to guide the City in identifying and removing physical barriers to accessibility as infrastructure is updated citywide. Additionally, all curb ramps should be evaluated during reconstruction to ensure grading allows for proper drainage during heavy rain.
- **Install high-visibility crosswalks** at all marked crossings to maximize visibility to drivers.
- **Install Leading Pedestrian Intervals (LPI)** and pedestrian recall (or "beg buttons" that pedestrians can press to activate the pedestrian crossing signal phase) at all traffic signals along key student walking routes within a half-mile of each school. If needed, setting traffic signals to pedestrian recall can be programmed so that it is limited to school hours only.
- **Program a protected left-turn phase** into traffic signals wherever dedicated left-turn lanes exist to prevent drivers from turning into intersections while pedestrians are crossing.
- **Daylighting crosswalks** in school zones help make pedestrians in crosswalks more visible to drivers by ensuring that vehicles cannot park too close to a crosswalk. This can be accomplished through red curb paint, signs, and curb extensions that physically keep vehicles from parking in the space.
- **Install signs that encourage drivers to pull forward** in drop-off zones and discourage double-parking. Signage may help reduce traffic congestion during arrival and dismissal.
- **Install gateway treatments** within 500 - 1,000 feet of schools along arterials. Gateway treatments are used in transition zones to alert drivers to contextual changes (in this case, as drivers enter the school zone) and encourage slower speeds. School zone speed limit signs are not sufficient to alert drivers traveling along wide arterials that they are entering a school zone. Furthermore, drivers approaching from side streets might not encounter any school zone speed limit signs. Gateway treatments go a step further than school zone speed limit signs and include additional signs and pavement markings as well as physical traffic calming treatments. For example, a median or mini roundabout with school zone signs might be installed at an intersection.

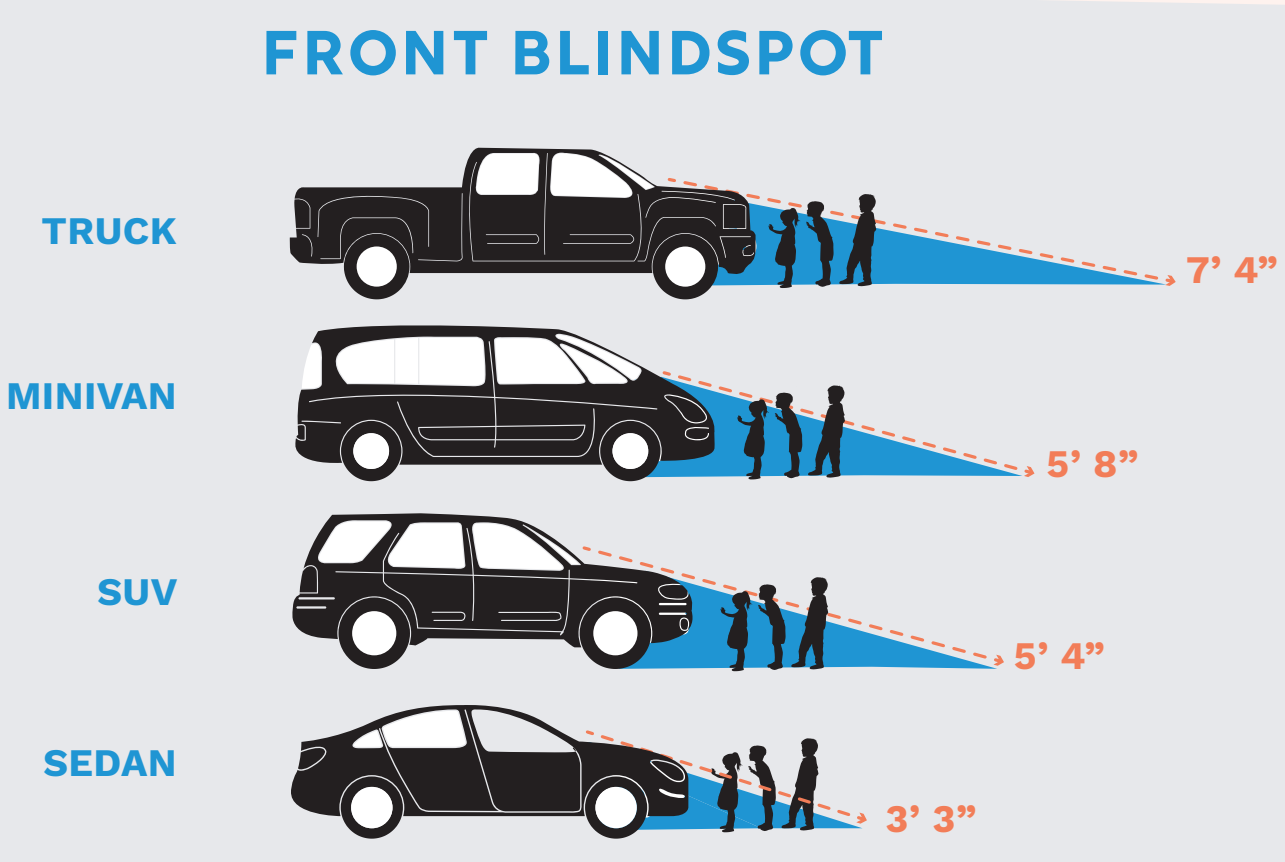
THE IMPACT OF VEHICLE SIZE

Across the nation, vehicle size has grown over the last two decades. The prevalence of large trucks and SUVs in Fresno exacerbates the risk associated with high vehicle speeds and reckless driver behavior. Research shows that larger vehicles are more dangerous for people walking and bicycling than standard-size sedans.

Larger trucks and SUVs have substantial front blind spots that make it harder to see children crossing in front. During a crash, tall SUV or truck bumpers strike pedestrians higher, in the torso or head, resulting in more severe injuries. Tyndall (2024) found that **just a 4-inch increase in the front-end height of a vehicle increases the pedestrian fatality risk by 22%.**[7]

Due to the popularity of large vehicles in Fresno, it is important that parents, teachers, and community members receive education about the risks, and how to adjust their behavior to protect students walking near vehicles.

The relationship between vehicle size, speeding, and crash severity also underscores the urgency of infrastructure treatments that slow driver speeds.



7 Tyndall, J. The effect of front end vehicle height on pedestrian death risk. Economics of Transportation, 2024.

Ample school crossing signage at this intersection in Billings, MT, including in the median refuge, is an example of a gateway treatment

SITE-SPECIFIC RECOMMENDATIONS

Over 130 specific locations were identified for site-specific recommendations near the pilot schools (See Appendix A). Implementation of these recommendations fall under the City, County, or District, depending on where the recommendation is located – City right-of-way, County right-of-way, or District property. Recommendations were based on national best practices in street design using the National Association of City Transportation Officials (NACTO) Urban Street Design Guide[8] and the FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (STEP Guide)[9] and cross-checked against the City's warrant policies. Implementation of some recommendations may require traffic studies or pedestrian counts per City warrant policies.

8 Urban Street Design Guide | National Association of City Transportation Officials (nacto.org)

9 https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-07/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf

PRIORITY PROJECTS

To assist the City, County, and District with project implementation, the consultant team developed a data-driven prioritization methodology. Each recommendation was scored according to the prioritization criteria documented in Table 1.

TABLE 1 Summary of Prioritization Criteria

PRIORITIZATION CRITERION	METRIC	MAX. POINTS ALLOTTED
Access	Projects adjacent to school property (to serve the most students)	2
Safety	Projects in locations most in need of safety interventions (for all modes – bicycle, pedestrian, and motor vehicle) based on crash severity tier identified in the 2020 City of Fresno Local Road Safety Plan	2
	Projects located in the same block (within 500') as a recent fatal or severe bicycle- or pedestrian-involved crash (per 2018-2022 statewide and school-provided crash data)	2
Equity	Projects located in historically underserved communities (per CalEnviroScreen 4.0 Disadvantaged Community[10] criteria)	2
Community Support	Projects identified as area of concern during community engagement	1
TOTAL		**9**

Using the methodology outlined in Table 1, the project team identified 13 priority projects. To ensure that there is at least one priority project for each school region in the district, the project team identified an additional three projects with high safety needs: intersection enhancements at Palm Avenue and Browning Avenue, Church Avenue and Adler Avenue, and Ventura Avenue and B Street. The prioritization scores for all 130 projects is available in Appendix B.

The 16 priority projects are summarized on the following pages. Maps showing project locations are available in Appendix A. High school projects are presented first, followed by middle school, and then elementary school. Cost estimates provided for each project reflect yearly escalation, assuming two years until construction. To assist with implementation, concept designs were developed by the consultant team for eight projects.

As all 16 priority projects are located on City property, the City of Fresno would be responsible for project implementation. A description of each project is provided, along with a quick-build approach that would allow the City to implement a temporary version of the project on a faster timeline (or, in some cases, the entire project can be implemented quickly).

10 CalEnviroScreen is a state equity analysis tool used to identify Census tracts that are disproportionately burdened by pollution, socioeconomic factors, age, and/or health. Census tracts scoring in the 80th percentile or higher qualify as DACs, which are specifically targeted for the investment of proceeds from the State's Cap-and-Trade Program, to improve public health, quality of life, and economic opportunity.

Quick-build projects are traffic safety improvements that can be installed within weeks or months, unlike major capital projects that may take years to plan, design, bid, and construct. Many of the recommended infrastructure projects can be constructed on a faster timeline using quick-build materials, such as flex posts or rubber instead of concrete. In addition to faster and less-expensive implementation, quick-build projects provide the opportunity to test traffic safety improvements that are new to the community before moving forward with the complementary capital improvement.

Quick-build improvements include:

- Paint, traffic delineators, modular rubber raised “roadway” areas, and street signs
- Parking and loading adjustments
- Traffic signal timing

An example of quick-build curb extensions using paint and flex posts is shown below (left) vs concrete curb extensions (right):

PALM AVENUE AND BROWNING AVENUE*

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE[11]
Bullard High School, Gibson Elementary School

PROJECT DESCRIPTION
Restripe crosswalks as high visibility and convert medians (north and south approaches) into median refuges. Upgrade ramps to be PROWAG-compliant, directional ramps.

PLANNING-LEVEL COST ESTIMATE
$852,250

QUICK-BUILD OPTIONS
N/A

* Concept design prepared by Toole Design.
11 Only Fresno Unified Schools are listed for brevity. Additional schools from other districts may be located within a half mile.

GARLAND AVENUE AND CEDAR AVENUE*

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Duncan Polytechnical High School

PROJECT DESCRIPTION
Install high-visibility crosswalk across Cedar Avenue on the southern approach and restripe Garland Avenue crosswalk as high-visibility. Extend southern median to discourage U-turns. Install PHB on southern approach. Install school zone signage.

PLANNING-LEVEL COST ESTIMATE
$622,964

QUICK-BUILD OPTIONS
Everything except for the PHB can be constructed with paint/post materials, including the high-visibility crosswalk, extended median, and school zone signs.

FIRST STREET AND DOVEWOOD LANE*[12]

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Hoover High School

PROJECT DESCRIPTION
Install PHB and a high-visibility, shared (bicyclist and pedestrian) crosswalk just north of the opening in the median. Relocate southbound FAX bus stop here so that it can be accessed via a marked crossing. Install signage to prohibit left turns out of Dovewood Lane onto First Street (limit left turns out of Dovewood Lane to frontage road only). Narrow the First Street median, while still allowing enough space for northbound left turns onto Dovewood Lane.

12 This recommendation is consistent with the City's plans to install a PHB at this location.

PLANNING-LEVEL COST ESTIMATE
$628,937

QUICK-BUILD OPTIONS
N/A

FIRST STREET AND FRONTAGE STREET (FROM BARSTOW AVENUE TO BULLARD AVENUE)[13]

PROJECT TYPE
Bicycle facility

SCHOOLS WITHIN A HALF MILE
Hoover High School

PROJECT DESCRIPTION
Install southbound bicycle facility within frontage street to fill existing gap south of Roberts Avenue. Upgrade the southbound and northbound Class II bike lanes to Class IV bike lanes by installing flex posts.

13 This project is consistent with the 2017 Fresno-Clovis Metropolitan Area Class IV Bikeway Feasibility Study recommendation to convert the bike lanes along this corridor to Class IV bike lanes.

PLANNING-LEVEL COST ESTIMATE
$356,326

QUICK-BUILD OPTIONS
N/A

BARSTOW AVENUE AND FIRST STREET

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Hoover High School

PROJECT DESCRIPTION
Move 'No Turn on Red' sign to near side of intersection (westbound direction), replacing the 'Stop Here on Red' sign. Install detectable warning surface at NE corner ramp. Install stop bar on Barstow Ave westbound travel lane. Reprogram signal to include LPI and right arrow signal.

PLANNING-LEVEL COST ESTIMATE
$55,848

QUICK-BUILD OPTIONS
All features except the detectable warning surface and right arrow signal can be completed on a short-term basis.

CEDAR AVENUE AND PRINCETON AVENUE

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
McLane High School

PROJECT DESCRIPTION
In the short term, modify signal timing to include pedestrian recall, LPI, and protected left-turn phasing to prevent vehicles from crossing sidewalks while pedestrians are in them. In the medium-longer term, install a pedestrian scramble (like at California Avenue and near Edison High).

PLANNING-LEVEL COST ESTIMATE
$299,216

QUICK-BUILD OPTIONS
Everything aside from the pedestrian scramble can occur on a short-term timeline.

MARTIN LUTHER KING JR. BOULEVARD, FROM CALIFORNIA AVENUE TO CHURCH AVENUE

PROJECT TYPE
Sidewalk enhancement

SCHOOLS WITHIN A HALF MILE
Computech Middle School, Edison High School, King Elementary School, Gaston Middle School

PROJECT DESCRIPTION
Widen sidewalk and install a consistent 5-foot minimum buffer (primarily in the sections where the sidewalk meanders in serpentine pattern.)

PLANNING-LEVEL COST ESTIMATE
$1,992,117

QUICK-BUILD OPTIONS
N/A

MARTIN LUTHER KING JR. BOULEVARD, FROM CALIFORNIA AVENUE TO CHURCH AVENUE

PROJECT TYPE
Corridor treatment (with road diet and bicycle facility enhancement)

SCHOOLS WITHIN A HALF MILE
Computech Middle School, Edison High School, King Elementary School, Gaston Middle School

PROJECT DESCRIPTION
Reduce posted speed limit from 35 to 30. Extend bike lanes to run the entire length of the corridor, narrow travel lanes, and use leftover space to add a painted buffer to the bike lanes (converting them to Class II buffered bike lanes). Where parking is allowed, configure bike lanes to be parking-protected by installing bike lanes directly adjacent to the curb. Install curb extensions where feasible to further narrow the road, and remove center turn lane.

PLANNING-LEVEL COST ESTIMATE
$524,582

QUICK-BUILD OPTIONS
Speed limit can be reduced immediately. Narrowing of travel lanes, bike lane conversion, and curb extensions can be installed using paint and post materials.

HUGHES AVENUE AND BELLAIRE WAY*

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Cooper Academy Middle School, Wilson Elementary School

PROJECT DESCRIPTION
Install high-visibility crosswalks on west approach and refresh crosswalk markings on all other approaches. Extend and reinforce daylighting with curb extensions at pedestrian crossing and NW corner along Hughes Avenue. Install PHB.

PLANNING-LEVEL COST ESTIMATE
$622,964

QUICK-BUILD OPTIONS
Crosswalk painting and sign installation can easily be included as part of a quick build project. Curb extensions can be constructed with paint and post materials.

SIERRA VISTA AVENUE AND SHIELDS AVENUE

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Scandinavian Middle School

PROJECT DESCRIPTION
Retime signal phasing to include LPI and extend pedestrian phase. Install EB and WB left turn signals and retime signal phases to accommodate surge in turning vehicles during dismissal.

PLANNING-LEVEL COST ESTIMATE
$279,211

QUICK-BUILD OPTIONS
Signal phasing adjustments for LPI/ extended pedestrian phase can be done on a short-term basis.

FIRST STREET AND SHAW AVENUE

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Tioga Middle School, Wolters Elementary School

PROJECT DESCRIPTION
Install high-visibility crosswalks across all approaches and implement No Right Turn On Red.

PLANNING-LEVEL COST ESTIMATE
$28,553

QUICK-BUILD OPTIONS
This project can be completed as-is on a short-term timeline.

CHURCH AVENUE AND ADLER AVENUE*

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Herrera Elementary School, Terronez Middle School, Storey Elementary School, Phoenix Secondary School

PROJECT DESCRIPTION
Alert drivers that they are in a school zone by creating a gateway treatment with a high-visibility, raised crosswalk with median refuge, curb extensions, school crossing signs, and a rectangular rapid flashing beacon (RRFB). As shown in the photo to the right, a crosswalk previously existed at this location, but was removed.

PLANNING-LEVEL COST ESTIMATE
$321,717

QUICK-BUILD OPTIONS
Everything except for the RRFB can be constructed with paint/post materials, including the high-visibility, raised crosswalk (pictured, right), median refuge, school crossing signs, and curb extensions.

CESAR CHAVEZ (FORMERLY VENTURA) AVENUE AND B STREET*

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Lincoln Elementary School

PROJECT DESCRIPTION
Alert drivers (especially those exiting the freeway) that they are in a school zone by creating a gateway treatment: restripe all crosswalks as high-visibility, install school zone signage and a median refuge on west approach. Restrict right turn on red on all approaches, separate left-turn signal phase off B Street from pedestrian phase and add LPI. Install median refuge on B Street.

PLANNING-LEVEL COST ESTIMATE
$535,300

QUICK-BUILD OPTIONS
This project can be completed as-is on a short-term timeline.

CEDAR AVENUE AND HEATON AVENUE*

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Vang Pao Elementary School, Sequoia Middle School

PROJECT DESCRIPTION
Install curb extensions on west approach to slow down turning vehicles. Install median refuge and high-visibility crosswalk on north approach. Install stop bars, LPI, and “No Turn on Red” signs on all approaches.

PLANNING-LEVEL COST ESTIMATE
$140,585

QUICK-BUILD OPTIONS
High-visibility crosswalk, curb extensions, and signs can all be accomplished as part of a quick-build project.

CEDAR AVENUE AND HAMILTON AVENUE*

PROJECT TYPE
Intersection enhancement

SCHOOLS WITHIN A HALF MILE
Vang Pao Elementary School, Sequoia Middle School

PROJECT DESCRIPTION
Harden centerline with flex posts on Cedar Ave to slow down turning maneuvers. Restripe crosswalks as high-visibility and install stop bars. Install “No Standing” sign and red paint within 20’ of west approach crosswalk to prohibit parking and improve visibility. Install pedestrian recall and LPI. In the longer-term, repair accessible signal push buttons, resurface intersection, and upgrade NE and SE curb ramps to be PROWAG-compliant.

PLANNING-LEVEL COST ESTIMATE
$605,771

QUICK-BUILD OPTIONS
High-visibility crosswalk, stop bars, hardened centerline, and “No Standing” sign/red paint can all be accomplished as part of a quick-build project.

CEDAR AVENUE, FROM HEATON AVENUE TO HAMILTON AVENUE

PROJECT TYPE
Sidewalk enhancement

SCHOOLS WITHIN A HALF MILE
Vang Pao Elementary School, Sequoia Middle School

PROJECT DESCRIPTION
Install pedestrian-scale lighting along this corridor to ensure pedestrians are visible to drivers.

PLANNING-LEVEL COST ESTIMATE
$334,782

QUICK-BUILD OPTIONS
N/A

3 PROGRAM AND POLICY STRATEGIES

OVERVIEW

This chapter identifies programs and policies that best respond to Fresno's specific traffic safety challenges. Programs and policies are organized by the Safe Routes to School "E"s framework (see inset below) and are tailored to address the following four key issues that impact school travel. These icons representing the four key issues are used to organize the recommendations in Table 3:

Driver behavior: reducing vehicle speeds and unsafe maneuvers in school zones

Safety knowledge: knowing how or where to safely walk and roll

Community culture: increasing awareness of school travel options and SRTS efforts

Built environment: policies and programs that support safe street infrastructure

THE "E"S OF SAFE ROUTES TO SCHOOL

Comprehensive SRTS programs include a combination of the following:

Engagement: Listening and involving students, families, teachers, and school leaders in program development and implementation, and working with existing community organizations to build intentional, ongoing opportunities to engage with the program.

Equity: Ensuring that safe routes initiatives benefit all demographic groups, paying particular attention to low-income students, students of color, students with disabilities, unhoused students, and others.

Engineering: Creating physical improvements to streets and neighborhoods that make walking and bicycling safer, more comfortable, and more convenient.

Encouragement: Generating enthusiasm and increased walking and bicycling for students through events, activities, and programs.

Education: Providing students and the community with the skills to walk and bicycle safely, educating them about benefits of walking and bicycling, and teaching them about the broad range of transportation choices.

Evaluation: Assessing the success of different approaches, ensuring that programs and initiatives are supporting equitable outcomes, and identifying unintended consequences or opportunities to improve the effectiveness of each approach.

Enforcement: Reinforcing safe behaviors (while paying attention to potential equity impacts and reconsidering any strategies that might negatively impact communities of color).

PROGRAM AND POLICY RECOMMENDATIONS BY SCHOOL

There are hundreds of SRTS policies and programs available to the District, but not all are appropriate or effective for all schools. For example, encouragement events designed to get students walking to school may not be appropriate at choice schools that enroll students throughout Fresno. Programs like bike rodeos would not be suitable for schools located on high-speed, high-volume arterials. In addition, the types of programs and policies that work for elementary students and families are different from those that are necessary and effective for high schools. To ensure that the policy and program recommendations in this plan have the highest chance of success, the consultant team developed six "school type" profiles. School types are defined by the grade level (elementary, middle, or high) and attendance boundary (neighborhood or choice). Policies and program recommendations are customized for each of the six school type profiles.

Table 2 provides a description of each of the six school types, and a summary of the policy and program strategies most appropriate for each school type. Based on national nest practice and consultant expertise, recommendations in **bold** are likely to be most effective and can be considered higher priorities. Full descriptions of each program are available in Table 3.

Students line up to enter Lincoln Elementary School

TABLE 2 Program and Policy Recommendations by School Type

NEIGHBORHOOD ELEMENTARY SCHOOLS (NES) Herrera Elementary, Lincoln Elementary, Roeding Elementary, Vang Pao Elementary, Wawona K-8	**CHOICE ELEMENTARY SCHOOLS (CES)** Wawona K-8
• **Active transportation route maps*** • Bike rodeos* • **Green Commute program*** • **Golden Sneaker/Golden Bicycle competition*** • **Walk to School Day and Bike to School Day*** • Safety concern forum • School drop-off and pick-up monitors • Traffic gardens* • Walking and biking safety assembly*	• Activity books • Safety concern forum • Transportation storytime • School drop-off and pick-up monitors
NEIGHBORHOOD MIDDLE SCHOOLS (NMS) Kings Canyon Middle, Scandinavian Middle, Tioga Middle, Wawona K-8	**CHOICE MIDDLE SCHOOLS (CMS)** Computech Middle, Cooper Academy Middle, Wawona K-8
• Active transportation route maps* • Crossing guards • **Green Commute program*** • **Golden Sneaker/Golden Bicycle competition*** • **Walk to School Day and Bike to School Day*** • Safety concern forum • School drop-off and pick-up monitors	• Crossing guards • Safety concern forum • **Park and Walk** • School drop-off and pick-up monitors
NEIGHBORHOOD HIGH SCHOOLS (NHS) Bullard High, Hoover High, McLane High, Roosevelt High	**CHOICE HIGH SCHOOLS (CHS)** Duncan Polytechnical High
• Active transportation route maps* • Green Commute program* • Golden Sneaker/Golden Bicycle competition* • International Walk to School Day and Bike to School Day* • Park and Walk • **Reboot Your Commute** • **Safety training for student parking passes** • Youth Task Force	• **Reboot Your Commute** • Park and Walk • **Safety training for student parking passes** • Youth Task Force

***DISCLAIMER:** This program or policy should be targeted to students who live in the neighborhood around the school and do not have to cross a major arterial. If most students at the school must cross these roadways, this program or policy should be of lesser priority

TOP RECOMMENDATIONS FOR EACH SCHOOL

The consultant team identified up to two high priority programs or policies for each of the 15 pilot schools. Detailed descriptions of each policy or program are provided in Table 3. School staff and administrators are encouraged to review the recommended programs for their school alongside the larger menu of options in Table 2, and select or modify programs as necessary.

- **All Fresno Unified Schools**
  - Skills-based, age-appropriate pedestrian and/or bicycle safety education
  - Parent and staff safety education
  - Written arrival and dismissal procedures
  - Safety training requirement for (high school) student parking passes
- **Bullard High School**
  - Reboot Your Commute
  - Green Commute program
- **Duncan Polytechnical High School**
  - Bike maintenance classes
  - Park and Walk
- **Hoover High School**
  - Reboot Your Commute
  - Green Commute program
- **McLane High School**
  - Active transportation route maps
  - Green Commute program
- **Roosevelt High School**
  - Green Commute program
  - Message campaign for neighbors or drivers near the school
- **Computech Middle School and Cooper Academy Middle School**
  - Park and Walk
- **Kings Canyon Middle School**
  - Active transportation route maps
  - School arrival/dismissal monitors
- **Scandinavian Middle School**
  - Active transportation route maps
  - Crossing guards
- **Tioga Middle School**
  - Active transportation route maps
- **Wawona K-8 School**
  - Bike rodeo and/or traffic garden (partner with Fresno County Bicycle Coalition)
  - Pop-up/temporary demonstration cross-walk enhancement at Thorne Avenue and Indianapolis Avenue (partner with Fresno County Public Works)
- **Hererra Elementary School**
  - Transportation storytime
  - Activity books
- **Lincoln Elementary School**
  - Walking and biking safety assembly
  - Walking school bus
- **Roeding Elementary School**
  - Walking and biking safety assembly
  - Activity books
- **Vang Pao Elementary School**
  - Walking and biking safety assembly
  - Walking school bus

TABLE 3 Recommended Policies and Programs

POLICY OR PROGRAM	DESCRIPTION	KEY ISSUE	TYPE	LEAD AGENCY/ ORGANIZATION	APPROPRIATE GRADES	SCHOOL TYPE
EDUCATION						
Parent and staff safety education campaign	School principals and staff understand how to establish expectations for behavior from students. They can also establish expectations for behavior to parents. Prepare and distribute information packets/tip sheets to caregivers and school staff at the beginning of the school year containing materials that emphasize safe behaviors such as adhering to school zone speed limits, being alert for pedestrians and bicyclists, and respecting the school crossing guard(s).		Program	School, District	All	All
Written arrival and dismissal procedures	Prepare and distribute information packets/tip sheets to caregivers and school staff at the beginning of the school year containing school arrival and dismissal rules, procedures, and maps (including bicycle/pedestrian circulation). Encourage parents to reach out to other parents who live near them to create carpool arrangements. **Many schools in the District already provide arrival and dismissal procedures; standardizing this practice across the District to include all the components listed above is recommended.**		Program	School, District	All	All
Safety training for high school student parking passes	Require a mandatory safety training for high school students to undergo a safety training to receive a parking pass. This can utilize similar materials as the parent/staff safety training.		Policy	School	HS	NHS CHS
Traffic safety training for bus operators	Require school bus operators to complete a unit on sharing the road with pedestrians and bicyclists as part of their training and periodic refresher training.		Policy	District	All	All
Active transportation route maps	Develop and distribute walking and bicycling route maps that identify sidewalks, bike lanes, crosswalks, crossing guard placements, and other relevant conditions in the area around the school, as well as estimated walk/bike times.		Program	School, District	3-5 MS HS	NES NMS NHS
Message campaign for neighbors or drivers near the school	Use yard signs, neighborhood newsletters, or flyers to communicate with neighbors and drivers the need to watch for/yield to pedestrians and cyclists, drive slowly, keep sidewalks clear, prune vegetation.		Program	School	All	NES NMS NHS
Walking and biking safety assembly	These single-day events can be held in conjunction with Walk and Bike to School Day. Guest speakers teach the students pedestrian and bicycle safety skills that they can use when walking and biking to school.		Program	School	3-5	NES

POLICY OR PROGRAM	DESCRIPTION	KEY ISSUE	TYPE	LEAD AGENCY/ ORGANIZATION	APPROPRIATE GRADES	SCHOOL TYPE
Activity books	These engaging books include activities, worksheets, and illustrations to share information on walking, rolling, and biking with younger students.		Program	School, District	K-2 3-5	NES CES
Transportation storytime	Schools can provide reading lists with books that get students excited about walking, biking, and rolling. Taking this a step further, Safe Routes to School staff can organize transportation storytime, in which high school students read stories to K-2 classes to encourage them to walk, bike, and take transit with their families.		Program	School, District	K-2 3-5 [HS]	NES CES
Bike rodeos*	Bike rodeos teach children skills related to walking and bicycling safely, which can increase their and their parent's confidence for biking or walking to school.		Program	School, District, Fresno County Bicycle Coalition	3-5	NES
Traffic gardens*	A traffic garden is a set of small-sized streets with scaled-down traffic features where children can practice and learn about biking skills, road safety, and how traffic works. They offer a controlled environment for children to gain confidence and learn how to safely walk, roll, and ride bicycles.		Program	School, District, Fresno County Bicycle Coalition	K-2 3-5	NES
Bike maintenance classes	These courses can teach students of varying ages how to perform basic fixes and maintenance on their bike. Classes may cover bike parts, essential tools, a safety check, flat fixing, brake adjustments and chain resetting, cleaning and lubrication.		Program	School, local bike shop	MS HS	NMS CMS NHS CHS
Family cycling workshop*	Family cycling workshops gather children and parents in a class with lessons and games on how to fit a helmet, check safety of a bike, communicate with other road users, ride in a straight line and avoid obstacles, and safely navigate streets and intersections.		Program	School, District, Fresno County Bicycle Coalition	3-5 MS	NES

POLICY OR PROGRAM	DESCRIPTION	KEY ISSUE	TYPE	LEAD AGENCY/ ORGANIZATION	APPROPRIATE GRADES	SCHOOL TYPE
Skills-based, age-appropriate pedestrian and bicycle safety education for students	Students should receive age-appropriate pedestrian and bicycle education inside and outside of the classroom that is regularly reinforced (e.g., annually) and provides opportunities for skills practice. **The District already has a Pedestrian Safety Curriculum, but this takes it a step further to include bicycle education and skills practice.** School-based education works best when integrated into the PE or Health curriculum. This can include personal safety education to address concerns about bullying, stranger danger, and child abduction. **K-2:** Where to walk, crossing the street safely, not running into the street **3-5:** Making sure bikes/brakes work, not looking down at pedals while starting, following the rules of the road/traffic signs **MS:** Empowers students with skills to be independent, follow the rules of the road/traffic signs, safety projects Biking for transportation, motorist safety, safety projects and leadership, special unit on traffic safety in health, science, or social studies		Program Policy	District	All	All
ENCOURAGEMENT						
Drive Safe Campaigns/ **Pace Car Program**	This takes parent education even further. Some parents and student drivers are not aware of how their driving behavior can put walking students at risk - this teaches drivers in the school community how their unsafe driving habits can put students in danger. Encourage parents and high school students to sign a safe driving pledge to abide by traffic laws, avoid distracted driving, drive at a safe speed, and respect pedestrians and bicyclists (e.g., by passing at a safe distance). Program participants pledge to drive the speed limit on neighborhood streets, respect pedestrians and bicyclists, and display the Pace Car bumper sticker.		Program	School, District, Fresno PD	All	All

POLICY OR PROGRAM	DESCRIPTION	KEY ISSUE	TYPE	LEAD AGENCY/ ORGANIZATION	APPROPRIATE GRADES	SCHOOL TYPE
Publicity for SRTS safety efforts	Provide parents with an informational flyer or email about the SRTS program and what they can do to support it. This may include regular reminders to caregivers encouraging walking and biking to school. However, this also needs to be very sensitive to income disparities and cultural norms. Deliver presentations on SRTS to school PTA / PTO groups. Establish social media accounts for disseminating information on school division SRTS activities. Distribute an e-newsletter on SRTS activities via a listserv or email marketing service. Deliver presentations on SRTS activities at meetings involving parents, staff, other community members and community leaders. Collaborate with local media to get the word out. Develop a list of potential partners within the community who could help implement elements of a division-wide SRTS program, and reach out to them.		Program	School, District	All	All
Advertising campaign to promote active travel to school*	Explicitly encourage students to walk, roll, and bike to school as a form of physical activity.		Program	School, District	All	NES NMS NHS
After school bike clubs or bike summer camps*	These activities further develop the bike culture in the school community by educating and encouraging students to bike as a form of physical activity.		Program	School, District, Fresno PARCS	MS HS	NMS NHS
International Walk to School Day and Bike to School Day*	International Walk to School Day is held in October to celebrate walking to school; Bike to School Day is held in May and celebrates biking to school, although typically children both walk and bike on both days. Walk and Bike to School Days encourage families to try out walking in a supportive environment. It might be only one day, but it allows staff and parents to envision what it might look like if most students who aren't bussed were to walk or bike to school. It may result in minor mode shift, but it's more about social norming and shifting opinions. This is a heavy lift for many schools, especially low-income schools, so it should be supported or encouraged at the city or district level. Once established, they can lead to monthly walking/bicycling events to maintain momentum and enthusiasm.		Program	School, District, Fresno County Bicycle Coalition	All	NES NMS NHS

POLICY OR PROGRAM	DESCRIPTION	KEY ISSUE	TYPE	LEAD AGENCY/ ORGANIZATION	APPROPRIATE GRADES	SCHOOL TYPE
Green Commute program*	Track and reward students who have "green commutes" (walk, roll, skateboard, bike, or take transit) with incentives or prizes. Green commute programs require a system for tracking student trips. For example, students can be assigned a punch card that volunteers or teachers can punch each time a trip is completed.		Program	School, District	3-5 MS HS	NES NMS NHS
Golden Sneaker/ Golden Bicycle competition*	Reward the class with the highest participation during Walk to School Day, Bike to School Day, or a frequent walker/bicyclist program.		Program	School, District	3-5 MS HS	NES NMS NHS
Walking school buses and bike trains*	Walking school buses and bike trains are groups of children who walk or bicycle to school together with adult supervision. Organize parent or community volunteers to "pick up" students on their walk or bike ride to and from school.		Program	School, District	3-5 MS	NES NMS
Reboot Your Commute	Reboot Your Commute is an event that encourages high school students to walk, bicycle, carpool, or take transit to school. These events can be hosted district-wide and held over a month-long time frame. Students can write or draw on display boards to publicly share their reasons for and experience with walking, rolling, bicycling, taking transit, or carpooling to school. The event can also be paired with giveaways.		Program	School, District	HS	NHS CHS
Youth Task Force	Developing a Youth Task Force with high school student representatives who care about transportation, climate change, and health can be a great way to establish young local leaders. Student members of the Youth Task Force plan events and activities to encourage walking and biking to school. Work with high school students and/or others to create signage, social media, and/or other campaigns on pedestrian and bicyclist awareness and safety at and around schools.		Program	School, District	HS	NHS CHS
Safe Routes to School Task Force	Establish a SRTS task force or designate an existing task force/ committee to serve as a SRTS task force. Recruit members from the city, county, school district, schools, community leaders, and community organizations. Use this task force to coordinate efforts across schools and share resources. Meet bi-monthly or quarterly as program momentum is built. Expand the task force to include additional neighbor-hoods as the program grows.		Program	District	All	All

POLICY OR PROGRAM	DESCRIPTION	KEY ISSUE	TYPE	LEAD AGENCY/ ORGANIZATION	APPROPRIATE GRADES	SCHOOL TYPE
Park and walk*	For students who live beyond bicycling or walking distance, a program to encourage parents to park or drop-off students at a designated location from which students can walk or bicycle to school, either with their parent or as part of a walking school bus or bicycle train.		Program Policy	School	All	NES NMS CMS NHS CHS
ENFORCEMENT						
Crossing guards	Place crossing guards at elementary schools and middle schools to facilitate safe access to the school property. Fresno Unified may work with Safe 2 School to recruit additional crossing guards or encourage parents to volunteer as crossing guards or to direct traffic.		Program	School	K-2 3-5 MS	NES CES NMS CMS
School drop-off and pick-up monitors	Ask school personnel to assist with drop-off and pick-up by standing at key locations and providing direction to parents and children. This will reinforce school procedures on and around the school campus.		Program	School	All	All
Speed feedback signs	Digital signs located near schools show the speed that vehicles are traveling. The District already uses this strategy.		Program	District, City of Fresno Public Works	All	All
ENGINEERING						
School bonds	Consider trying to pass a school bond to fund school facility upgrades and Safe Routes to School capital infrastructure projects, such as pathways and sidewalks leading to and through the campus and bike racks. This can also be used to fund facility maintenance and repair.		Policy	District, City of Fresno	All	All
Pop-ups/ temporary demonstrations	Installing temporary infrastructure treatments like crosswalks, curb extensions, and roundabouts can show how easy it is to make changes that make it safer and more inviting for children to walk and bicycle to school. Fresno Public Works can team with parents and schools to install a demonstration project, collect feedback from the public, and refine the treatment before installing it permanently.		Program	District, City of Fresno Public Works	All	All

POLICY OR PROGRAM	DESCRIPTION	KEY ISSUE	TYPE	LEAD AGENCY/ ORGANIZATION	APPROPRIATE GRADES	SCHOOL TYPE
EVALUATION						
Evaluation and performance monitoring	Regularly evaluate effectiveness of pedestrian and bicycle infrastructure on and near school campuses to ensure that it is well-maintained, and any safety hazards are addressed. Establish goals and performance targets, and then regularly assess progress toward meeting them.		Policy	City of Fresno Public Works, Fresno County Public Works	All	All
Forum for safety concerns	Establish a virtual forum for parents, teachers, staff and students to report pedestrian and bicycle safety concerns.		Program	School, District	All	All
Surveys on travel behavior to and from school and barriers to walking and biking	Continue to collect mode share data for the school and determine how travel patterns may shift as a result of SRTS efforts.		Program	School	All	All
EQUITY						
Identification of participation gaps	Use the results of evaluation efforts to identify gaps in participation. Develop and implement a strategy to ensure all population groups feel comfortable participating in the SRTS program. This strategy may include targeted outreach or adjustments to the programs. Look particularly at students generally underrepresented in active travel: e.g., students of color, female students, and students with disabilities.		Program	School, District	All	All
Free bicycle helmets and bike locks	Schools might partner with another community organization to acquire and fit the helmets for students who do not have them. Helmet and bike lock giveaways should be coordinated with bicycle safety education or skills practice and should include instruction on helmet safety.		Program	School, District, Fresno PD, Fresno County Bicycle Coalition	3-5 MS HS	All
Lock library*	Maintain a library of bicycle locks to be available for students locking their bikes at school.		Program	School, District	3-5 MS HS	NES NMS NHS
Spanish translation of Safe Routes to School materials	Ensure materials reach non-English speaking students and families by developing education and encouragement materials in Spanish.		Program	School Fresno USD	All	All

***SCHOOL CONTEXT DISCLAIMER:** This program or policy should be targeted to students who live in the neighborhood around the school and do not have to cross a major arterial. If most students at the school must cross these roadways, this program or policy should be of lesser priority

4 IMPLEMENTATION STRATEGIES

OVERVIEW

This chapter summarizes feasibility considerations, implementation strategies, and potential funding for the infrastructure and program/policy recommendations in this plan.

FEASIBILITY CONSIDERATIONS

For each type of infrastructure treatment recommended in this plan, there are certain issues and requirements that the City and County must consider before implementation. Additionally, all treatments may incur maintenance costs. Table 4, below, is a non-exhaustive list of feasibility considerations for the infrastructure treatments commonly recommended in this plan.

TABLE 4 Feasibility Considerations by Treatment Type

TREATMENT TYPE	FEASIBILITY CONSIDERATIONS
Add Vertical Protection to Bike Facility	Vertical elements should accommodate vehicle turning movement.
Install (or Widen) Bike Facility	Adjacent lanes will need to comply with minimum widths - especially if transit or emergency route.
Install Detectable Warning Surface on Curb Ramp	Must comply with PROWAG/ADA requirements.
	Some concrete work required to embed truncated domes into ramp.
Install Median Refuge	Must be minimum 6' wide and have adequate space for two detectable warning surfaces.
	Confirm that drainage and surface utilities will not be impacted.
Install Pedestrian Scramble	May increase driver wait times.
	May require additional signage, signal heads, and associated electrical modifications.
	May require traffic/volume study and Caltrans approval.
	May require potential curb ramp adjustments to receive diagonal pedestrian movements.
Install Raised Crosswalk	Confirm that emergency vehicle response time will not be significantly impacted.
	Confirm that drainage will not be impacted by grade adjustments.
	May need to adjust surface-level utilities to grade.
	May require additional signage.
Install/Relocate Signage	New posts will need to be placed in such a way as to not impact accessible pedestrian routes (maintain 4' minimum uninterrupted space for pedestrian travel).
	Confirm that surface utilities will not be impacted.
Install RRFB or PHB*	May require electrical utility adjustments for push buttons to connect to signal.
	Consider potential impacts on traffic delay and adjust nearby signals.
	*City of Fresno requires pedestrian counts for PHB.
Install Stop Bar	Ensure required setback from pedestrian crossing is met (per Manual on Uniform Traffic Control Devices).
Relocate Bus Stop	Ensure suitable access/space is provided at new bus stop location in accordance with ADA requirements.
	Bus pad or platform may require pavement modifications/concrete work.
Reprogram Signal (LPI, protected left/right turn phase, pedestrian recall)	May require crash data, vehicle volumes, and/or pedestrian volume study.
	May need to upgrade signal infrastructure.
Widen Sidewalk	Confirm that drainage and surface utilities will not be impacted by curb line adjustments.
	Maintain an accessible path of travel during construction.
	Confirm PROWAG requirements are met.

Instructional sign at pedestrian scramble crosswalk, Cedar and Woodward Avenues

IMPLEMENTATION THROUGH EXISTING MAINTENANCE PROCESSES

While many projects require elements of construction/reconstruction or installation of new signal equipment, some of the recommended projects (or elements of the projects) require little more than striping, sign installation, and flex posts or similar vertical elements, and may be implemented as part of the City's routine restriping and resurfacing plans. This is a low-cost way to implement projects on a relatively quick timeline. We recommend that the City and County regularly review the full list of all recommended infrastructure projects in Appendix A before carrying out their routine restriping and resurfacing.

FUNDING FOR INFRASTRUCTURE PROJECTS

Most projects will require funding for full implementation. Table 5, below, lists federal, state, and local grant sources that can be leveraged by the City, County, and District to support infrastructure projects.

TABLE 5 Federal, State, and Local Competitive Grants

PROGRAM	AGENCY	WHAT IT SUPPORTS	DESCRIPTION
FEDERAL			
Safe Streets and Roads for All (SS4A)	U.S. Dept. of Transportation	Planning, demonstration projects (pilot or quick-build projects), and implementation	Funds regional, local, and tribal initiatives to prevent roadway deaths and serious injuries.
Reconnecting Communities and Neighborhoods (RCN)	U.S. Dept. of Transportation	Removal, retrofit, or mitigation of transportation facilities like highways or rail lines that create barriers to community connectivity	Funds planning, technical assistance, capital construction, priority for qualified disadvantaged communities, and cost share (i.e., non-federal matching funds) for projects that "repair the harm caused by infrastructure choices of the past".
Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grants	U.S. Dept. of Transportation	Roads, bridges, transit, rail, ports, or intermodal transportation	Funds capital investments on surface transportation projects that achieve a significant impact for a metropolitan area, region, or the nation. Selection criteria encompass safety, economic competitiveness, quality of life, state of good repair, innovation, and partnerships with a broad range of stakeholders.
Congestion Mitigation and Air Quality Improvement (CMAQ) Program	Federal Highway Administration	Bicycle infrastructure	Funds state and local governments for transportation programs and projects that support the Clean Air Act, improving air quality and providing congestion relief.
Community Development Block Grant (CDBG)	Housing and Urban Development (HUD)	Neighborhood revitalization, transportation services, public safety programs, drainage facilities, water and sewer improvements, street improvements for pedestrians and bicyclists	Provides communities with resources to address a wide range of unique community development needs by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons.
Active Transportation Infrastructure Investment Program (ATIIP)	Federal Highway Administration	Safe and connected active transportation facilities in active transportation networks	Funds construction projects ($15 million minimum) that connect destinations within a community or region, including schools, workplaces, residences, businesses, recreation areas, medical facilities, and other community areas.
STATE			
Active Transportation Program (ATP)	California Transportation Commission	Bicycle and pedestrian infrastructure projects	Prioritizes projects in disadvantaged communities that closes gaps in pedestrian and bicycle infrastructure between communities of need.
Sustainable Transportation Planning (STP) Grants	California Department of Transportation (Caltrans)	Planning, community engagement, and studies to improve bicycle and pedestrian connections	Funds for communities to do planning, studies, and design work to identify and evaluate projects, including conducting outreach or implementing pilot projects.
Local Streets and Roads Program (LRSP)	California Department of Transportation (Caltrans)	Infrastructure projects that improve or add pedestrian crosswalks, accessible sidewalks, road repair, lane reconfiguration, and bike facilities	Provides approximately $1.5 billion per year to cities and counties for basic road maintenance, rehabilitation, and critical safety projects on the local streets and roads system.
California Highway Safety Improvement Program (HSIP)	California Department of Transportation (Caltrans)	Safety-related pedestrian and bikeway projects, including bike lanes, paved shoulders, crosswalks, intersection improvements, and signage	Funds projects and programs that reduce traffic fatalities and serious injuries by correcting or improving a specific problem. Highly competitive at the state level.
Clean California	California Department of Transportation (Caltrans)	Projects to beautify and improve streets and roads, tribal lands, parks, pathways, and transit centers	Funds infrastructure or non-infrastructure projects that reduce litter, beautify public spaces, improve public health, and foster place-making. Project should reflect community need, the potential to enhance greening, beautification, improves access to public space, and benefits underserved communities.
California Sustainable Transportation Equity Project (STEP)	California Air Resources Board	Active transportation programming, construction of new pedestrian/bicycle facilities and supportive infrastructure	Funds projects that aim to address transportation needs, increase access to key destinations, and reduce greenhouse gas emissions.

PROGRAM	AGENCY	WHAT IT SUPPORTS	DESCRIPTION
Affordable Housing and Sustainable Communities (AHSC) Program	California Strategic Growth Council	Bicycle and pedestrian corridor and crossing improvements, particularly those in the area covered in specific plans that will reduce GHG emissions	Funds projects that facilitate compact development, including bicycle infrastructure and amenities, with neighborhood scale impacts. Available to government agencies and institutions (including local government, transit agencies and school districts), developers and non-profit organizations.
Transformative Climate Communities (TCC)	California Strategic Growth Council and Department of Conservation	Bicycle and pedestrian facilities and bike share programs	Funds community-led development and infrastructure projects that achieve major environmental, health and economic benefits in California's most disadvantaged communities.
Reconnecting Communities: Highways to Boulevards	California Department of Transportation (Caltrans)	Pedestrian and bicycle infrastructure and planning	Funds planning and converting key underutilized highways in the State into multi-modal corridors to reconnect communities divided by transportation infrastructure.
Land and Water Conservancy Fund (LWCF)	California Department of Parks and Recreation	Infrastructure projects that support pedestrian and bicycle recreation options	Funds acquisition or development of land to create new outdoor recreation opportunities for the health and wellness of Californians.
Recreational Trails Program (RTP) Non-Motorized	California Department of Parks and Recreation	Trails projects	Supports the development of non-motorized recreational trails and trails-related facilities.
LOCAL			
Measure C	Fresno County Transportation Authority	Pedestrian and bicycle facilities, trails, and ADA compliance	Funds projects that improve the overall quality of Fresno County's transportation system.
San Joaquin Valley Air Pollution Control District's Bikeway Incentive Program	California Air Pollution Control Board	Bicycle facilities	Funds the development or expansion of a comprehensive bicycle-transportation network which will provide a viable transportation option for travel to school, work, and commercial sites.

FUNDING FOR PROGRAMS

Several state grant resources can be leveraged by the District and other lead/partner agencies to support implementation of non-infrastructure SRTS efforts (Table 6).

TABLE 6 Competitive State Grants Supporting Non-Infrastructure SRTS Efforts

PROGRAM	AGENCY	WHAT IT SUPPORTS	DESCRIPTION
Active Transportation Program (ATP)	California Transportation Commission	Safe Routes Programs (including infrastructure and non-infrastructure)	Funds a wide range of capital and non-capital projects. A strong preference is given to projects in disadvantaged communities that closes gaps in pedestrian and bicycle infrastructure between communities of need.
California Office of Traffic Safety Grants	California Office of Traffic Safety	Certain activities under the SRTS, safety/ education and enforce-ment programs	Funds traffic-safety education, awareness and enforcement programs aimed at drivers, pedestrians, and cyclists.
California Highway Safety Improvement Program (HSIP)	California Department of Transportation (Caltrans)	Certain activities under the SRTS, safety/ education and enforcement programs	Funds projects and programs that reduce traffic fatalities and serious injuries by correcting or improving a specific problem. Highly competitive at the state level.
Local Control and Accountability Plan (LCAP)	California Department of Education	Non-infrastructure safe routes to school activities	The LCAP is a three-year plan that describes the goals, actions, services, and expenditures to support positive student outcomes that address eight key state and local priorities related to school standards, student achievement, parent involvement, and school climate.

Fresno Unified School District

SAFE STREETS FOR STUDENTS

A PILOT PROJECT TO IMPROVE TRAFFIC SAFETY AT FRESNO UNIFIED SCHOOLS