

# Walk Audit Report



SafeRoutes



Napa County

ST. HELENA PRIMARY SCHOOL

# ST. HELENA PRIMARY SCHOOL

1701 GRAYSON AVENUE  
ST. HELENA, CA

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## ACKNOWLEDGEMENTS

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# EXECUTIVE SUMMARY

## THE NAPA COUNTY SAFE ROUTES TO SCHOOL PROGRAM

The Napa County Safe Routes to School (SRTS) Program is a partnership between the Napa County Office of Education (NCOE), Napa County Bicycle Coalition (NCBC) and Napa Valley Transportation Authority (NVTA). Since 2008, the Program has provided high-quality bicycle and pedestrian safety education and encouragement programs and has worked closely with the public agency and school stakeholders to make walking and bicycling safer and more accessible for children throughout Napa County.

According to 2015 California Office of Traffic Safety (OTS) data, the data available when the SRTS program was applying for grant funding, Napa County ranked 1st in per capita number of collisions of bicyclists under the age 15, 2nd in total fatal and injury-causing collisions, and 3rd in overall pedestrian collisions. According to the most recent OTS data (2018), Napa County ranked 8th for bicyclist collisions statewide (58 counties), 7th for speed-related collisions, and 6th for total fatal and injury-causing collisions. A decades-long decline in the number of students walking and biking to school, as well as increased awareness of the significant traffic congestion, air pollution, and related issues associated with students being driven to school galvanized local agency partners to expand the existing program.

The goal of the Walk Audit Report is to **identify, evaluate, prioritize, and offer solutions** to infrastructure and non-infrastructure barriers to students safely walking and biking to school in Napa County.

In 2017, the Napa County SRTS program secured funding through the Caltrans Active Transportation Program (ATP) and One Bay Area Grant (OBAG) Cycle II programs to expand education programs and initiate a series of evaluations at each public school countywide. NCOE has been leading education and engagement programs under the current program, while NCBC has led evaluations of active transportation barriers at all 36 school sites.

### WHY SAFE ROUTES TO SCHOOL?

Safe Routes to School is national initiative committed to increasing the number of students who walk or bike to school, and making it safe, convenient, and fun for kids to do so. In doing so, SRTS aims to improve kids' safety and increase health and physical activity. Concerned by the declining number of students walking and biking to school over recent decades and the related long-term health and traffic consequences, Congress made federal funding available for SRTS programs nationwide in 2005. Since then, SRTS programs have been implemented at more than 14,000 schools in all 50 states.

Studies have linked SRTS programs to increased walking and biking to school<sup>ab</sup> and reduced pedestrian-motorist collisions<sup>cd</sup>. This can lead to safer, healthier, and more focused students, while also benefitting local and school communities.

Regularly walking or biking increases children's daily levels of physical fitness and improves their cardiovascular health<sup>e</sup>.

Student health has been linked to improved academic performance<sup>g</sup>. When students walk or bike to school, the fresh air and exercise allow them to arrive refreshed, energized and ready to focus. Children have a greater sense of spatial awareness and knowledge when they are actively engaged in their transportation, allowing them to better recognize and navigate their neighborhoods independently<sup>h</sup>. Families are also provided with a low-cost transportation option that can significantly reduce their annual expenses<sup>i</sup>.

When a greater share of students walk or bike to school, local and school communities benefit too. Fewer cars being driven to school can improve the air quality of surrounding neighborhoods by decreasing air pollutant emissions and increase street safety through reduced traffic congestion and noise pollution. This can also improve campus safety and reduce circulation hazards around the school site. Walking or biking is a reliable form of transportation, which can reduce student absence and tardiness. By reducing the number of short-distance school bus trips, increased student walking and biking can also help school districts save funds by decreasing costly bus service.

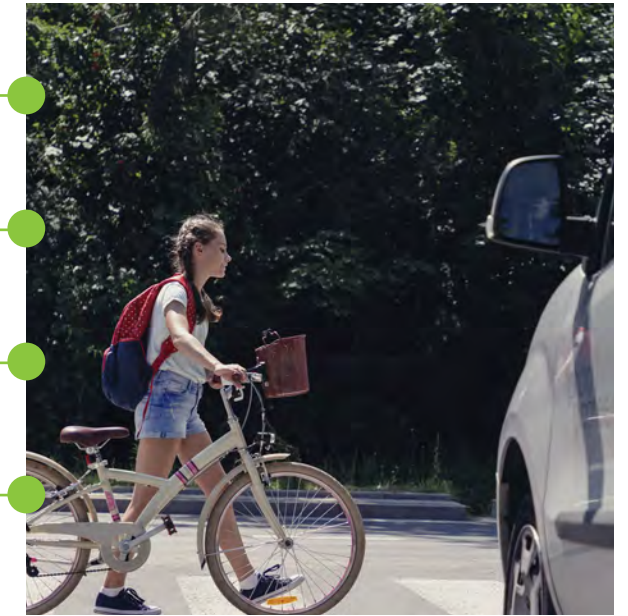
Schools and the community benefit immensely when students choose to walk or bike.

Student health has been linked to improved academic performance.

Walking or biking can provide a reliable form of transportation, leading to reduced student absence and tardiness.

Children arrive ready to learn and are less likely to experience discipline issues.

Fewer cars dropping off and picking up students improves campus safety and reduces circulation hazards.



### THE SIX E'S

Safe Routes to School programs originally followed a comprehensive approach that addressed the "Five E's" – education, encouragement, enforcement, evaluation, and engineering. In 2017, when the Napa County SRTS program obtained funding to perform Walk Audit evaluations, the "Five E's" had recently been altered to add a sixth "E" – equity. In June 2020, after a significant portion of the Walk Audit evaluation work had been completed, the "Six E's" framework was again altered, dropping enforcement and adding engagement. These changes were led by the Safe Routes to School National Partnership.

The current "Six E's" framework is described below. Although enforcement is no longer one of the "Six E's", a brief definition of enforcement is included, as it was part of the approach used by the Napa County SRTS program during the majority of the Walk Audit evaluation process.



#### Engagement

Listen to community members and work with existing community organizations.



#### Equity

Recognize the unique barriers that different people face in living healthy, fulfilled lives, and craft policies, programs, and overall approaches with those various challenges and needs in mind.



#### Engineering

Design streets and schools for walkers and bikers to use safely and conveniently.



#### Encouragement

Promote walking and biking in the school community through events, programs and incentives.



#### Education

Ensure that everyone learns how to travel safely and why biking and walking are important.



#### Evaluation

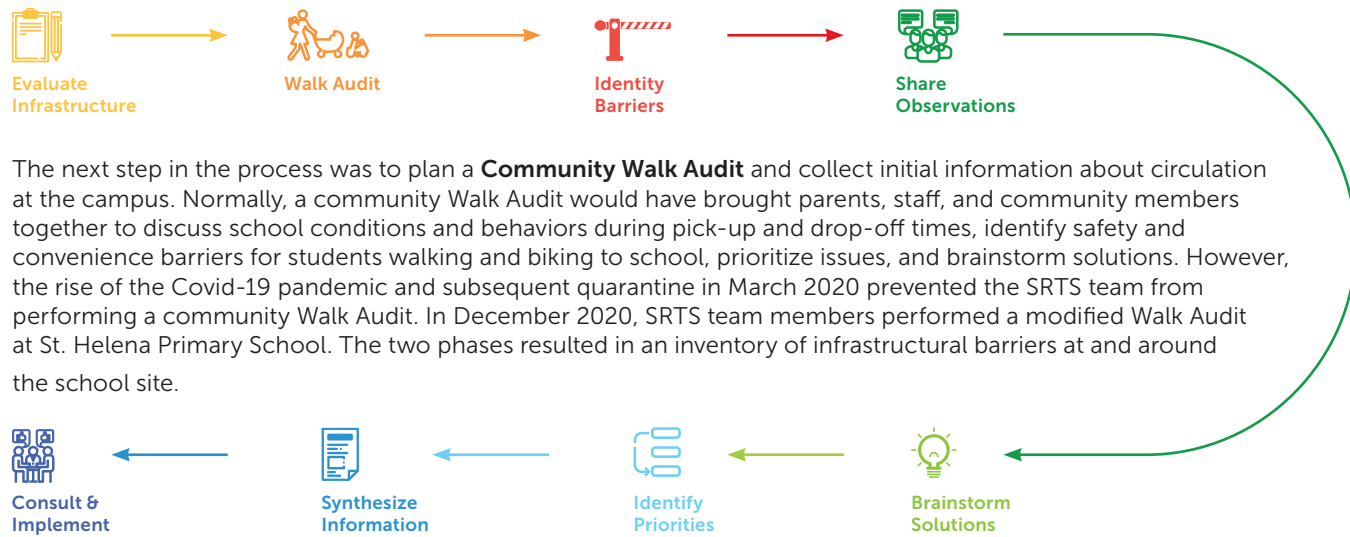
Track progress toward our shared safety goals, develop programs accordingly.

#### Enforcement (no longer an "E"):

Enforce traffic safety laws and school policies and target risky behaviors. No longer recommended as foundational to the start, maintenance, or growth of Safe Routes to School programs.

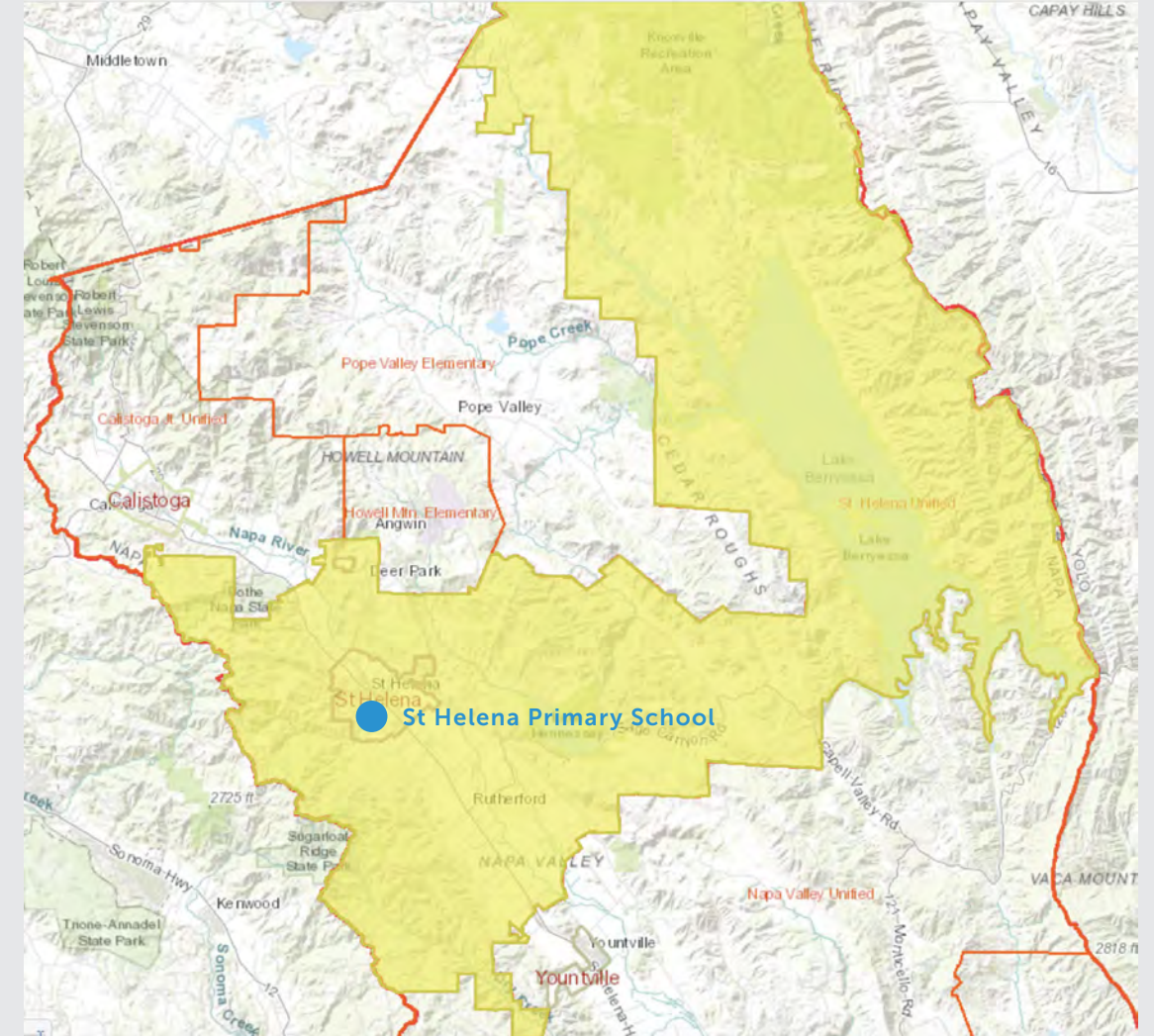
## REPORT PROCESS

The SRTS team conducted a comprehensive evaluation of the barriers to students walking and biking to and from St. Helena Primary School over the course of 2 years, starting in the summer of 2018. Information on physical and behavioral challenges was collected in two phases. In September 2018, the SRTS team completed an **initial infrastructure audit** of the school site and the surrounding neighborhood within a half-mile of the school. SRTS team members walked and rode bicycles throughout the school neighborhood, taking photographs of barriers and logging them into Fulcrum, a GPS-enabled data collection smartphone app.



The next step in the process was to plan a **Community Walk Audit** and collect initial information about circulation at the campus. Normally, a community Walk Audit would have brought parents, staff, and community members together to discuss school conditions and behaviors during pick-up and drop-off times, identify safety and convenience barriers for students walking and biking to school, prioritize issues, and brainstorm solutions. However, the rise of the Covid-19 pandemic and subsequent quarantine in March 2020 prevented the SRTS team from performing a community Walk Audit. In December 2020, SRTS team members performed a modified Walk Audit at St. Helena Primary School. The two phases resulted in an inventory of infrastructural barriers at and around the school site.

A report draft was shared with the Napa Valley Transportation Authority, the Napa County Office of Education, public works and planning representatives from the City of St. Helena, the local school district, law enforcement, and school stakeholders, and their feedback was incorporated into the final version. As part of the larger countywide project, the SRTS team engaged EMC Research, a national public opinion research firm to conduct a comprehensive survey of parents' perceptions around walking and biking to school (see Appendix A). The Walk Audit report outlines the information gathered during this multi-year process and provides recommendations for improvements.



Map 1: Enrollment Boundary of St. Helena Primary School

As St. Helena Primary School is the only primary (K-2) school in St. Helena Unified School District, its enrollment boundaries cover the entire school district, including the northeast portion and a middle section of Napa County.

## ST. HELENA PRIMARY SCHOOL (SHPS) SCHOOL SUMMARY

Principal	Tamara Sanguinetti (19/20 SY) Rebekah Rocha (20/21 SY)	District	St. Helena Unified
First Bell	8:25 AM	Grades	K-2
Last Bell	1:50 PM M,T,R,F (TK/Kinder) 2:55 PM M,T,R,F (1st/2nd) 1:30 PM W (All)	Enrollment	257
		Street	1701 Grayson Avenue
		City	St. Helena, CA 94574

**Overall Facility Rating:** Good



## DATA

No data is currently available regarding the number of students who regularly walk and bike to the school. Additional work is needed to establish a baseline of active transportation use for this school.

According to the results of the countywide EMC Research survey conducted in Spring 2021, 16% of respondents report that their K-8th grade children primarily walk to and/or from school and ~4% primarily bike. While nearly half (43%) say that their child has walked or biked to/from school at some point, 73% report using a single-family vehicle as the primary transportation method to and from school.

### Total Enrollment by Group (2019-20)

ETHNICITY	ST. HELENA PRIMARY SCHOOL	DISTRICT
Black or African American	0.8%	0.4%
American Indian or Alaska Native	0.4%	0.5%
Asian	1.2%	1.1%
Filipino	0.0%	0.2%
Hispanic or Latino	51%	51.6%
White	44.7%	45.1%
Native Hawaiian or Pacific Islander	0.0%	0.0%
Two or More Races	1.9%	1.1%
Not Reported	0.0%	0.0%

EXPERIENCE	ST. HELENA PRIMARY SCHOOL	DISTRICT
Socioeconomically Disadvantaged	42.4%	44.7%
English Learners	35.8%	18.8%
Students with Disabilities	7.4%	8.9%
Foster Youth	0.4%	0.4%

Figure 2: Enrollment Data by Group

### Countywide K-8 Primary Transportation to/from School (EMC Research)

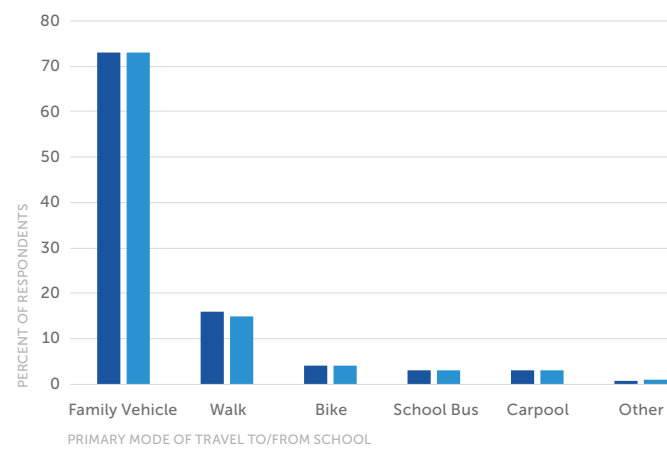


Figure 1: EMC Research Polling Results

**Note:** Data from EMC Research survey represents countywide behaviors, and school or city-level breakdowns are not available. See Appendix A for details on survey methods and respondent profiles.

### Student Enrollment by Grade Level (2019-2020)

	NUMBER OF STUDENTS
Kindergarten	90
Grade 1	91
Grade 2	76
<b>Total</b>	<b>257</b>

Figure 3: Enrollment Data by Grade

## NEIGHBORHOOD CONTEXT

St. Helena Primary School is located in south St. Helena on the corner of Grayson Avenue, a residential street, and South Crane Avenue, a residential/rural street.

The school is neighbored to the south by St. Helena Crane Park, which includes tennis courts, baseball fields, a skate park, and play structures. South of Crane Park is almost entirely vineyards. To the west is a handful of single-family residences and vineyards. North of the school are vineyards and Sulphur Creek; north of Sulphur Creek are single-family residential neighborhoods. East of the school is St. Helena High School campus on the south side and a row of single- and multi-family residences on the north side.

Destinations of interest within walking distance of St. Helena Primary School are Crane Park and the St. Helena Aquatic Center, where the Waves swim program accepts swimmers as young as age 6.



St. Helena Primary School is located on the corner of Grayson Avenue and South Crane Avenue.



Map 2 – School Site in City. St. Helena Primary School is located in south St. Helena.



## EXISTING CONDITIONS

The Safe Routes to School Team conducted an initial evaluation of the school site and the surrounding area prior to conducting the modified Walk Audit. The Fulcrum App software was used to map and record significant point and segment issues within a half-mile range of the school. The team also collected information on local and school transportation policies and programs from conversations with the school's staff and administrators, as well as documents from the school and City websites. Prior to circulation of the draft report among partners, the team conducted an additional site visit to confirm conditions.

### SITE CIRCULATION

St. Helena Primary School campus is only accessible from South Crane Avenue or Grayson Avenue. The campus has fencing along the west, south, and east sides and some portions of the north side. There is one general entrance gate on South Crane Avenue on the southwest side of campus, though there are two other gates along the fencing that lead directly to specific classrooms. On Grayson Avenue, there are three pedestrian access points to campus as well as the entrance to the school's main office. The sidewalk on Grayson Avenue branches off to connect to the school campus so that pedestrians can walk to campus without crossing driveway entrances or walking through the parking lot and loading circles.



South Crane Avenue has one general entrance to campus (left). The sidewalks on Grayson Avenue branch off to provide a safe pedestrian path to campus (right).

There are two student loading zones for SHPS. The west loading zone is along northbound South Crane Avenue from Grayson Avenue to the north Crane Park parking lot, adjacent to the west side of campus. Most of this curb space is either unpainted or painted yellow or white, designating it for student loading; at the southmost edge of this zone is a parking space compliant with the Americans with Disabilities Act (ADA). The north loading zone runs along the perimeter of the school's parking lot on eastbound Grayson Avenue. To circulate through the loading zone, vehicles enter from Grayson Avenue on the west side and exit back onto Grayson Avenue on the east side.



The loading zone off of Grayson Avenue.

There is no sidewalk or curb along southbound South Crane Avenue and westbound Grayson Avenue, and signage prohibits parking on westbound Grayson Avenue in front of SHPS, so these sides of the streets are not available for student loading. This may influence school circulation and routes to school for motorists because motorists likely want to enter the school zone on the side of the street where loading is permitted to avoid making U-turns in the busy school zone.

The school provides families with written drop-off and pick-up procedures in the welcome newsletter (Figure 4). These procedures designate appropriate drop-off and pick-up locations for students being driven based on arrival time and grade level.



Stopping is prohibited on westbound Grayson Avenue during school hours.

## DROP OFF & PICK UP PROCEDURES

Since parents cannot come onto campus with their child, students who do not ride the bus will still need to be dropped off.

Supervision begins in the cafeteria at 7:45am. Any student arriving between 7:45-8:10am will be dropped off in front of the office & go to the cafeteria.

### 8:10-8:25am:

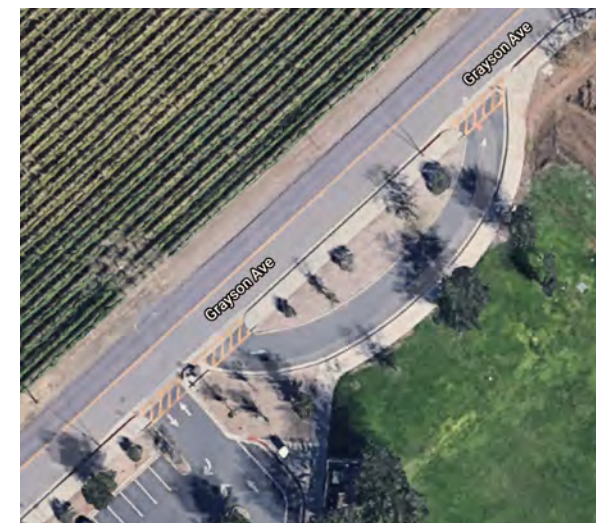
All Kinder students (and their siblings) will be dropped in front of the office and be directed to the playground.

1st & 2nd Grade: Parents can park in the back parking lot and let their student out of their car

OR you can drop off on S. Crane Ave. next to the campus walkway.

Students will be able to play on the playground during this time.

Figure 4: Drop-off and Pick-up Procedures. Note: This is the procedure for the 21-22 school year, which is still influenced by school Covid-19 safety protocols (for example, parents are not allowed on campus).



The SHPS bus loading zone on Grayson Avenue.

The bus loading zone is located on Grayson Avenue, immediately adjacent to the school's parking lot/loading zone. The bus loading zone is a wide U-shape, which buses enter from the west side and exit from the east side. There is a direct sidewalk from the bus loading zone to school campus.

The St. Helena Unified School District used to contract with the Napa Valley Unified School District to provide limited bus service to SHUSD students, which included service to St. Helena Primary School. Following school bus driver shortages, SHUSD worked with a consultant to develop and implement their own transportation program beginning during the 2020-21 school year. As of the 2021-22 school year, SHUSD is contracting with Michael's Transportation for bus drivers. As the school district continues to recruit drivers, routes are sometimes temporarily cancelled based on capacity; the district alternates which route is cancelled when cancellations last longer than one day.

All students must submit a completed application form and ridership agreement form to ride the bus. Four bus routes serve all of the schools in the district, though one of them (the College Avenue Short Route/Local Route) is for assigned students only. These bus routes serve students in the city of St. Helena, Lake Berryessa, and Angwin and Deer Park. There is also a separate after-school bus service that transports students from St. Helena Primary School to the St. Helena Boys and Girls Club, which is located on St. Helena Elementary School campus off of Tainter Street. Families must apply for this bus service.

The St. Helena Shuttle, which provides both fixed and on-demand services within the City of St. Helena, also stops at the SHPS bus loading zone as part of its morning Fixed Route. The shuttle does not stop at SHPS as part of the afternoon route; the nearest afternoon stop to SHPS is in front of St. Helena High School on westbound Grayson Avenue.

There are also two Vine public bus stops near SHPS as part of the Route 10 Up Valley Connector: a northbound bus stop on SR 29 near Dowdell Lane and a southbound bus stop on SR 29 near the high school parking lot. The southbound bus stop has a shelter and bench and is accessible by a sidewalk. The northbound bus stop has only the bus stop sign and does not have any sidewalks providing access to the stop or crosswalks to get across SR 29.



The St. Helena Shuttle bus stop at the Primary School.



## SCHOOL PARKING LOT AND GROUNDS

St. Helena Primary School has two parking lots available for use, though only one of the lots is owned by the school district. On-street parking is allowed along eastbound Grayson Avenue, unpainted curbs adjacent to the campus on northbound South Crane Avenue, and along northbound South Crane Avenue between the two Crane Park parking lots.

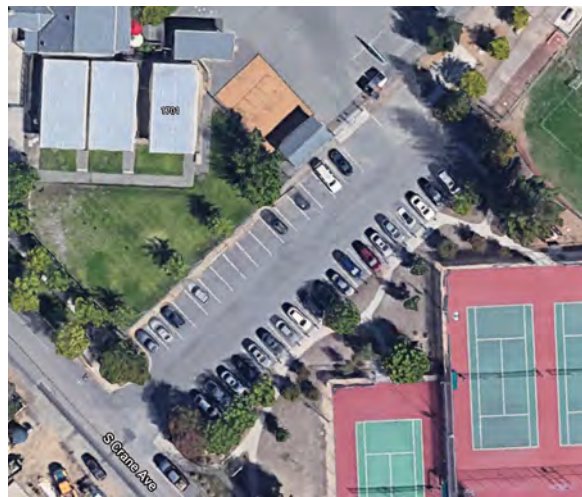


### GRAYSON AVENUE PARKING LOT

The Grayson Avenue parking lot, the lot owned by the school district, is located directly in front of the school's main office and cafeteria, between the school loading zone and the eastbound Grayson Avenue sidewalk. There are 38 perpendicular parking spaces, two of which are ADA-accessible. Circulation through the parking lot, unlike the loading zone, is bidirectional, so motorists can enter and exit through both the west and east driveways. The Grayson Avenue parking lot is reserved for staff use only, which is communicated through signage.



The Grayson Avenue Parking lot is located in front of SHPS campus.



The South Crane Avenue Parking lot is available for both school use and public use (pictured above and right).

### SOUTH CRANE AVENUE PARKING LOT

Just south of the campus on South Crane Avenue is the smaller of the two Crane Park parking lots. Though this parking lot is City-owned, school staff and families are permitted to use the parking lot. There are 35 perpendicular parking spaces and one driveway entrance/exit on South Crane Avenue. There is a pedestrian path only on the south side of the parking lot, so pedestrians walking from the parking lot to SHPS campus must navigate the driveway with traffic exiting and entering in order to reach the sidewalk to campus. Since the parking lot is public, the number of spaces available can be variable. The school refers families to availability of this parking lot in their Drop-off and Pick-up Procedures (see Figure 4).



## BICYCLE AND PEDESTRIAN INFRASTRUCTURE

Very little bicycle infrastructure exists around St. Helena Primary School. Both Grayson Avenue and South Crane Avenue, the two streets immediately adjacent to campus, do not have bicycle facilities. Valley View Street has green Class II bike lanes from Grayson Avenue to just south of Birch Avenue. A sharrow stencil indicates the transition from a Class II bike lane on northbound Birch Avenue; however, the rest of Valley View Street north of Birch Avenue does not have any bicycle facilities.

SR 29 has shoulders on both sides of the road that are sometimes used by bicyclists, though they are not designated Class II bike lanes because they do not meet Class II standards. The shoulder narrows significantly in some locations, particularly between Charter Oak Avenue and the Sulphur Creek bridge where the shoulder disappears altogether, requiring riders to merge with highway traffic to avoid being unsafely passed by vehicles. All other streets around the school do not have bicycle facilities.

While pedestrian infrastructure around the school campus and on neighboring streets is generally connected and in good quality, there are some significant gaps in the school area.



Valley View Street has green bike lanes until just south of Birch Avenue.

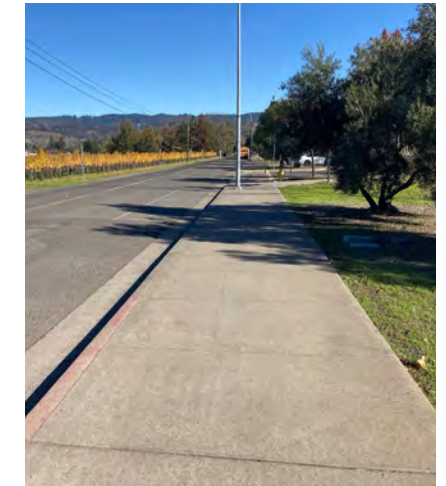
Grayson Avenue has only one complete sidewalk on the eastbound side, the same side the school is on. There is no sidewalk on the westbound side of Grayson Avenue near the Primary School; instead, there is a dirt shoulder fronting a block of vineyards. There is a segment of sidewalk on the east end of westbound Grayson Avenue, though this sidewalk is over 1,300 feet away from the campus. South Crane Avenue has a meandering asphalt path on the northbound side along the side of the school campus. This asphalt path transitions to a sidewalk at the southern edge of the school campus. This sidewalk ends at the southern edge of Crane Park, in front of the south Crane Park parking lot. South of Crane Park is almost entirely vineyards fronted by dirt shoulders. Desire paths in the dirt along South Crane Avenue south of Crane Park indicate existing pedestrian use. There is no sidewalk on southbound South Crane Avenue north of the vineyards due to existing residence parcels.

Valley View Street, providing the only alternative route to SR 29 that leads north into the heart of the City, has only one sidewalk on the northbound side until about halfway across the bridge over Sulphur Creek, where the southbound sidewalk begins. This southbound sidewalk is not accessible from the Grayson Avenue and Valley View Street intersection and there is no crosswalk to the northbound sidewalk when the southbound sidewalk ends.

SR 29, the most direct route to Grayson Avenue for residences on the east side of town, has one sidewalk on the southbound side which ends near Dowdell Lane. From Dowdell Lane to El Bonita Avenue, where pedestrian access ends, a dirt path replaces the sidewalk; desire lines in this dirt path indicate existing pedestrian use. The northbound sidewalk begins at Charter Oak Avenue, where there is a high-visibility crosswalk and Rectangular Rapid Flashing Beacons across SR 29. This is the closest SR 29 crossing location to the school.

Along Grayson Avenue, there are three locations for pedestrians to cross the street: at Valley View Street and South Crane Avenue, which is controlled by a three-way stop, at a midblock crosswalk with Rectangular Rapid Flashing Beacons in front of the high school library, and at the Grayson Avenue and SR 29 intersection, which is controlled by a traffic light and only has one crosswalk across Grayson Avenue.

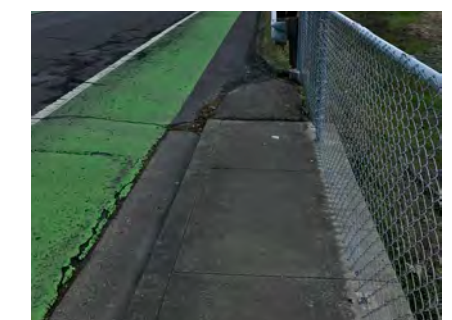
The school provides one double-sided grid bike parking rack, providing ten total parking spaces, at the south edge of campus, near the south entrance gate. The rack is bolted to the ground, providing protection against potential theft.



Grayson Avenue eastbound sidewalk in front of SHPS.

Grayson Avenue has only one complete sidewalk on the eastbound side, the same side the school is on. There is no sidewalk on the westbound side of Grayson Avenue near the Primary School; instead, there is a dirt shoulder fronting a block of vineyards. There is a segment of sidewalk on the east end of westbound Grayson Avenue, though this sidewalk is over 1,300 feet away from the campus.

South Crane Avenue has a meandering asphalt path on the northbound side along the side of the school campus. This asphalt path transitions to a sidewalk at the southern edge of the school campus.



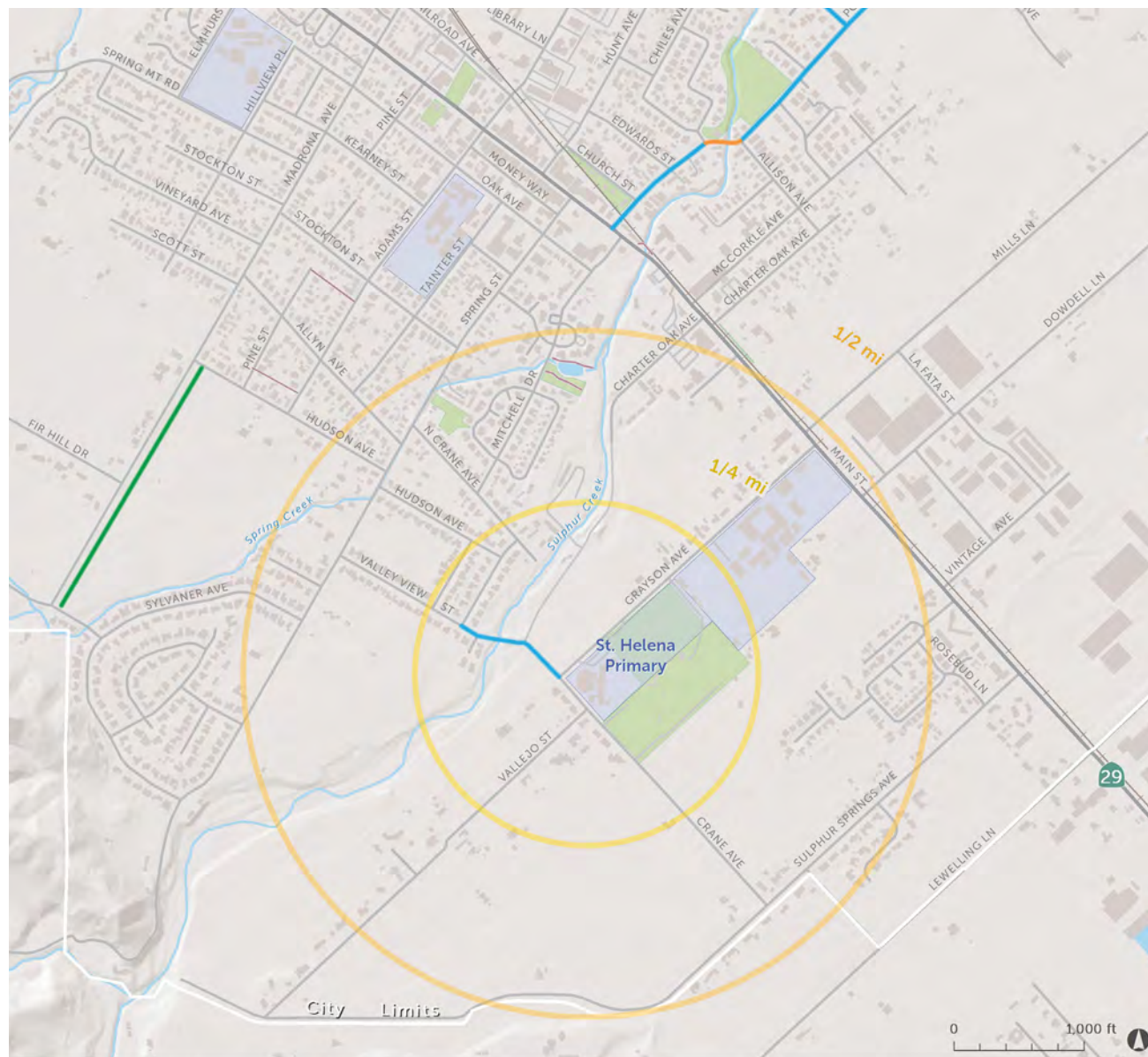
On Valley View Street the southbound sidewalk abruptly ends.



The Valley View Street and Grayson Avenue intersection is right in front of SHPS campus.



MAP OF EXISTING BICYCLE FACILITIES



- Shared Use Path (Class I)
- Bike Lane (Class II)
- Separated Bike Lane (Class IV)
- Bike Route (Class III)
- Bike Boulevard (Class III)
- Trail

Map 3: Existing Bicycle Facilities  
(Map source: Napa Valley Transportation Authority Napa Countywide Bicycle Plan (2019)).

MAP OF EXISTING PEDESTRIAN FACILITIES



- |                      |                      |                  |
|----------------------|----------------------|------------------|
| <b>Curb Ramp</b>     | <b>Sidewalk</b>      | <b>Crosswalk</b> |
| ● Existing ▲ Missing | — Existing — Missing | ⊠ Present        |

Map 4: Existing Pedestrian Facilities  
(Map source: Napa Valley Transportation Authority Napa Countywide Pedestrian Plan (2016)).



## POLICIES AND PROGRAMS

### Encouragement and Education:

St. Helena Primary School participated in one of the two annual countywide encouragement events for the first time in Fall 2021, when the school celebrated Walk and Roll to School Day. The two countywide events, Bike to School Day and Walk and Roll to School Day, are facilitated by Napa County Safe Routes to School and celebrate students making the healthy choice to bike, walk, or roll to school. The school has not held additional encouragement events. The school does not provide regular on-campus bicycle or pedestrian safety education to students.



St. Helena Primary School participated in the countywide Walk and Roll to School Day in 2021.

YEAR	EVENT	STUDENT PARTICIPANTS
2021/22	Walk and Roll to School Day	25

Figure 5: Encouragement and Education Data

### Enforcement:

St. Helena Police Department provided citywide enforcement data for 2014 to 2019 on violations for passing a school bus, speeding, failing to stop at a stop sign, and failing to yield to pedestrians. Data on roads around the school and along significant pedestrian and bicyclist travel routes to the school were selected for analysis. For St. Helena Primary School, this included SR 29 from Dowdell Lane to Pope Street/Mitchell Drive, Grayson Avenue, Valley View Street, Sulphur Springs Avenue, and South Crane Avenue.

For the examined time period, there were 7 citations for passing a school bus on Main Street just south of Grayson Avenue (at El Bonita Avenue and Vintage Avenue). There were 19 citations for failing to stop at a stop sign, most of which occurred around the intersection of Grayson Avenue and South Crane Avenue/Valley View Street. There was one citation for failing to yield to a pedestrian at Main Street and Mitchell Drive.

Most significant of the provided enforcement data was the speeding data – there were 164 citations of speeding, the majority of which occurred either on Sulphur Springs Avenue or Main Street, especially between Grayson Avenue and Pope Street/Mitchell Drive.

### CITATIONS IN SCHOOL AREA BY TYPE

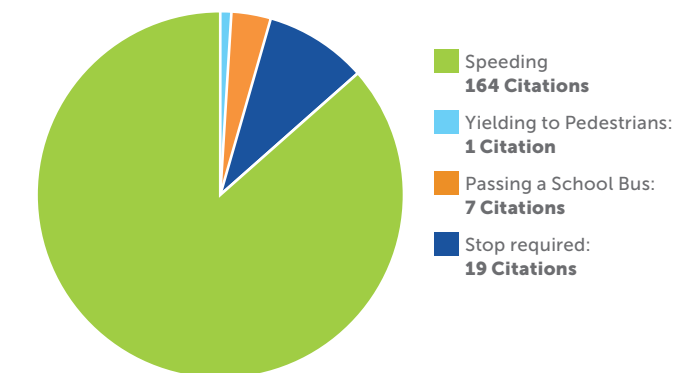


Figure 6: Citations by Type

### SPEEDING CITATIONS

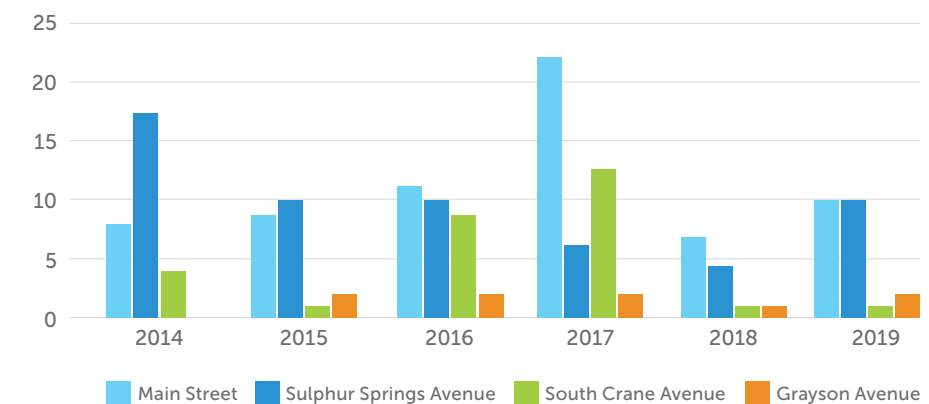


Figure 7: Speeding Citations

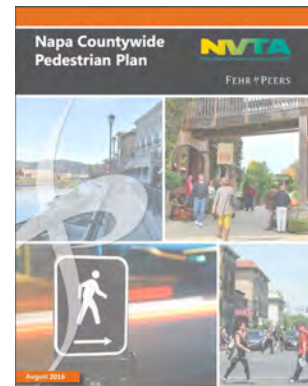


**EXISTING PLANS**



**NVTA Napa Countywide Bicycle Plan (2019):**  
 The Countywide Bicycle Plan lists several recommended improvements around St. Helena Primary School. A Class I shared-use path is recommended for the entire Grayson Avenue corridor. SR 29 is a designated study corridor from the southern City limit to Grayson Avenue and is proposed to be part of the regional Class I Vine Trail shared-use path. From Grayson Avenue to Mitchell Drive, SR 29 is recommended for Class II bike lanes and a Class III Bike Route. South Crane Avenue and Sulphur Springs Avenue north of South Crane Avenue are recommended for Class II bike lanes. Class I shared-use paths that cut through the middle of large blocks are proposed both south of the school, connecting with Sulphur Springs Road, and north of the school, connecting with Oak Avenue. The proposed Oak Avenue Class I shared-use path is a designated study corridor as part of the regional Vine Trail alignment. Valley View Street north of Birch Avenue is recommended for Class III bike boulevards.

**SHUSD High Priority Project List/Funding Plan (2017):**  
 According to the most updated version of SHUSD’s High Priority Project List/Funding Plan created in December 2017, there are no future major projects for St. Helena Primary School that could impact site circulation and transportation.



**NVTA Napa Countywide Pedestrian Plan (2016):**  
 The majority of the Pedestrian Plan’s improvements for St. Helena are along SR 29. Near the school, proposed improvements include installing a sidewalk along SR 29 from Grayson to Dowdell Lane, which has been completed, installing a decomposed granite pathway along SR 29 from Dowdell Lane to El Bonita Avenue, and relocating the bus stop at Dowdell Lane to improve transit access. A Class I shared-use path is also proposed to run along Sulphur Creek, which would provide a separated bicycle and pedestrian route from east St. Helena to Valley View Street.

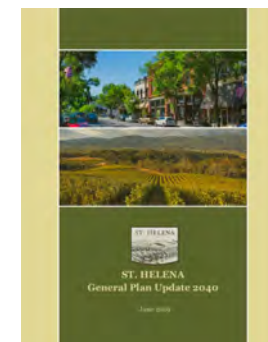
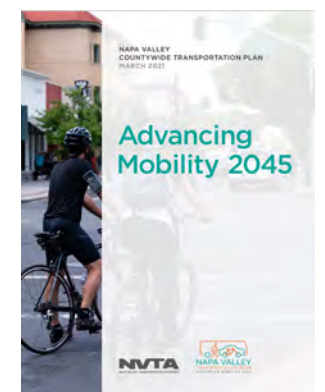
**Caltrans District 4 (2018):**  
 The Caltrans District 4 Bicycle Plan lists bicycle improvements at the intersection of SR 29 and Mitchell Drive/Pope Street, over a half-mile northeast of the school. These improvements include bike boxes, green markings, and a bike through offset intersection of Mitchell Drive/Pope Street at SR 29.



**Farmstead at Long Meadow Ranch Lodging (2017):**  
 Farmstead at Long Meadow Ranch Lodging is a planned 65-unit lodging facility located on Mills Lane. Design plans include realigning Mills Lane to create a four-way intersection with SR 29 and Grayson Avenue. At the time of this report, it is unclear if any pedestrian and bicyclist improvements will be included in this realignment.



**NVTA Napa Valley Countywide Transportation Plan: Advancing Mobility 2045 (2021):**  
 The NVTA Countywide Transportation Plan is a long-range plan of countywide transportation priorities that provides a direction for the four- to five-year plan while considering a 25-year planning horizon. This plan is part of the regional planning process for the Regional Transportation Plan by the Metropolitan Transportation Commission. There are 15 projects by the City of St. Helena listed in the Plan – most of the multimodal projects focus on improvements to the downtown Main Street corridor or construction of Class I bikeways. Projects closest to the school area include the extension of Oak Avenue, extension of Mills Lane and improvements to the existing Mills Lane, and a Sulphur Creek Class I Bikeway. NVTA projects that impact the City of St. Helena include construction of the Class I Vine Trail and expanded service hours and enhanced frequency of regional route 10.



**St. Helena General Plan 2040 (2019):**  
 The St. Helena General Plan states that the unifying goal of 1993 Plan “to protect the rural, small town quality and agricultural character of St. Helena” remains a primary focus of the 2040 General Plan while the Plan also integrates new topics such as sustainability, local mobility, heritage tourism, and local mobility through active transportation. The circulation element describes benefits of a shift from automobile-based transportation to alternative transportation and organizes policies and implementing actions in topic areas including: Balanced and Multimodal System; Safe, Accessible, and Comprehensive Bicycle and Pedestrian Network; Sustainable Mobility Practices; Safe and Well-Maintained Circulation System; Parking; and Improvements and Phasing.

**GHD Active Transportation Plan (2021):**  
 In 2021, the City of St. Helena adopted a contract with GHD to develop a two-phase active transportation safety project. Phase I focuses on the Madrona Avenue and Spring Street corridors and Phase II focuses on a citywide Active Transportation and Safe Routes to School Plan. At the time of this report, the project is in Phase I and recommendations for the Madrona and Spring corridors are being developed.





# WALK AUDIT

Date: 12/8/2020

Meeting Time: 2:00pm

Day of the Week: Tuesday

Weather: Sunny

## METHODOLOGY

Normally, the Community Walk Audit process would bring together school stakeholders, including parents, school staff, and community members, with the SRTS team to observe existing conditions during pick-up or drop-off time, identify barriers to safe walking or biking, and brainstorm solutions. During the observation period, participants would discuss the physical infrastructure around the school as well as the behavior of motorists, pedestrians, and bicyclists in the area, while also sharing their own experiences traveling to and from school on foot, bike, and by car. Following observation, the team would discuss their observations, map issue areas, and record and prioritize the major barriers identified during the exercise. Participants wrote their ideas of major barriers to safe and increased walking and biking to school on sticky notes and placed them on a poster, grouping together similar barriers. The group then discussed the identified issues. Then, participants placed three round stickers on issues that they felt were most important and needed to be solved most urgently. Participants could spread their stickers out or put multiple stickers on one issue. The group then reviewed the major barriers and explored potential solutions to each issue. Participants repeated the prioritization process with potential solutions to the barriers identified.



Safe Routes to School Walk Audits normally bring together the school community to discuss barriers and solutions to students walking and biking to school. Pictured above is part of the St. Helena Elementary School Walk Audit group.

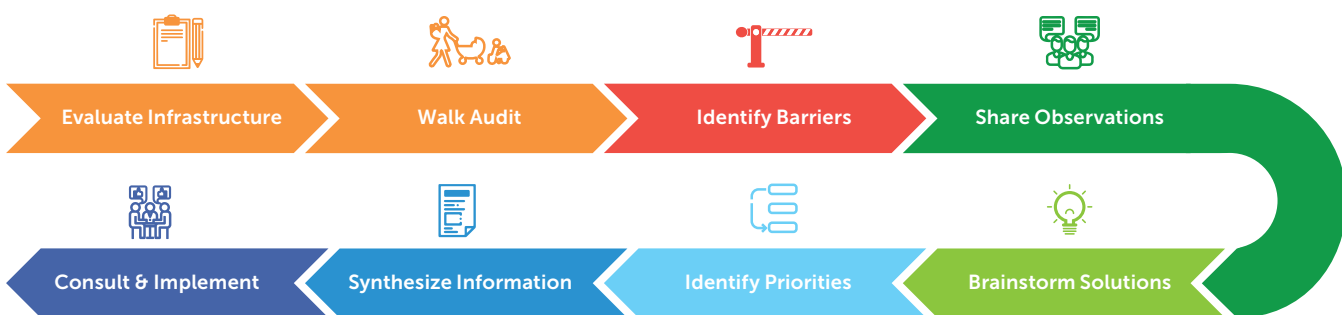


Valley View Street, photographed above, was one of the corridors examined by the SRTS team to identify barriers to students walking and biking to St. Helena Primary School.

Due to the spread of Covid-19 in early 2020 and subsequent Shelter-in-Place mandates and social distancing guidelines, the SRTS team was unable to hold a Community Walk Audit for St. Helena Primary School. In December 2020, members of the SRTS team performed a modified Walk Audit that mirrored the initial infrastructure audit. SRTS team members rode bikes in the area immediately around the school and along significant route corridors while taking notes and photographs of infrastructure and behavioral barriers to student pedestrians and bicyclists.

Streets examined included South Crane Avenue, Valley View Street, Spring Street from Valley View Street to Oak Avenue, Mitchell Drive from Oak Avenue to Crane Avenue, Crane Avenue, and Birch Avenue. Other significant streets in the school area, such as Grayson Avenue and SR 29, were examined during the St. Helena High School Walk Audit.

Streets examined included South Crane Avenue, Valley View Street, Spring Street from Valley View Street to Oak Avenue, Mitchell Drive from Oak Avenue to Crane Avenue, Crane Avenue, and Birch Avenue. Other significant streets in the school area, such as Grayson Avenue and SR 29, were examined during the St. Helena High School Walk Audit.

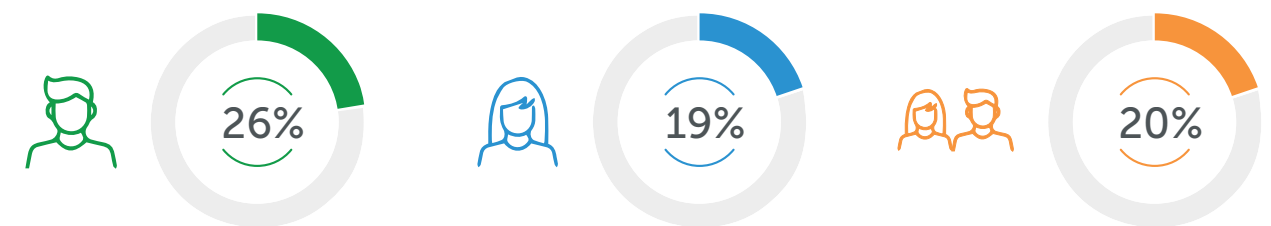


# CONTEXT FOR RECOMMENDATIONS

## IMPACT OF BARRIERS/HAZARDS ON COMMUNITY

Barriers to safe walking and bicycling, both infrastructure and non-infrastructure, can greatly discourage communities from engaging in active transportation. The quality, accessibility, and connectivity of bicyclist and pedestrian travel networks strongly influence the rates of walking and bicycling as a mode of daily transport<sup>1</sup>. Public policies and attitudes, such as traffic-calming measure enforcement and parking limitations, also contribute to the efficacy of pedestrian/bicycle networks. Thus, barriers to accessibility and connectivity must be addressed in order to encourage increased and safe walking and cycling.

Barriers that discourage walking and bicycling prevent communities from gaining the health benefits offered by active transportation. For children, physical activity can improve cognitive function, bone health, cardiorespiratory and muscular fitness, and mental wellness<sup>2</sup>. Adults benefit from lower risk of cardiovascular disease, hypertension, dementia, anxiety, and falls for older adults, as well as improved quality of life, physical function, bone health, and sleep.



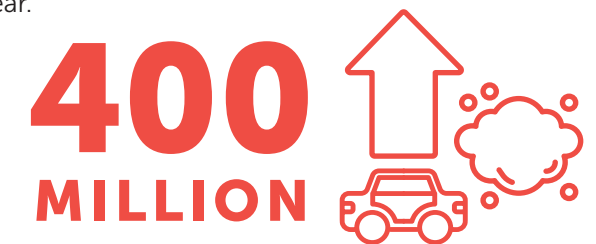
However, only about **26% of men**, **19% of women**, and **20% of adolescents** are meeting the aerobic and muscle-strengthening guidelines developed by the Department of Health. Increased walking and biking to school can help boost that percentage by incorporating physical activity into one's daily routine and encouraging further active transportation choices.

Lack of safe bicycle/pedestrian facilities can also negatively impact the environment, as more people will choose to drive rather than bike or walk. Passenger cars and light-duty trucks produced **over half of the transportation sector emissions in 2017<sup>3</sup>**.



The transportation sector produced the most greenhouse gas emission of any economic sector, releasing **up to 29% of total US greenhouse gas emissions** for the year.

Furthermore, **transportation emissions have increased around 400 million metric tons** since 1990 due to increased vehicle demand. Thus, decreasing vehicle use by creating bicycle/pedestrian networks that are safe from potential hazards and barriers can help mitigate these environmental effects.



In addition to the consequences already discussed, barriers to safe walking and bicycling can lead to increased collisions and conflicts between motorists, pedestrians, and bicyclists. Safety barriers can lead to more people choosing to drive, even if the destination is within walking or biking distance, increasing traffic congestion. Children have fewer opportunities to develop their sense of independence through walking and biking to school, and the community is hindered from enjoying the social and economic benefits of bicycling and walking. Safety barriers and hazards that discourage increased walking and bicycling can considerably impact many different parts of a community, which is why it is so crucial to address and resolve them.

<sup>1</sup> Kuzmyak, Richard J., Dill, Jennifer. "Walking and Bicycling in the United States: The Who, What, Where, and Why." TR News May-June 2012: 4-15. Web. <sup>2</sup> U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. Washington, DC: U.S. Department of Health and Human Services; 2018. <sup>3</sup> Sources of Greenhouse Gas Emissions, United States Environmental Protection Agency. Web.



# RECOMMENDATIONS

Recommendations were determined by Napa County Safe Routes to School staff, taking into account the results from the Walk Audit activity, Fulcrum data, existing plans, and local stakeholder input. Priority levels for recommendations were calculated through consideration of vehicle, pedestrian, and bicyclist traffic volumes; vehicular traffic speed; collision history; presence of existing bicycle/pedestrian facilities; proximity to major identified routes to school; and high-level potential cost/complexity of recommendation.

This section outlines and explains high and medium priority recommendations specific to the school site. School site-specific recommendations of all priority levels can be found in the "Table of Recommendations" section. Universal recommendations that apply to all school sites are described in Appendix B. Recommendations that are focused on infrastructure treatments are denoted by "SHI," and recommendations that suggest programmatic treatments are denoted by "SHP."



## RECOMMENDATIONS #SHI-032 AND SHI-033: GRAYSON AVENUE ROAD REHABILITATION AND DESIGN

- **Narrative** – Despite being one of the primary access roads to the school, the current condition of Grayson Avenue feels unsafe and unwelcoming to bicyclists. There are currently no bike facilities on Grayson Avenue, which can make road-sharing for bicyclists and motorists confusing and result in unsafe road user behavior (such as close passing by motorists), particularly during peak school hours when traffic volumes are high. Additionally, the road quality of Grayson Avenue is extremely poor, with rough pavement and several potholes along the entire length of the road. The poor road condition is difficult, unpleasant, and hazardous to bike on, as large cracks and potholes can cause bicyclists to fall, and encourage dangerous driving behaviors, as motorists swerve to avoid potholes.

### IDENTIFIED BARRIERS

- **No bike facilities** – The lack of bicycle facilities on Grayson Avenue is a significant barrier to students biking to school, as it experiences high volumes of school-related traffic from the Primary and High School.
- **Poor road quality** – The extremely poor road quality on Grayson Avenue discourages biking and can result in a fall hazard or unsafe driving behaviors.

### RECOMMENDATIONS

- **SHI-033 Repave road** – We recommend that the road be repaved to provide a smooth road surface that is conducive to biking. Bike facility installation should be included as part of paving work.
- **SHI-032 Class II and Class III facilities** – We recommend that Class II bike lanes with conflict markings at parking lot entrances be installed from South Crane Avenue to the baseball field parking lot. Class III bike boulevards with sharrows, signage, and traffic-calming should be installed from the baseball field parking lot to SR 29. Transitions between bike facilities should be clearly indicated to motorists and bicyclists in advance of the transitions.



Poor road quality on Grayson Avenue.



## RECOMMENDATIONS #SHI-038 AND SHI-039: SOUTH CRANE AVENUE ROAD REHABILITATION AND DESIGN

**Narrative** – South Crane Avenue, the second primary access road to the school and home to Crane Park, has no bike facilities, one segment of sidewalk, and poor road quality. The only sidewalk on South Crane Avenue is on the northbound side and runs from Grayson Avenue to the Crane Park south parking lot; the southbound side does not have a sidewalk nor room to install a sidewalk due to the existing residences. From the Crane Park south parking lot to Sulphur Springs Avenue are dirt shoulders on both sides of the road adjacent to vineyards. While pedestrians can currently walk along the northbound dirt shoulder to the existing sidewalk, the lack of formal pedestrian facilities discourages pedestrians from walking along this corridor, especially during the winter season when rain makes the dirt shoulders muddy. Additionally, speeding has been reported to be a significant problem on South Crane Avenue, especially given the rural-feeling nature of the south segment along the vineyards. The combination of poor road quality, speeding, and no bike facilities makes this corridor feel unsafe and unwelcoming for bicyclists.

### IDENTIFIED BARRIERS

- **No bicycle/continuous pedestrian facilities** – The lack of bicycle facilities and a continuous sidewalk along this corridor make walking and biking feel unsafe and unwelcome, especially during peak school hours when traffic volumes are high.
- **Poor road quality** – Poor road quality conditions on South Crane Avenue were identified as a barrier to walking and biking to school.

### RECOMMENDATIONS

- **SHI-038 Class I shared-use path** – We recommend that a Class I shared-use path be installed on northbound South Crane Avenue from Grayson Avenue to Sulphur Springs Avenue. This can be achieved by widening the existing northbound sidewalk to Class I standards and continuing the Class I along the northbound shoulder.
- **SHI-039 Repave road** – We recommend that the road be repaved to provide a smooth surface conducive to biking and that Class III bike boulevard sharrows, signage, and traffic-calming be installed as part of repaving work to provide short-term bicyclist improvements pending recommendation SHI-038.



The only sidewalk on South Crane Avenue ends midblock, forcing pedestrians to walk in the dirt.





## RECOMMENDATION #SHI-075: INCREASED BIKE PARKING ON CAMPUS

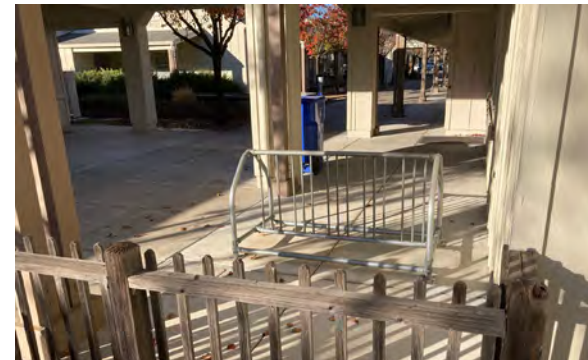
**Narrative** – SHPS currently has one double-sided grid bike parking rack, providing ten total parking spaces, at the south edge of campus near the south entrance gate. The rack is bolted to the ground, providing protection against potential theft, and is well placed within the school’s gates near a main entrance. However, the drop-off and pick-up procedures provided by the school (see Figure 4) suggest that students wait for the first school bell to ring on the blacktop off of Grayson Avenue, and since most of residential St. Helena is north of the school, the Grayson Avenue is a significant entrance point for many students. Secure bike parking should be provided at all main entrances to increase convenience for students bicycling to school and improve visibility of biking as a transportation option.

### IDENTIFIED BARRIERS

- **No bike parking near major entrance** – The lack of bicycle parking near the Grayson Avenue campus entrance acts as a barrier to students bicycling to school, as Grayson Avenue is a primary access point to campus.

### RECOMMENDATIONS

- **New bike parking** – We recommend that bike parking be installed near the Grayson Avenue entrance to improve visibility and convenience of biking to school. See Appendix D for bike parking guide.



The school provides ten bike parking spaces near the South Crane Avenue entrance.



## RECOMMENDATIONS #SHI-013 AND SHI-058: SPRING STREET BIKE LANES AND TRAFFIC-CALMING

**Narrative** – Spring Street is one of two significant east-west connector streets on the west side of St. Helena. Spring Street is a highly travelled corridor, providing a direct route to several residential blocks, SR 29, and three of the four public schools (elementary, primary, and high schools). At the time of this report, Spring is currently being assessed by GHD as a priority corridor for safety improvements following community concern regarding speeding and pedestrian and bicyclist safety. Two primary barriers identified along this corridor are the lack of bicycle facilities and speeding. Without bicycle facilities, bicyclists are uncertain where to ride on the road and feel unwelcome; additionally, many road users mistake the striped parking lane to be a bike lane, which can lead to visibility hazards and bicyclists unsafely swerving around parked cars. Speeding has frequently been reported to be a hazard on Spring Street and is facilitated by the lack of traffic control and traffic-calming along the long, straight corridor.

### IDENTIFIED BARRIERS

- **No bicycle facilities** – The lack of bicycle facilities on Spring Street makes biking on the corridor feel unsafe and unwelcoming, particularly for young or new bicyclists.
- **Speeding** – Motorist speeding along Spring Street can create hazardous conditions for students walking and biking to school.

### RECOMMENDATIONS

- **SHI-013: Class II bike lanes** – We recommend installing Class II bike lanes along Spring Street from Valley View Street to Main Street, as per the adopted Countywide Bike Plan.
- **SHI-058 Traffic calming** – We recommend that the City evaluate and implement appropriate traffic-calming measures along the corridor in addition to those listed in other recommendations (SHI-009, SHI-010, SHI-012). Future bicycle facilities (SHI-013) and crosswalks (SHI-010, SHI-011) must be accommodated in traffic-calming plans.



Parking lanes on Spring Street are sometimes mistaken for bicycle lanes.



## RECOMMENDATION #SHP-010: BIKE SAFETY EDUCATION

**Narrative** – St. Helena Primary School has not provided its students with bicycle or pedestrian safety education in recent years. Regular bicycle and pedestrian safety education ensures that all students learn important road safety rules and practices in a safe environment. This knowledge helps build confidence and comfort for both students and their parents, making walking and biking to school a more accessible option for families, and can help reduce incidents of unintentional hazardous behavior by young bicyclists and pedestrians.

### IDENTIFIED BARRIERS

- **No existing bicycle/pedestrian education** – The lack of bicycle and pedestrian safety education for SHPS students is a barrier to students walking and biking to school, as education raises awareness of rules of the road and safe road user behavior.

### RECOMMENDATIONS

- **Annual bike and pedestrian safety education** – We recommend that annual bicycle and pedestrian safety education, such as bike rodeos, be provided for all students. Such programming is available to all Napa County public schools through the Napa County Safe Routes to School program.



Bike rodeos, pictured above at St. Helena Elementary School, teach students how to safely maneuver various traffic situations, such as railroad crossings. Photo credit: Napa County Office of Education.





## RECOMMENDATIONS #SHP-011 AND SHP-012: DISTANCE-SENSITIVE PROGRAMS

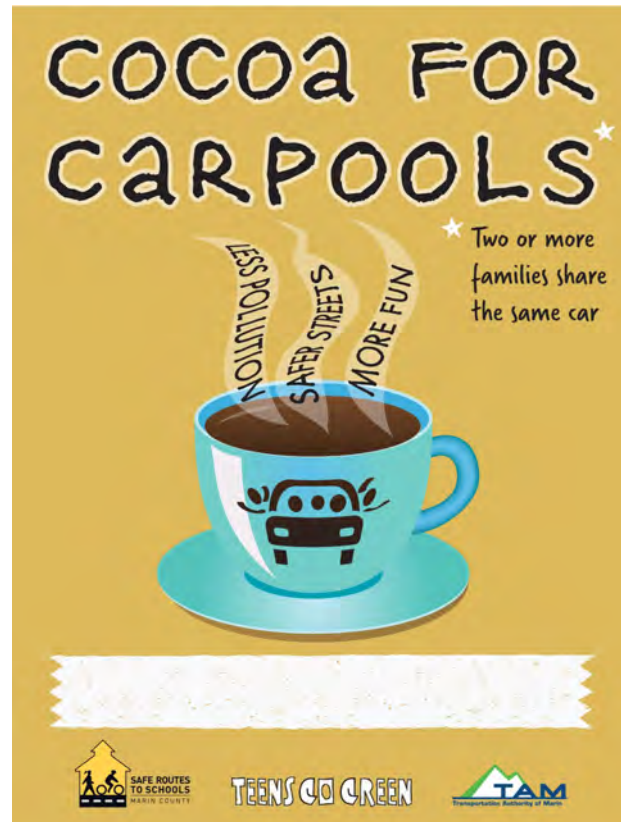
**Narrative** – Distance from school is also a significant factor for students attending St. Helena Primary School. SHPS serves the entire St. Helena Unified School District boundary, with students coming from several different communities that are too far away for families to walk or bike, including Angwin/Deer Park, Pope Valley, and Lake Berryessa. Additionally, since the school serves the youngest grades in the district (TK-2nd grade), families who do live in the City of St. Helena may still feel as though they live too far from the school for their students to walk or bike, due to the young age of students and the school being at the edge of residential St. Helena. This not only prevents students who live too far away from walking or biking, but can also result in traffic congestion in the school zone that can discourage families who do live within walking and biking distance from choosing to walk or bike.

### IDENTIFIED BARRIERS

- **Long distance from school** – The school district’s large enrollment boundary, the school’s non-central location, and the young age of SHPS students can create distance-related barriers that prevent students from walking or biking to school and result in a higher volume of single-family vehicles in the school zone.

### RECOMMENDATIONS

- **SHP-011 Park and Walk/Roll initiative** – We recommend that the school create a Park and Walk/Roll initiative by encouraging families who live further than walking/biking distance to park their vehicles within walking/biking distance of campus and walk or roll with students the rest of the route. This reduces congestion around the school zone and allows students who live far from campus to enjoy the benefits of walking/biking to school. Such an initiative can also be paired with a walking school bus or bike train program.
- **SHP-012 Carpool program** – We recommend that the school develop a carpool system to reduce the number of cars in the school zone. The carpool system should include incentives for carpooling. It may be effective to begin a carpool program by holding special encouragement events and increasing frequency of events over time.



Student-led encouragement events, such as Marin County Safe Routes to School’s Cocoa for Carpools, may help establish a long-term carpooling program. Image credit: Marin County Safe Routes to School.



## RECOMMENDATION #SHP-018: PARENT CHAMPIONS TEAMS

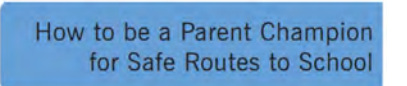
**Narrative** – An essential part of any Safe Routes to School Program are Parent Champion teams at local schools. Parent Champions provide valuable insight on challenges and opportunities in implementing a Safe Routes to School program that will be successful in their unique school community. The overarching role of a Parent Champion is to support and grow the Safe Routes to School program at their school, which can be done in many ways, including but not limited to planning education and encouragement events, volunteering at annual or regularly scheduled events, and advocating for changes in the built environment for a safer school zone. Development of Parent Champion teams ensures that students have consistent access to an effective Safe Routes to School program.

### IDENTIFIED BARRIERS

- **No Parent Champion program** – There is currently no Safe Routes to School Parent Champion program or structure at the school.

### RECOMMENDATIONS

- **Develop Parent Champion program** – We recommend that the school develop a team of Parent Champions to support education and encouragement programs. The school should create a defined structure for the Parent Champion team so that new parents are encouraged to join every school year to ensure continuation of programs and longevity. See Appendix F for the Safe Routes Partnership handout on becoming a Parent Champion.



The Safe Routes National Partnership provides many resources for Safe Routes programs, including the handout on Parent Champions included in Appendix F.



## RECOMMENDATION #SHI-041: VALLEY VIEW STREET SIDEWALK

**Narrative** – On Valley View Street, the southbound sidewalk ends at the bridge over Sulphur Creek, almost 500 feet short of the Grayson Avenue intersection. As there is no crosswalk where the sidewalk ends, pedestrians must cross in an unmarked location to reach the existing northbound sidewalk or walk in the bike lane on southbound side. Valley View Street is one of the only two routes to reach Grayson Avenue from central St. Helena, the other being SR 29, and is often used by all modes of transportation travelling to both the high school and SHPS to avoid highway traffic. Valley View Street is also along the most direct route to SHPS for most residences on the west side of SR 29. This leads to significant congestion during peak school hours that makes the incomplete pedestrian network a safety concern for students walking to and from school.

### IDENTIFIED BARRIERS

- **Missing sidewalk** – The southbound Valley View Street sidewalk ending at the Sulphur Creek bridge was identified as a safety barrier for student pedestrians.

### RECOMMENDATIONS

- **Install sidewalk** – We recommend that the southbound Valley View Street sidewalk be completed to the intersection with Grayson Avenue.
- **Crosswalk** – We recommend that a crosswalk be installed across Valley View Street at the intersection of Grayson Avenue and Valley View Street to provide a marked crossing location upon the completion of the sidewalk.



The southbound sidewalk on Valley View Street ends on the bridge over Sulphur Creek.





## RECOMMENDATIONS #SHI-042 AND SHI-043: VALLEY VIEW STREET BIKE FACILITIES

**Narrative** – Although Valley View Street has green Class II bike lanes on both sides of the street north of the Grayson Avenue intersection, these bike lanes are frequently littered with significant amounts of gravel and debris from a nearby contractor site. The debris and gravel pose a significant fall risk for bicyclists and force bicyclists to either move out of the bike lane into the street or, a likelier choice for younger bicyclists attending SHPS, to bike on the sidewalk, which creates conflict risks with pedestrians and vehicles. The gravel in the bike lanes has been identified by the broader community as a strong deterrent to bicycling for transportation. Furthermore, the Class II bike lanes end just south of Birch Avenue. The northbound transition is indicated by one sharrow stencil placed immediately after the bike lane ends, and the southbound side has one sharrow at the Birch Avenue intersection. There are no other bike facilities along the rest of the Valley View Street corridor, which can lead to road user confusion and unsafe road user behavior.



The Valley View Street bike lanes are frequently obstructed with significant amounts of gravel.

### IDENTIFIED BARRIERS

- **Bike lane debris** – Gravel and debris in the green bike lanes on Valley View Street was identified as a safety barrier for students biking to school.
- **No bike facilities** – The lack of bicycle facilities along Valley View Street from Birch Avenue to Spring Street was identified as a barrier for students biking to school, as it is unclear to road users how to share the road.

### RECOMMENDATIONS

- **SHI-042 Street-sweeping** – We recommend that the street sweeping along Valley View Street from Birch Avenue to Grayson Avenue be slowed down to ensure adequate sweeping of the bike lanes. Street-sweeping frequency of this corridor should be increased as needed to keep the bike lanes clear. The City may also consider working with the contractor site to agree upon a maintenance plan.
- **SHI-043 Class III bike boulevards** – We recommend the installation of Class III bike boulevards with green-backed sharrows, signage, and traffic-calming along Valley View Street from Birch Avenue to Spring Street.



## RECOMMENDATION #SHI-057: GRAYSON AND SOUTH CRANE CURB EXTENSIONS

**Narrative** – The Grayson Avenue and South Crane Avenue/Valley View Street intersection experiences some of the highest traffic volumes during peak school hours, as it is adjacent to St. Helena Primary School campus and a key intersection for St. Helena High School. In addition to a significant amount of high school motorists exiting Grayson Avenue via South Crane Avenue/Valley View Street, most of the primary school’s traffic travels through the intersection, since the only available streets for primary school loading are Grayson Avenue and South Crane Avenue. Additionally, South Crane Avenue and Valley View Street are part of a “backroads route” that motorists use to avoid SR 29 traffic. As a result, this intersection is often extremely congested during pick-up and drop-off, making it difficult and uncomfortable for student pedestrians and bicyclists to navigate. Furthermore, most of the citations from St. Helena Police Department for motorist failure to stop at a stop sign in the school area were given at this intersection. Given the high volumes of traffic at this intersection, the history of poor motorist yielding behavior, and the vicinity of the intersection to two schools, it is critical that student pedestrian safety and comfort be prioritized.

### IDENTIFIED BARRIERS

- **High volumes of school traffic** – High volumes of vehicle traffic at this intersection from both the high school and the primary school make this intersection feel unsafe and uncomfortable for student pedestrians.
- **Poor motorist yielding** – Motorists failing to stop at this intersection, as demonstrated by Police Department enforcement data, is a safety barrier for student pedestrians.

### RECOMMENDATIONS

- **Curb extensions** – We recommend that curb extensions be installed on the northeast and southeast corners of the intersection to improve pedestrian visibility, reduce pedestrian crossing distance, and improve yielding of motorists to pedestrians.



Curb extensions at Grayson and South Crane would prioritize pedestrian safety and comfort during peak school traffic hours.





## RECOMMENDATION #SHI-040: SPRING AND VALLEY VIEW CURB EXTENSIONS

**Narrative** – The Spring Street and Valley View Street intersection is a key part of routes along the “backroads” between SHPS and residences north of the school and west of SR 29. For many students/families, travelling along the „backroads” may be a more direct or comfortable route to their destination than travelling along SR 29, leading them to navigate the Spring and Valley View intersection. This intersection sees high volumes of school traffic from both the primary and high school during peak school hours, as the “backroads” are also popular motorist routes. In addition to high traffic volumes, Spring Street traffic is not controlled at this intersection, and Spring Street has been identified by the community as a significant corridor for motorist speeding, both of which reduce motorist yielding behavior to pedestrians. Additionally, the wide curb radius on the southeast corner facilitates fast right turns and poor motorist yielding behavior.

### IDENTIFIED BARRIERS

- **Speeding** – Community members have identified speeding along Spring Street as a frequent safety hazard, making uncontrolled crosswalks like the one at Valley View Street feel unsafe and uncomfortable for pedestrians.
- **Wide curb radius** – The wide curb radius on the southeast corner of the intersection allows motorists to take fast right turns, increasing risk and potential severity of collisions with pedestrians.

### RECOMMENDATIONS

- **Curb extensions** – We recommend that curb extensions be installed on all curbs where crosswalks exist at this intersection to improve pedestrian visibility, slow traffic through the intersection, and improve motorist yielding behavior.



The Spring Street and Valley View Street intersection. Flags placed by community members at the crosswalk across Spring Street indicate a community desire for improved pedestrian visibility at this intersection.



## RECOMMENDATIONS #SHI-010 AND SHI-014: SPRING STREET PEDESTRIAN IMPROVEMENTS

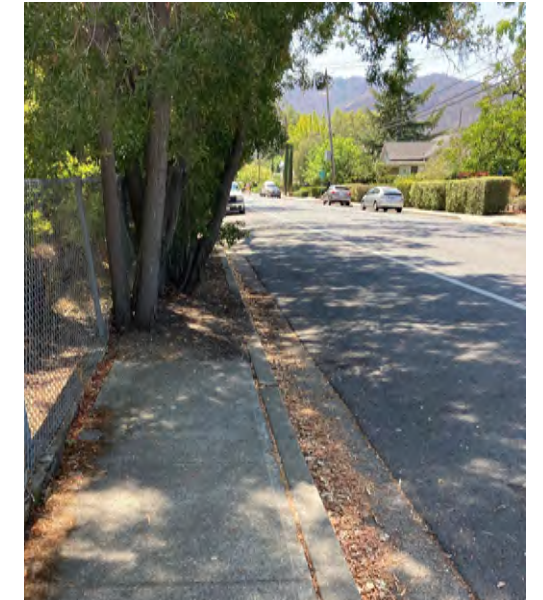
**Narrative** – While the highest priority barriers identified on Spring Street were lack of bicycle facilities and speeding (see SHI-013 and SHI-058), pedestrian infrastructure gaps were also identified as safety barriers to students. Spring Street has two significant sidewalk gaps on the eastbound side between Valley View Street and Stockton Street, and there are no crosswalks across Spring Street between Valley View Street and Kearney Street. This requires pedestrians travelling from south Hudson Avenue or Crane Avenue to either walk in the roadway along the sidewalk gaps or cross the street without a crosswalk. Community members have reported witnessing close calls with students crossing Spring Street in this area.

### IDENTIFIED BARRIERS

- **Sidewalk gaps** – The eastbound sidewalk has two large sidewalk gaps between Valley View Street and Stockton Street, which when combined with the lack of crosswalks, forces pedestrians to walk in the roadway or cross in an unmarked location.
- **Lack of crosswalks** – The lack of crosswalks across Spring Street was identified as a safety hazard to students walking to school, particularly in locations where there are sidewalk gaps.

### RECOMMENDATIONS

- **SHI-010 Crosswalks** – We recommend installing crosswalks with curb extensions across Spring Street at south Hudson Avenue and Crane Avenue to provide traffic-calmed, marked locations for pedestrians to cross.
- **SHI-014 Fill sidewalk gaps** – We recommend that the sidewalk gaps on the eastbound sidewalk be filled.



One of the locations where the sidewalk ends on eastbound Spring Street with no crosswalks to the existing westbound sidewalk.



## RECOMMENDATION #SHP-009: SCHOOL CIRCULATION POLICY

**Narrative** – SHPS does not have an official circulation policy. The school currently provides families with written drop-off and pick-up procedures in the welcome newsletter, which designate appropriate drop-off and pick-up locations for students being driven to school based on arrival time and grade level. While this is a good step towards regulating school zone circulation, the information provided is limited and may be forgotten when grouped with other important school information. Additionally, while the procedures identify general pick-up and drop-off locations, it does not address specific road user behaviors that contribute towards a chaotic or unpredictable school zone, such as illegal U-turns by motorists. Formal circulation policies can help improve predictable road user movements in the school zone and provide an opportunity to reinforce safe road user behaviors.

### IDENTIFIED BARRIERS

- **No circulation policy** – The lack of a formal school circulation policy may contribute to an unpredictable and stressful school zone during pick-up and drop-off, which can deter families from walking and biking.

### RECOMMENDATIONS

- **SHP-009 Circulation policy** – We recommend that the school develop a formal circulation policy that is distributed to parents annually and available on the school website. Such a policy should instruct motorists, bicyclists, and pedestrians how to enter and exit the school zone, promote safe road user behaviors, and specify which areas are for motorist pick-up and drop-off. The policy should be designed to prioritize student pedestrian and bicyclist safety over motorist convenience.





## RECOMMENDATION #SHP-013: ENCOURAGEMENT PROGRAMS

**Narrative** – In the past, SHPS has not participated in the two annual countywide encouragement events facilitated by Napa County Safe Routes to School: Bike to School Day in May and Walk and Roll to School Day in October. In 2021, SHPS participated in one of these events, Walk and Roll to School Day, for the first time, with almost 10% of the student body participating. Encouragement programs can help raise awareness of the benefits of walking and biking to school and generate enthusiasm towards developing healthy and active lifestyle habits. These annual events provide students who may be considering walking or biking with an opportunity to try it out in a positive, community-celebrated setting.

### IDENTIFIED BARRIERS

- **Lack of school participation in annual encouragement events** – Prior to October 2021, SHPS had not participated in any of the annual countywide events that encourage students to walk or bike to school.

### RECOMMENDATIONS

- **Annual encouragement events** – We recommend that the school participate annually in Bike to School Day and Walk and Roll to School Day with the goal of increasing participation over time. These annual events are excellent primers for schools begin implementing their own, more frequent encouragement events, such as monthly Walk and Roll Wednesdays.



St. Helena Elementary School increased student participation in Walk and Roll to School Day by holding weekly Walk and Roll Wednesdays leading up to the countywide event. (Photo credit: Briana Marie Photography).

## ADDITIONAL CONSIDERATIONS

Improvements listed in this section are those within a half-mile radius that are either considered significant to the school area but are not located along routes to the school based on the school’s enrollment boundary or were ranked as a higher priority during the Walk Audit for another nearby school. These barriers are listed as high or medium priority due to their impact on routes to nearby schools in the neighboring areas and will be analyzed in more depth in the reports for the affected schools.

### RECOMMENDATION #SHI-035: GRAYSON AVENUE WIDENED SIDEWALK AND VEGETATION MANAGEMENT

#### IDENTIFIED BARRIERS

- **Narrow sidewalk**
- **Overgrown vegetation**

#### RECOMMENDATIONS

- **Widen sidewalk**
- **Vegetation management**

Relevant Reports: St. Helena High School Walk Audit Report

### RECOMMENDATION #SHI-036: GRAYSON AVENUE MIDBLOCK CROSSWALK INCREASED VISIBILITY

#### IDENTIFIED BARRIERS

- **Low pedestrian visibility**

#### RECOMMENDATIONS –

- **Curb extensions**

Relevant Reports: St. Helena High School Walk Audit Report

### RECOMMENDATION #SHI-045: SR 29 NORTHBOUND SIDEWALK

#### IDENTIFIED BARRIERS

- **No northbound sidewalk south of Charter Oak Ave**

#### RECOMMENDATIONS

- **Install sidewalk from Charter Oak Ave to Vintage Ave**

Relevant Reports: St. Helena High School Walk Audit Report

### RECOMMENDATION #SHI-046: GRAYSON AND SR 29 INTERSECTION IMPROVEMENTS

#### IDENTIFIED BARRIERS

- **Missing crosswalk across SR 29**
- **Low-visibility crosswalk (existing)**

#### RECOMMENDATIONS

- **Light-controlled high-visibility crosswalk across SR 29**
- **High-visibility crosswalk pattern for existing crosswalk**

Relevant Reports: St. Helena High School Walk Audit Report

## MAP OF RECOMMENDATIONS



Map 5: Recommendations



## TABLE OF RECOMMENDATIONS

### Infrastructure:

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
1	Grayson Avenue from SR 29 to South Crane Avenue	SHI-032	No bike facilities	Install Class II bike lanes with conflict markings at parking lot entrances from South Crane Avenue to baseball field parking lot and Class III bike boulevards with sharrows, signage, and traffic-calming from the baseball field parking lot to SR 29. Indicate transitions between bike facilities to motorists and bicyclists in advance.	\$\$	High
		SHI-033	Poor road quality	Repave road	\$\$\$	Medium
		SHI-034	Missing westbound sidewalk (from 1376 Grayson Avenue to South Crane Avenue)	Install sidewalk on westbound side	\$\$	Low
		SHI-035	Eastbound sidewalk narrow & overgrown vegetation (from SR 29 to high school's main office)	Widen sidewalk and perform vegetation management	\$-\$	Medium
2	Grayson Avenue midblock crosswalk	SHI-036	Low-visibility crosswalk	Install curb extensions	\$\$	High
3	South Crane Avenue from Grayson Avenue to Sulphur Springs Avenue	SHI-038	No bicycle facilities for entire corridor and no sidewalks from 298 South Crane Avenue to Sulphur Springs Avenue	Widen existing northbound path from Grayson Avenue to Crane Park parking lot to be Class I standards. Install a Class I shared-use path on the northbound side from Crane Park parking lot to Sulphur Springs Avenue.	\$\$\$	High
		SHI-039	Poor road quality	Repave road and install Class III bike boulevards with sharrows, signage, and traffic-calming for short-term bicyclist improvements (see SHI-038)	\$\$\$	Medium
4	Valley View Street from Spring Street to Grayson Avenue	SHI-041	Southbound sidewalk ends (from 801 Valley View Street to Grayson Avenue)	Complete southbound sidewalk to Grayson Avenue, install crosswalk across Valley View at Grayson	\$-\$	Medium
		SHI-042	Debris in bike lanes (from 925 Valley View Street to Grayson Avenue)	Slow down street sweeping to ensure adequate sweeping of bike lanes. Increase street-sweeping frequency as needed to keep bike lanes clear. City may consider working with the contractor site to agree upon a maintenance plan.	\$	Medium
		SHI-043	No bike facilities (from Birch Avenue to Spring Street)	Install green-backed Class III bike boulevards with sharrows and signage*	\$	Medium
5	School campus	SHI-075	No bike parking near major entrance	Add bike rack near Grayson Avenue school entrances, either in front of main office or just inside playground area	\$	High

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
6	SR 29 from Charter Oak Avenue to Vintage Avenue	SHI-045	No sidewalk on northbound side	Add sidewalk on northbound side	\$\$-\$\$\$	Medium
7	SR 29 and Grayson Avenue intersection	SHI-046	Missing crosswalk across SR 29 to bus stop and health services south of school on SR 29; low-visibility crosswalk across Grayson Avenue	Install light-controlled high-visibility continental crosswalk across SR 29 and upgrade existing crosswalk across Grayson Avenue to a high-visibility continental pattern	\$	High
8	Sulphur Springs Avenue from SR 29 to South Crane Avenue	SHI-047	No bicycle facilities	Install Class II bike lanes	\$-\$	Low
9	Grayson Avenue and South Crane Avenue intersection	SHI-057	High volumes of school traffic, poor motorist yielding behavior	Install curb extensions on northeast and southeast corners	\$-\$	Medium
10	Crane Avenue from Spring Street to Mitchell Drive	SHI-049	Incomplete southbound sidewalk	Continue southbound sidewalk to Spring Street	\$\$	Low
11	Spring Street and Valley View Street intersection	SHI-040	Wide curb radius; speeding through uncontrolled Spring Street crosswalk	Install curb extensions on all curbs of existing crosswalks	\$\$	Medium
12	Spring Street from Valley View Street to Oak Avenue	SHI-010	Lack of crosswalks across Spring Street	Install crosswalks with curb extensions across Spring Street at south Hudson Avenue and Crane Avenue	\$\$	Medium
		SHI-011	Lack of crosswalks along Spring Street	Install crosswalks across north Hudson Avenue, Allyn Avenue, and Stockton Street parallel to Spring Street	\$	Low
		SHI-013	No bike facilities from Valley View Street to Main Street	Install Class II bike lanes*	\$\$	High
		SHI-014	Sidewalk gaps (eastbound side between Valley View Street and Stockton Street)	Fill sidewalk gaps*	\$\$	Medium
		SHI-058	Speeding	Evaluate and implement appropriate traffic-calming measures along corridor (between Valley View Street and Oak Avenue) in addition to those listed in recommendations (SHI-009, SHI-010, SHI-012). Future bicycle facilities (SHI-013) and crosswalks (SHI-010, SHI-011) must be accommodated in traffic-calming plans.	\$-\$\$\$	High

\* = projects included in Napa Countywide Pedestrian Plan (2016) or Napa Countywide Bicycle Plan (2019)



## TABLE OF RECOMMENDATIONS (CONTINUED)

### Programmatic Improvements:

ISSUE	ID #	RECOMMENDATION	LOCATION	FREQUENCY	COST	PRIORITY
1 Lack of formal circulation policy	SHP-009	Develop circulation policy and distribute to parents annually, with reminders as needed	School zone	Annually	\$	Medium
2 No bicycle or pedestrian safety education provided to students	SHP-010	Provide bike and pedestrian safety education to all students annually	School site	Annually	\$	High
3 Congestion in school zone makes walking/biking feel unsafe. Students are too young/live too far away to walk/bike entire route to school.	SHP-012	Develop a carpool program to reduce vehicular traffic around the school	School site	Throughout school year	\$	High
	SHP-011	Create a Park and Walk/Roll initiative: encourage families who live further than walking/biking distance to park within walking/biking distance of campus and walk or roll with students the rest of the route. Can be paired with walking school bus or bike train program.	School site	Monthly with goal of increasing frequency over time	\$	High
4 Lack of school participation in annual encouragement events	SHP-013	Increase participation in annual countywide encouragement events	School site	Annually	\$	Medium
	SHP-018	Develop teams of Parent Champions to support education and encouragement programs	School site	Throughout school year	\$	High

## COLLISION MAP AND DATA



Map 6: Collision Map (2012-2017) (Source: UC Berkeley Transportation Injury Mapping System: SRTS Collision Map Viewer)

### Summary Statistics

RADIUS	FATAL	SEVERE INJURY	VISIBLE INJURY	COMPLAINT OF PAIN	PEDESTRIAN	BICYCLE	TOTAL
< .25 mi.	0	0	0	0	0	0	0
.25-.5 mi.	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

### Collision List

DATE	TIME	PRIMARY	SECONDARY	BIKE/PED

Figure 8: Collision Data (Source: UC Berkeley Transportation Injury Mapping System: SRTS Collision Map Viewer)





## APPENDICES

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## FOOTNOTES

<sup>a</sup> Noreen McDonald, Ruth Steiner, Chanam Lee, Tori Rhoulac Smith, Xuemei Zhu and Yizhao Yang (2014). "Impact of the Safe Routes to School Program on Walking and Bicycling." Journal of the American Planning Association. Vol 80, Iss 2, p 153-167.

<sup>b</sup> Orion Stewart, Anne Vernez Moudon, and Charlotte Claybrooke (2014) Multistate Evaluation of Safe Routes to School Programs. American Journal of Health Promotion: January/February 2014, Vol. 28, No. sp3, pp. S89-S96.

<sup>c</sup> Peter A Muennig et al., 'The Cost-Effectiveness Of New York City's Safe Routes To School Program', American Journal Of Public Health, iss 0 (2014): 1-6.

<sup>d</sup> David Ragland, S Pande, J Bigham and FJ Cooper. (2014, January). Ten years later: examining the long-term impact of the California Safe Routes to School program. Presented at the Transportation Research Board 93rd Annual Meeting, Washington DC. Available at <http://docs.trb.org/prp/14-4226.pdf>.

<sup>e</sup> Davison K, Werder J and Lawson, C. "Children's Active Commuting to School: Current Knowledge and Future Directions." Preventing Chronic Disease, 5(3): A100, July 2008.

<sup>f</sup> Hillman CH, Pontifex MB, Raine LB, Castelli DM, Hall EE, Kramer AF. The effect of acute treadmill walking on cognitive control and academic achievement in preadolescent children. Neuroscience. 2009;159(3):1044-1054. doi:10.1016/j.neuroscience.2009.01.057

<sup>g</sup> Castelli, D.M., Glowacki, E., Barcelona, J.M., Calvert, H.G., & Hwang, J. (2015). Active Education: Growing Evidence on Physical Activity and Academic Performance. [Research brief.] Active Living Research. [http://activelivingresearch.org/sites/default/files/ALR\\_Brief\\_ActiveEduc....](http://activelivingresearch.org/sites/default/files/ALR_Brief_ActiveEduc....)

<sup>h</sup> Appleyard, B. (2017). The meaning of livable streets to schoolchildren: An image mapping study of the effects of traffic on children's cognitive development of spatial knowledge. Journal of Transport & Health, 5.

<sup>i</sup> AAA. Cost of Owning and Operating Vehicle in U.S. Increased 1.9% According to AAA's 2012 Your Driving Costs Study. 2012. <http://newsroom.aaa.com/2012/04/costof-owning-and-operating-vehicle-in-u...>

<sup>j</sup> Overall Facility Rating determined from 2019-20 School Accountability Report Card



# **APPENDIX A**

## **EMC Survey Toplines**

**Safe Routes to School Walk Audit Report  
and Active Transportation Action Plan**



# Evaluation: Research & Methodology

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- ▶ **Purpose: Gain insight into parent practices, perceptions, and attitudes around children walking and riding bicycles to and from school; explore barriers to behavior change**
- ▶ **Quantitative survey of 459 parents of K-8 students in Napa County**
  - Conducted online and by telephone, offered in English and Spanish
  - Conducted March 11 – April 12, 2021
  - Participants recruited via communications from school districts and targeted online and telephone contacts
  - *Survey methods were designed to include as many participants as possible; not a random sample*
- ▶ **Qualitative follow-up research**
  - One online focus group with 7 participants in English; 4 in-depth telephone interviews in Spanish
  - Conducted May 20 – 28, 2021
  - Targeted parents who lived within two miles of their school site and would like their children to walk or bike to school





Survey of Parents/Guardians of at least one child in K-8<sup>th</sup> Grade  
Napa County, California  
Hybrid Email-to-Web/Text-to-Web/Live Telephone Survey  
Conducted March 11-April 12, 2021  
n=459  
EMC Research #21-6420

**All numbers in this document represent percentage (%) values, unless otherwise noted.  
Please note that due to rounding, percentages may not add up to exactly 100%.**

**INTRO:** Your opinions are important! Thank you for participating in this survey EMC Research is conducting on behalf of the Napa County Safe Routes to School program in partnership with local school districts. You may have been contacted previously to complete this survey via telephone and we ask each individual only complete the survey once.

Your responses will remain completely confidential. Please try to answer every question even if you're not sure. If you need to, you may skip a question.

---

1. Are you the parent or guardian of any children currently attending kindergarten through eighth grade in one or more of the school districts located in Napa County below? *Please select the District(s) that your K-8<sup>th</sup> grade student(s) is/are currently enrolled in, check all that apply. (MULTIPLE RESPONSES ACCEPTED)*

Calistoga Joint Unified School District	0
Howell Mountain Elementary School District	-
Napa Valley Unified School District	97
Pope Valley Union Elementary School District	0
Saint Helena Unified School District	2
Another District or school in Napa County (please specify)	1
None of the above → <b>TERMINATE</b>	-
(No response) → <b>TERMINATE</b>	-

2. Please indicate below what grade(s) your child/children are in. *Please select all that apply. (MULTIPLE RESPONSES ACCEPTED)*

Kindergarten	22
1 <sup>st</sup> grade	17
2 <sup>nd</sup> grade	15
3 <sup>rd</sup> grade	20
4 <sup>th</sup> grade	15
5 <sup>th</sup> grade	15
6 <sup>th</sup> grade	14
7 <sup>th</sup> grade	12
8 <sup>th</sup> grade	9
9 <sup>th</sup> through 12 <sup>th</sup> grade → <b>TERMINATE IF ONLY RESPONSE SELECTED</b>	14
(No response) → <b>TERMINATE</b>	-



**(IF MORE THAN ONE K-8 STUDENT:** “Although you have multiple children in K-8, we ask that you please think about your **oldest K-8** child when answering the next questions.”)

For these next few questions, please think back to when your (child was/children were) attending school **before** the COVID-19 pandemic.

- |    |  |    |
|----|--|----|
| 3. | On most days, what was the primary way your (K-8 child/oldest K-8 child) travelled <b>to</b> school?       |    |
|    | Family vehicle (only children in your family)  | 73 |
|    | Carpool (children from other families)   | 3  |
|    | School bus   | 3  |
|    | Other public transportation  | 0  |
|    | Bike   | 4  |
|    | Walk   | 16 |
|    | Other (scooter, skateboard, inline skates, etc.)   | 0  |
|    | (No response)  | 0  |
| 4. | And on most days, what was the primary way your (K-8 child/oldest K-8 child) travelled <b>from</b> school? |    |
|    | Family vehicle (only children in your family)  | 73 |
|    | Carpool (children from other families)   | 3  |
|    | School bus   | 3  |
|    | Other public transportation  | 1  |
|    | Bike   | 4  |
|    | Walk   | 15 |
|    | Other (scooter, skateboard, inline skates, etc.)   | 0  |
|    | (No response)  | 0  |
| 5. | How long did it normally take your (K-8 child/oldest K-8 child) to get to/from school?                     |    |
|    | Less than 5 minutes  | 18 |
|    | 5-10 minutes   | 42 |
|    | 11-15 minutes  | 22 |
|    | 16-20 minutes  | 8  |
|    | More than 20 minutes   | 9  |
|    | (No response)  | 0  |
| 6. | Has your (K-8 child/oldest K-8 child) ever walked or biked to/from school?                                 |    |
|    | Yes  | 43 |
|    | No   | 56 |
|    | (No response)  | 0  |



7. **(ONLY ASKED IF Q6=1, 'Yes, has walked/biked to/from school')** In what grade did your child begin to walk or bike to/from school? (n=199)
- |                        |    |
|------------------------|----|
| Pre-school             | 7  |
| Kindergarten           | 30 |
| 1st grade              | 9  |
| 2nd grade              | 6  |
| 3rd grade              | 10 |
| 4th grade              | 8  |
| 5th grade              | 9  |
| 6th grade              | 13 |
| 7th grade              | 6  |
| 8th grade              | 1  |
| 9th through 12th grade | 1  |
| (No response)          | 2  |
8. Thinking generally, what grade would you feel comfortable with a child walking or biking to/from school?
- |   |    |
|---|----|
| Pre-school                                | 1  |
| Kindergarten                              | 5  |
| 1st grade                                 | 2  |
| 2nd grade                                 | 2  |
| 3rd grade                                 | 5  |
| 4th grade                                 | 14 |
| 5th grade                                 | 12 |
| 6th grade                                 | 16 |
| 7th grade                                 | 10 |
| 8th grade                                 | 7  |
| 9th through 12th grade                    | 13 |
| I would not feel comfortable at any grade | 14 |
| (No response)                             | 1  |

9INT. Continuing to think about times before the COVID-19 pandemic, please indicate how comfortable you were with your (K-8 child/oldest K-8 child) doing each of the following.

SCALE:	Very Comfortable	Somewhat Comfortable	Not too Comfortable	Not at all Comfortable	(No Response)	Total Comfort.	Total Not Comfort.	
<b>(RANDOMIZE)</b>								
9.	Taking a bus to school							
	32	33	17	15	3	65	32	
10.	Walking to school without an adult							
	8	18	19	54	1	26	73	
11.	Riding a bike to school without an adult							
	7	17	22	53	2	23	75	
12.	Walking to school with an adult							
	66	19	6	8	1	85	14	
13.	Riding a bike to school with an adult							
	45	29	11	13	2	74	24	

**(END RANDOMIZE)**

14. **(ONLY ASKED IF Q10=3 OR 4, 'not comfortable')** What would you say is the **main** reason you were not comfortable with your (K-8 child/oldest K-8 child) **walking** to school without an adult?

**(VERBATIM RESPONSES CODED INTO BELOW CATEGORIES) (n=335)**

Worry for child's safety/Crime	28
Not old enough	19
Live too far away	17
Traffic/Busy streets	11
Street crossing/Intersections	6
Not enough sidewalks	5
Crossing Highway 29	3
Other	8
Don't know	1

15. **(ONLY ASKED IF Q11=3 OR 4, 'not comfortable')** What would you say is the **main** reason you were not comfortable with your (K-8 child/oldest K-8 child) **riding a bike** to school without an adult?

**(VERBATIM RESPONSES CODED INTO BELOW CATEGORIES) (n=324)**

Worry for child's safety/Crime	29
Not old enough	18
Traffic/Busy streets	13
Live too far away	9
Street crossing/Intersections	5
Crossing Highway 29	4
Can't ride a bike	4
Not enough sidewalks	3
No bike lanes	3
Other	10
Don't know	1



For these next few questions, please think back to when your (child was/children were) attending school before the COVID-19 pandemic.

16INT. Please indicate whether you agree or disagree with each of the following statements.

SCALE:	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	(No Response)	Total Agree	Total Disagree
<b>(RANDOMIZE)</b>							
16.	I would generally like my K-8 (child/children) to be able to walk or bike to/from school.						
	43	32	12	12	0	76	24
17.	My K-8 (child enjoys/children enjoy) walking and/or biking places.						
	57	31	8	4	0	88	12
18.	I would never let my K-8 (child/children) walk or bike to/from school.						
	20	24	27	28	0	44	55
19.	It is safe for children to walk or bike in my area.						
	13	45	22	20	-	58	42
20.	There are enough bike paths and sidewalks for my K-8 (child/children) to walk or bike to/from school.						
	13	27	20	39	1	40	60
21.	I am concerned about speeding or distracted drivers if/when my (child/children) walk or bike to/from school.						
	81	15	2	2	0	96	4
22.	The school is too far away for my K-8 (child/children) to walk or bike there.						
	37	19	15	29	0	55	45
23.	My K-8 (child/children) cannot bike to and from school because of their before- or after-school commitments.						
	13	26	25	35	1	39	60
24.	Walking or biking to and from school is a good way for my K-8 (child/children) to get physical exercise.						
	69	25	3	3	1	93	6
25.	Walking or biking to and from school is a good way for me to spend quality time with my K-8 (child/children).						
	55	30	7	6	1	85	14
26.	I would only allow my K-8 (child/children) to walk or bike to and from school if I, or another adult, can accompany them.						
	54	25	12	8	0	79	21

**(END RANDOMIZE)**

27INT. Next, you will see some things that local schools and other organizations could do that may affect how you feel about your (K-8 child/oldest K-8 child) biking to school once the COVID-19 pandemic has ended. For each, please indicate if the item would make you feel more comfortable about allowing your (K-8 child/oldest K-8 child) to walk or bike to school once the COVID-19 pandemic has ended.

SCALE:	Much More Comfortable	Somewhat More Comfortable	A Little More Comfortable	(No Difference)	(Don't Know)
<b>(RANDOMIZE)</b>					
27.	Limit how much children have to carry in their backpacks				
	36	25	14	24	1
28.	Provide children and parents with information and maps on safe routes to and from school				
	37	24	16	22	1
29.	Offer free bicycle safety courses for children to learn how to ride safely on local streets				
	43	21	21	15	0
30.	Provide opportunities for children to practice biking in a car-free environment				
	42	23	14	20	-
31.	Offer free pedestrian safety classes for children				
	39	20	21	19	1
32.	Provide crossing guards at major intersections				
	62	22	10	6	-
33.	Organize groups of students to walk or bike to/from school together				
	42	26	17	14	1
34.	Provide a local parent or adult volunteer to walk or bike with children to/from school				
	36	27	15	20	1
35.	Add designated bike lanes to roads				
	46	24	15	14	-
36.	Improve the condition of existing bike lanes				
	47	23	14	16	1
37.	Add more bike paths that are separated from the road				
	62	17	11	9	0
38.	Add more sidewalks				
	53	21	13	12	1
39.	Fix missing or broken sidewalks				
	56	19	15	10	1
40.	Increase the visibility and safety of crosswalks				
	61	20	11	8	0
41.	Increase the police presence on routes that lead to schools				
	52	23	13	12	1
42.	Reduce the speed of traffic on streets that kids use to walk or bike to school				
	53	21	15	11	1

**(END RANDOMIZE)**



43. Is there something else that could be done that would make you feel more comfortable about allowing your (K-8 child/oldest K-8 child) to walk or bike to school once the COVID-19 pandemic has ended? (VERBATIM RESPONSES CODED INTO BELOW CATEGORIES)

Nothing/No additional comments	42
Add or improve bike paths/Sidewalks/Crosswalks	15
Increase crossing guards/Supervision/Police presence	11
School is too far away/Can't use active modes	9
Speeding concerns/Increased road law enforcement	5
Increase safety related to Highway 29	2
Already walks/bikes/etc.	2
Provide bikes/Equipment/Storage	2
Other	10
Don't know/Refused	2

44. About how far does your (K-8 child/oldest K-8 child) live from school? If you're not sure, give your best guess.

Less than ½ mile	14
½ mile up to 1 mile	19
1 mile up to 2 miles	21
2 miles up to 3 miles	14
3 miles up to 5 miles	15
5 miles or more	16
(No response)	1

45. Does your (K-8 child/oldest K-8 child) currently have their own working bicycle?

Yes	79
No	21
(No response)	-

46. Did you ride a bicycle when you were your K-8 (child's/children's) age?

Yes	78
No	21
(No response)	0

These last questions are for statistical purposes only. Your responses will remain completely confidential.

47. Do you identify as...

Male	14
Female	83
Non-binary	-
Another gender identity	-
Prefer not to respond	3

48.	What year were you born? (YEARS CODED INTO CATEGORIES)	
	18-29 (2003-1992)	5
	30-39 (1982-1991)	36
	40-49 (1972-1981)	45
	50-64 (1957-1971)	12
	65 or older (1956 or earlier)	1
	Prefer not to respond	1
49.	Do you consider yourself to be...	
	Hispanic or Latino	38
	White or Caucasian	41
	African American or Black	1
	Asian or Pacific Islander	7
	Something else	3
	Prefer not to respond	10
50.	Do you...	
	Own or are buying the home or apartment where you live	55
	Rent or lease	35
	Prefer not to respond	10

**THANK YOU!**



# **APPENDIX B**

## **Universal Recommendations**

**Safe Routes to School Walk Audit Report  
and Active Transportation Action Plan**

## **Appendix B**

### **Napa County SRTS Walk Audit Report**

### **Universal Recommendations**

The Napa County Safe Routes to School (SRTS) Walk Audit Report Universal Recommendations apply to all public schools in Napa County, which reflects the schools served under the SRTS program. Universal recommendations are meant to supplement site-specific recommendations and address common barriers in the bicycle/pedestrian network around schools in a concise and consistent manner.

#### **Universal Recommendation 1: High-Visibility School Zone Crosswalks**

Federal Highway Administration data<sup>1</sup> indicates that high-visibility crosswalk striping improves the visibility of crosswalks compared to standard parallel lines and can improve yielding behavior by drivers<sup>2</sup>. Additionally, crosswalk visibility enhancements, which include but are not limited to high-visibility crosswalks, can reduce crashes by 23-48%<sup>1</sup>.

- Recommendation: High-visibility (continental or ladder pattern) crosswalks should be implemented at the following locations:
  - Utilizing the California Vehicle Code (CVC) §21368 requirements for designating crosswalks as “school zone” crosswalks (painted yellow), all school zone crosswalks;
  - And, all marked crosswalks at an intersection with a designated collector or arterial roadway within 1320 feet (0.25 miles) of a school (following the same measuring method as CVC §21368)

This recommendation applies to existing and future crosswalks. It does not provide guidance for new crosswalk warrants; it is primarily focused on the improvement of crosswalks within the roughly ¼ mile radius examined through the Walk Audit process.

#### **Universal Recommendation 2: Intersection Daylighting**

Daylighting is the practice of removing visual barriers, including parked vehicles, within a certain distance of a crosswalk or intersection to greatly improve visibility for pedestrians, bicyclists, and motorists. The National Association of City Transportation Officials recommends removing parking within 20-25 feet of an intersection. Daylighting can be accomplished through permanent infrastructure, such as concrete curb extensions, or more cost-effective materials, such as paint and bollards.

---

<sup>1</sup> [https://safety.fhwa.dot.gov/ped\\_bike/step/docs/TechSheet\\_VizEnhancemt\\_508compliant.pdf](https://safety.fhwa.dot.gov/ped_bike/step/docs/TechSheet_VizEnhancemt_508compliant.pdf)

<sup>2</sup> Pulugartha, S. S., V. Vasudevan, S. S. Nambisan, and M. R. Dangeti. Evaluating the Effectiveness on Infrastructure-Based Countermeasures on Pedestrian Safety. Presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., 2012.



- Recommendation: Daylighting strategies should be implemented at the following intersections:
  - Those that are in the school zone as defined by CVC §21368;
  - Those that are intersections with a designated collector or arterial roadway within 2640 feet (0.5 miles) of a school (following the same measuring method as CVC §21368).

**Universal Recommendation 3: Sidewalk Width Adjacent to School Campus**

A barrier frequently identified during Walk Audits throughout the county was that sidewalks immediately adjacent to the school were too narrow for the high volumes of pedestrians generated during school arrival and dismissal times. Most of these sidewalks were roughly 4 feet wide, including space for utility and signage poles. While these sidewalks may meet specific municipal standards, they do not accommodate high volumes of school-related pedestrians and can deter or prevent students from walking to school if they travel with their families, in groups, or use a mobility assistance device. This is especially so when sidewalks are obstructed by utility poles, signal boxes, and other objects.

- Recommendation: All sidewalks that lead to a school campus entrance should be a minimum of 6 feet wide within at least 250 feet of the school entrance; if a school has only one entrance, the sidewalk leading to that entrance should be a minimum of 8 feet wide within 250 feet of that entrance.

**Universal Recommendation 4: Class III Bike Boulevard Traffic-Calming**

Class III bicycle boulevards are on-street bicycle facilities that have traditionally been marked by signage and share-the-road stencils (“sharrows”) painted in the vehicle travel lane. Class III facilities do not provide any separation between bicyclists and motorists and instead indicate to road users that bicyclists and motorists must share the road. Such facilities are intended to be installed on low-speed (25 mph or less\*) and low-volume (<3,000 vehicles/day\*) roadways; however, the current practice of implementing only signage and sharrows for Class III routes frequently does not meet the comfort and safety perception needs of the “Interested but Concerned” user profile of bicyclists, which includes an estimate of 51%-56% of the population and is typically the profile assumed for most school-age children. To create a lower stress bicycle network, the Federal Highway Administration describes improving bicycle boulevards by “slowing motor vehicle speeds and implementing other speed management measures.”

- Recommendation: All Class III bicycle boulevards should be marked with sharrows and signage and must be treated with traffic-calming strategies to enforce the desired speed limit and prevent motorist speeding. Class III bicycle boulevards adjacent to school campuses or along roadways that facilitate

motorist speeding (long, straight, and/or minimal traffic control) should be prioritized for traffic-calming treatments.

\* Metrics established by the Federal Highway Association in their 2019 Bikeway Selection Guide.

### **Universal Recommendation 5: Curb Ramps (Americans with Disabilities Act)**

Some of the early Walk Audit reports specifically call out intersections or other pedestrian access points where curb ramps compliant with the Americans with Disabilities Act were missing, which creates a significant connectivity barrier for pedestrians who use mobility assistance devices. However, following these reports, the Napa County Safe Routes to School team recognized that many intersections and pedestrian access points were missing these curb ramps and that individually identifying each missing curb ramp would be redundant, particularly given data from the Napa Countywide Pedestrian Plan (2016). Consequently, though some early reports do mention lack of accessible curb ramps, a universal recommendation was created to address this important pedestrian barrier while avoiding redundancy in reports.

- Recommendation: In alignment with the Americans with Disabilities Act, when implementing recommendations made in Napa County Safe Routes to School reports that impact the curb at intersections, pedestrian crossings, or other pedestrian access points, curb ramps that are compliant with the Americans with Disabilities Act should be installed.



# **APPENDIX C**

## **Quick Build Brochure**

**Safe Routes to School Walk Audit Report  
and Active Transportation Action Plan**

# QUICK-BUILD BIKEWAY NETWORKS FOR SAFER STREETS

## Delivering Safer Streets in Weeks or Months, Instead of Years

*How to Meet Public Demand for Safe Bikeway Networks—Affordably, Quickly, and Inclusively*



*Photo credit: Alta Planning + Design*

### CASE STUDY

Adeline Street in Berkeley got protected bike lanes 20 years ahead of schedule, when Bike East Bay worked closely with the city to incorporate planned lanes into the repaving schedule, saving time and money by simply adding bike infrastructure to an existing project, one funded through a local infrastructure bond measure. The City of Berkeley garnered extensive public input on the Adeline Corridor, making this a great example of quick-build speeding up existing bike infrastructure planning, bringing bike lanes to Berkeley in 2019 instead of 2039.

### WHY QUICK-BUILD? WHY NOW?

Biking is up in many communities in California, including those that started with low rates of bicycling, as people seek out healthy and safe transportation and recreation. Californians are discovering they can be healthier and happier simply by getting out on two wheels.

Meanwhile, agency budgets are down. Plans to spend millions on infrastructure may no longer be realistic. More than ever, the public demands that transportation projects are equitable and responsive to the needs of neglected communities.

Quick-build is a method of building bike and pedestrian safety improvements—protected bike lanes, pedestrian crossings, slow streets, parklets, and more—now, within your budget. In challenging times, quick-build projects are crucial to building trust in the government’s ability to deliver public benefit. And quick-build infrastructure can engage the public better than ever, and be more inclusive and equitable than traditional infrastructure.

***“We as transportation experts need to be thinking strategically about whether or not we need to spend three years talking about doing something important, or three weeks to just try something.”***

— Warren Logan

*Transportation Policy Director of  
Mobility and Interagency Relations at  
Oakland Mayor’s Office*

# WHAT IS QUICK-BUILD?

## The Basics

- Quick-build projects use materials that can be installed quickly and at low cost. Build projects from posts, planters, and stripes of paint, not new pavement or curb alignments.
- **Quick-build projects are installed on a trial basis.** Temporary installations allow for adjusting or removing elements in response to public feedback. Successful projects may become permanent, exactly as installed, or upgraded with more durable materials.
- **Quick-build should incorporate rigorous community engagement.** A project on the ground can serve much more effectively than a PowerPoint or rendering for trying something out and allowing community residents to respond. Gather feedback and input, and change designs accordingly.

## Materials

From paint, traffic cones, and A-boards to concrete curb barriers, planters, and temporary raised crosswalks, a wide variety of materials work well for creating quick-build projects. The full Quick-Build Toolkit provides thorough, detailed descriptions of materials that can make for an effective and inexpensive project to meet your community's needs.

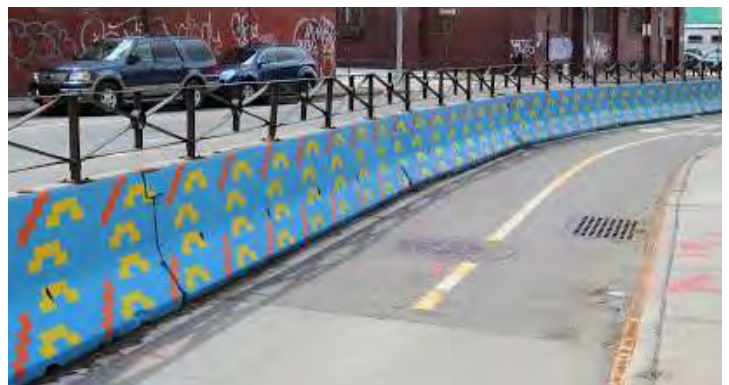


Photo credits, top to bottom: Alta Planning + Design; Real Hartford; Alta Planning + Design; Street Plans Collaborative



## CASE STUDY

In August of 2020, the City of San Luis Obispo converted one of the three motor vehicle lanes of downtown Higuera Street into a buffered bike lane, as part of Open SLO, the city's pilot program to expand the use of public spaces (with parklets and bike/ped spaces) during the COVID-19 pandemic. The project was installed with paint, took less than a week to install, and cost a mere \$15K instead of the more than \$150K it would have taken to put in a traditional bike lane by sealing and restriping the whole street as the city would normally do.

Photo credit: Bike SLO County



# WHO?

## Your Quick-Build Project Team



**Team leader.** Quick-build projects need a “chief” (usually city staff) tasked with project facilitation, keeping the momentum going, establishing lines of communication, and accepting and evaluating feedback.



**Community leaders.** Because evaluation and adjustment are essential for successful quick builds, make sure community leaders are on board from the beginning. Look to businesses, residential associations, places of worship, and nearby schools. Bring in bike/ped advocacy organizations and other CBOs, including those based in disadvantaged communities and led by people of color.



**Department liaisons.** Your project may impact transit, street sweeping, parking enforcement, maintenance, waste management and recycling, and emergency response. Involve other agencies as necessary to ensure you don't forget a critical aspect.



**Elected Officials.** They have the power to marshal funding for quick-build projects. They will hear from constituents, so communication channels between the project team and electeds must be open for effective project evaluation.



**Communications.** Ideally, include a dedicated communications person on your team. Because this is a new method, and people are used to years of discussion, publicize quick-build's temporary nature. Talk about the project's intended benefits, and listen to feedback about the actual impacts.

## Community Engagement

Community engagement is essential and also very effective, because it's easy to engage people in providing feedback on real-world solutions that they can see and use. Here are the keys:

- Start engaging with the community before you install the project so that residents' opinions are included from the get-go.
- Be inclusive in your outreach, including perspectives from disadvantaged communities and people of color.
- Emphasize the project's temporary nature, and the ability to change the project after it's installed.
- Implement effective feedback mechanisms during the project, making sure to plan and budget for project adjustments in response to input.

### CASE STUDY

The El Cajon Boulevard Business Improvement Association ("The Boulevard") got city councilmembers and the mayor on board to fund a pilot bus and bike lane along a 3-mile stretch of San Diego's El Cajon Boulevard. The Boulevard staff brought in diverse stakeholders and built on longstanding relationships to push the city to dedicate a lane for El Cajon Boulevard's new bus rapid transit line, and got bikes included on this Vision Zero corridor. The entire three-mile project, which launched in January 2020, cost \$100K, funded by San Diego's general fund.

*Photo credit: Holly Raines*



## WHERE?

### Which Projects are Best for Quick-Build?

Some projects are better than others for the quick-build method.

- **Look to existing plans.** Your community's current active transportation plan already identifies key improvements and priorities. Most such plans will take decades to complete with traditional methods and funding. Quick-build can take those plans to reality much sooner.
- **Fill gaps in the bikeway network, especially now when more people are bicycling.** Look to improve intersections that are dangerous to navigate, short sections of crosstown routes that use busy streets, or long sections of streets that could become "slow streets" to connect neighborhoods.
- **Put disadvantaged communities first.** If your plan doesn't already incorporate an equity analysis to set priorities, this is your chance. Look at a model plan like Oakland's "Let's Bike Oakland" bicycle plan which incorporates a framework of equity and a focus on improving well-being for the city's most vulnerable groups.

If a project is funded and on schedule to be built within a year or two, turn your attention to projects that will take years without quick build. Projects that require expensive modifications—new traffic signals, bridges, reconfigured curbs—are not good quick-build candidates.



Photo credit: Alta Planning + Design

### Funding for Quick-Build

#### POTENTIAL FUNDING SOURCES IN CALIFORNIA

Available funding for quick-build projects varies a lot from one municipality to the next. But here are a few ideas.

- Public works departments' essential repaving and repair projects are great opportunities to put in quick-build projects at low cost.
- Local and regional funds such as general fund, sales tax revenue, and Air Quality Management District funds can be used for quick-build projects.
- Tack on costs to another publicly-funded transportation project, or even a private project. For example, a development project that is required to repave and stripe new bike lanes might install a protected bike lane using quick-build materials instead.
- In 2020, the **Active Transportation Program** piloted a special quick-turnaround funding pot for quick-build projects, with an earlier (summer) deadline. Keep an eye on the ATP to see if they continue to offer this funding in future years. CalBike will be pushing them to do so.
- PeopleForBikes has a **small grant program** for infrastructure projects.
- AARP's **Community Challenge grant** could fund a quick-build project.

This resource was prepared in partnership with Alta Planning + Design. For more information see our complete **Quick-Build Guide**.



# **APPENDIX D**

## **Bike Parking Guidance**

**Safe Routes to School Walk Audit Report  
and Active Transportation Action Plan**



ESSENTIALS OF

# BIKE PARKING

Selecting and installing bicycle parking that works



*apbp*

Association of Pedestrian  
and Bicycle Professionals  
Expertise for Active  
Transportation

## Essentials of Bike Parking

Revision 1.0, September 2015

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### Acknowledgments

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**Cover image:** Sign D4-3 from *Standard Highway Signs, 2004 Edition*, [http://mutcd.fhwa.dot.gov/ser-shs\\_millennium\\_eng.htm](http://mutcd.fhwa.dot.gov/ser-shs_millennium_eng.htm)

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*APBP is an association of professionals who plan, implement and advocate for walkable and bicycle-friendly places.*

### Association of Pedestrian and Bicycle Professionals

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www.apbp.org



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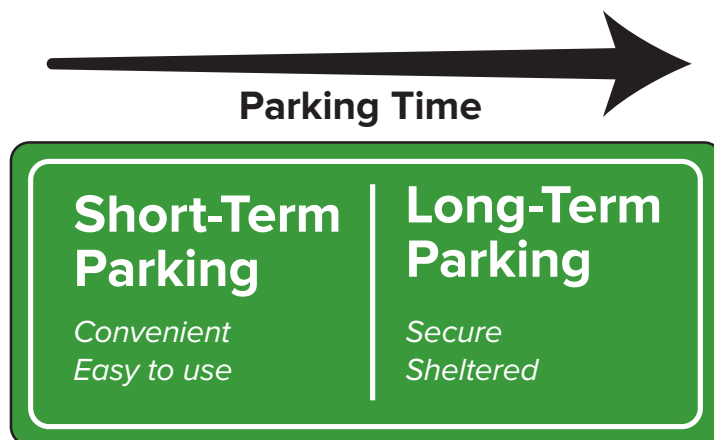
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## INTRODUCTION

Among the necessary supports for bicycle transportation, bike parking stands out for being both vital and easy. Still, it requires some attention to get it right. Bike parking may go unused if it's not more appealing to users than the nearest sign post. A minor mistake in installation can make a quality rack unusable. The variety of bicycle sizes, shapes, and attachments continues to increase, and good bike parking should accommodate all types.

The Association of Pedestrian and Bicycle Professionals (APBP) prepared this guide for people planning to purchase or install bike parking fixtures on a limited scale. It is a brief overview of APBP's comprehensive *Bicycle Parking Guidelines* handbook, available at [www.apbp.org](http://www.apbp.org).

This guide divides bike parking into short-term and long-term installations. These two kinds of parking serve different needs, and the starting point for most bike parking projects is recognizing whether the installation should serve short-term users, long-term users, or both. If users will typically be parking for two hours or longer, they are likely to value security and shelter above the convenience and ease that should characterize short-term parking.





# SHORT-TERM PARKING

Effective bike parking for short-term users depends on two main factors: 1) proximity to the destination and 2) ease of use.

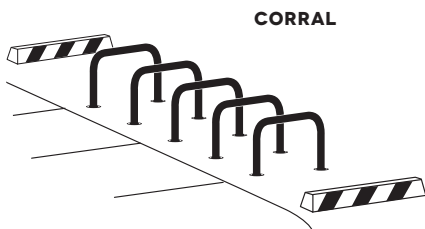
Short-term parking is designed to meet the needs of people visiting businesses and institutions, and others with similar needs—typically lasting up to two hours. Short-term users may be infrequent visitors to a location, so the parking installation needs to be readily visible and self-explanatory.



INVERTED U



POST & RING



CORRAL

## SITE PLANNING

### Location

Short-term bike parking should be visible from and close to the entrance it serves—50' or less is a good benchmark. Weather-protected parking makes bicycle transportation more viable for daily and year-round use, and it can reduce the motivation for users to bring wet bicycles into buildings. Area lighting is important for any location likely to see use outside of daylight hours.

### Security

All racks must be sturdy and well-anchored, but location determines the security of short-term parking as much as any other factor. Users seek out parking that is visible to the public, and they particularly value racks that can be seen from within the destination. Areas with high incidence of bicycle theft may justify specific security features such as specialty racks, tamper-proof mounting techniques, or active surveillance.

### Quantity

Many jurisdictions have ordinances governing bike parking quantity. APBP's full *Bicycle Parking Guidelines* offers complete recommendations for the amount and type of parking required in various contexts. In the absence of requirements, it's okay to start small—but bear in mind that perceived demand may be lower than the demand that develops once quality parking appears.

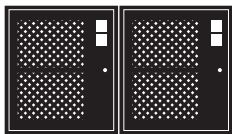
## BIKE CORRALS

Some cities with limited sidewalk space and strong bicycle activity place bike parking in on-street "bike corrals" located in the street area adjacent to the curb. Bike corrals can sometimes make use of on-street areas that are unsuitable for auto parking. When replacing a single auto parking space, a corral can generally fit 8 to 12 bicycles. APBP's full *Bicycle Parking Guidelines* provides details about designing and siting bike corrals. [➔ apbp.org](https://apbp.org)

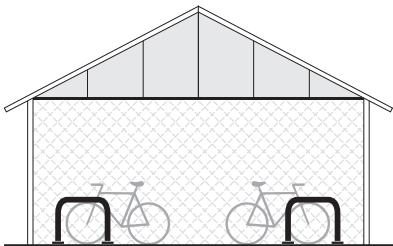
# LONG-TERM PARKING

Users of long-term parking generally place high value on security and weather protection. Long-term parking is designed to meet the needs of employees, residents, public transit users, and others with similar needs. These users typically park either at home or at a routine destination such as a workplace. They often leave their bicycles unmonitored for a period of several hours or longer, so they require security and weather protection that let them park without unreasonable concern for loss or damage.

Long-term parking can take a variety of forms, including a room within a residential building or workplace, a secure enclosure within a parking garage, or a cluster of bike lockers at a transit center. Some long-term parking is open to the public—such as a staffed secure enclosure at a transit hub—and some of it is on private property with access limited to employees, residents, or other defined user groups.



**BIKE LOCKERS**



**SHELTERED SECURE ENCLOSURE**

## SITE PLANNING

### Location

Appropriate locations for long-term parking vary with context. Long-term parking users are typically willing to trade a degree of convenience for weather protection and increased security. Long-term installations emphasize physical security above public visibility. Signage may be needed for first-time users.

### Security

Security is paramount for quality long-term parking. Access to parked bicycles can be limited individually (as with lockers) or in groups (as with locked bike rooms or other secure enclosures). Options for access control include user-supplied locks, keys, smart cards, and other technologies.

### Quantity

Refer to local ordinances or the comprehensive APBP *Bicycle Parking Guidelines* to determine the amount and type of parking required for various contexts.

## SPECIAL CONSIDERATIONS FOR LONG-TERM PARKING

In many ways, short-term and long-term parking function similarly and are served by the same guidelines. Some exceptions are noted below.

### Density

The competition of uses for high-security and sheltered locations creates particular pressure on long-term parking to fit more bicycles in less space. When parking needs cannot be met with standard racks and spacing recommended in this guide, consider rack systems designed to increase parking density. See the high-density racks table on page 7. Note that increasing density without careful attention to user needs can create parking that excludes people because of age, ability, or bicycle type. This may result in people parking bicycles in other less desirable places or choosing not to bike at all.

### Bicycle design variety

Long-term parking facilities should anticipate the presence of a variety of bicycles and accessories, including—depending on context—recumbents, trailers, children’s bikes, long-tails, and others. To accommodate trailers and long bikes, a portion of the racks should be on the ground and should have an additional 36” of in-line clearance.

### Performance criteria

The bike rack criteria in the next section apply to racks used in any installation, regardless of its purpose. Long-term installations often use lockers and group enclosures not discussed in this guide. Such equipment raises additional considerations that are discussed in detail in APBP’s full *Bicycle Parking Guidelines*. [➔ apbp.org](https://apbp.org)

# INSTALLATION

Selecting an appropriate installation surface and technique is key to creating bicycle parking that remains secure and attractive over time.

## INSTALLATION SURFACE

A sturdy concrete pad is an ideal surface for installing bicycle parking. Other surfaces often encountered include asphalt, pavers, and soft surfaces such as earth or mulch. These surfaces can accommodate in-ground mounting or freestanding bike racks such as inverted-U racks mounted to rails. See APBP's *Bicycle Parking Guidelines* for details. [➔ apbp.org](https://apbp.org)

## INSTALLATION FASTENERS

When installing racks on existing concrete, consider the location and select appropriate fasteners. Drill any holes at least three inches from concrete edges or joints. Some locations benefit from security fasteners such as concrete spikes or tamper-resistant nuts on wedge anchors. Asphalt is too soft to hold wedge and spike anchors designed for use in concrete. Installing bike parking on asphalt typically requires freestanding racks and anchor techniques specific to asphalt.

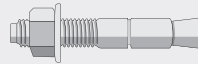
### FASTENERS

#### CONCRETE SPIKE



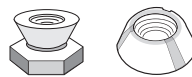
Installs quickly in concrete with a hammer. Tamper-resistant. Removal may damage concrete and/or rack.

#### CONCRETE WEDGE ANCHOR



Allows for rack removal as needed. Not tamper-resistant, but can accommodate security nuts (below).

#### SECURITY NUTS



Use with concrete wedge anchors. Security nuts prevent removal with common hand tools.

## INSTALLATION TECHNIQUES

When installing racks on existing concrete, choose those with a surface-mount flange and install with a hammer drill according to the specifications of the mounting hardware selected. When pouring a new concrete pad, consider bike parking fixtures designed to be embedded in the concrete. Because replacing or modifying an embedded rack is complicated and costly, this installation technique requires particular attention to location, spacing, rack quantity, and material.





# BICYCLE RACK SELECTION

## PERFORMANCE CRITERIA FOR BIKE PARKING RACKS

*These criteria apply to any rack for short- or long-term use.*

CRITERIA	DETAILS
<b>Supports bike upright without putting stress on wheels</b>	The rack should provide two points of contact with the frame—at least 6” apart horizontally. Or, if a rack cradles a bicycle’s wheel, it must also support the frame securely at one point or more. The rack’s high point should be at least 32”.
<b>Accommodates a variety of bicycles and attachments</b>	The racks recommended on page 6 (“racks for all applications”) serve nearly all common bike styles and attachments—if installed with proper clearances (see placement section). Avoid designs and spacing that restrict the length, height, or width of bicycles, attachments, or wheels.
<b>Allows locking of frame and at least one wheel with a U-lock</b>	A closed loop of the rack should allow a single U-lock to capture one wheel and a closed section of the bike frame. Rack tubes with a cross section larger than 2” can complicate the use of smaller U-locks.
<b>Provides security and longevity features appropriate for the intended location</b>	Steel and stainless steel are common and appropriate materials for most general-use racks. Use tamper-resistant mounting hardware in vulnerable locations. Rack finish must be appropriate to the location (see materials and coatings section).
<b>Rack use is intuitive</b>	First-time users should recognize the rack as bicycle parking and should be able to use it as intended without the need for written instructions.

# RACK STYLES

The majority of manufactured bike racks fall into one of the categories on pages 6-8. Within a given style, there is wide variation among specific racks, resulting in inconsistent usability and durability. APBP recommends testing a rack before committing broadly to it.

## RACKS FOR ALL APPLICATIONS

When properly designed and installed, these rack styles typically meet all performance criteria and are appropriate for use in nearly any application.

### INVERTED U

also called  
staple, loop



Common style appropriate for many uses; two points of ground contact. Can be installed in series on rails to create a free-standing parking area in variable quantities. Available in many variations.

### POST & RING



Common style appropriate for many uses; one point of ground contact. Compared to inverted-U racks, these are less prone to unintended perpendicular parking. Products exist for converting unused parking meter posts.

### WHEELWELL-SECURE



Includes an element that cradles one wheel. Design and performance vary by manufacturer; typically contains bikes well, which is desirable for long-term parking and in large-scale installations (e.g. campus); accommodates fewer bicycle types and attachments than the two styles above.

This guide analyzes the most common styles of bike racks, but it is not exhaustive. Use the performance criteria on page 5 to evaluate rack styles not mentioned. Custom and artistic racks can contribute to site identity and appearance, but take care that such racks don't emphasize appearance over function or durability.

## HIGH-DENSITY RACKS

These rack styles do not meet all performance criteria but may be appropriate in certain constrained situations.

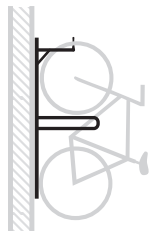
High-density rack systems can maximize the use of limited parking space, but they don't work for all users or bicycles. If installing these racks, reserve additional parking that accommodates bicycles with both wheels on the ground for users who are not able to lift a bicycle or operate a two-tier rack, or for bikes that are not compatible with two-tier or vertical racks.

### STAGGERED WHEELWELL-SECURE



Variation of the wheelwell-secure rack designed to stagger handlebars vertically or horizontally to increase parking density. Reduces usability and limits kinds of bikes accommodated, but contains bikes well and aids in fitting more parking in constrained spaces.

### VERTICAL



Typically used for high-density indoor parking. Not accessible to all users or all bikes, but can be used in combination with on-ground parking to increase overall parking density. Creates safety concerns not inherent to on-ground parking.

### TWO-TIER



Typically used for high-density indoor parking. Performance varies widely. Models for public use include lift assist for upper-tier parking. Recommend testing before purchasing. Creates safety concerns not inherent to on-ground parking, and requires maintenance for moving parts.



## RACKS TO AVOID

Because of performance concerns, APBP recommends selecting other racks instead of these.

**WAVE**  
also called undulating  
or serpentine



Not intuitive or user-friendly; real-world use of this style often falls short of expectations; supports bike frame at only one location when used as intended.

**SCHOOLYARD**  
also called  
comb, grid



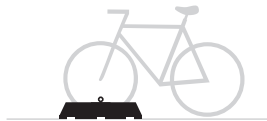
Does not allow locking of frame and can lead to wheel damage. Inappropriate for most public uses, but useful for temporary attended bike storage at events and in locations with no theft concerns. Sometimes preferred by recreational riders, who may travel without locks and tend to monitor their bikes while parked.

**COATHANGER**



This style has a top bar that limits the types of bikes it can accommodate.

**WHEELWELL**



Racks that cradle bicycles with only a wheelwell do not provide suitable security, pose a tripping hazard, and can lead to wheel damage.

**BOLLARD**



This style typically does not appropriately support a bike's frame at two separate locations.

**SPIRAL**



Despite possible aesthetic appeal, spiral racks have functional downsides related to access, real-world use, and the need to lift a wheel to park.

**SWING ARM  
SECURED**



These racks are intended to capture a bike's frame and both wheels with a pivoting arm. In practice, they accommodate only limited bike types and have moving parts that create unneeded complications.

## RACK MATERIALS & COATINGS

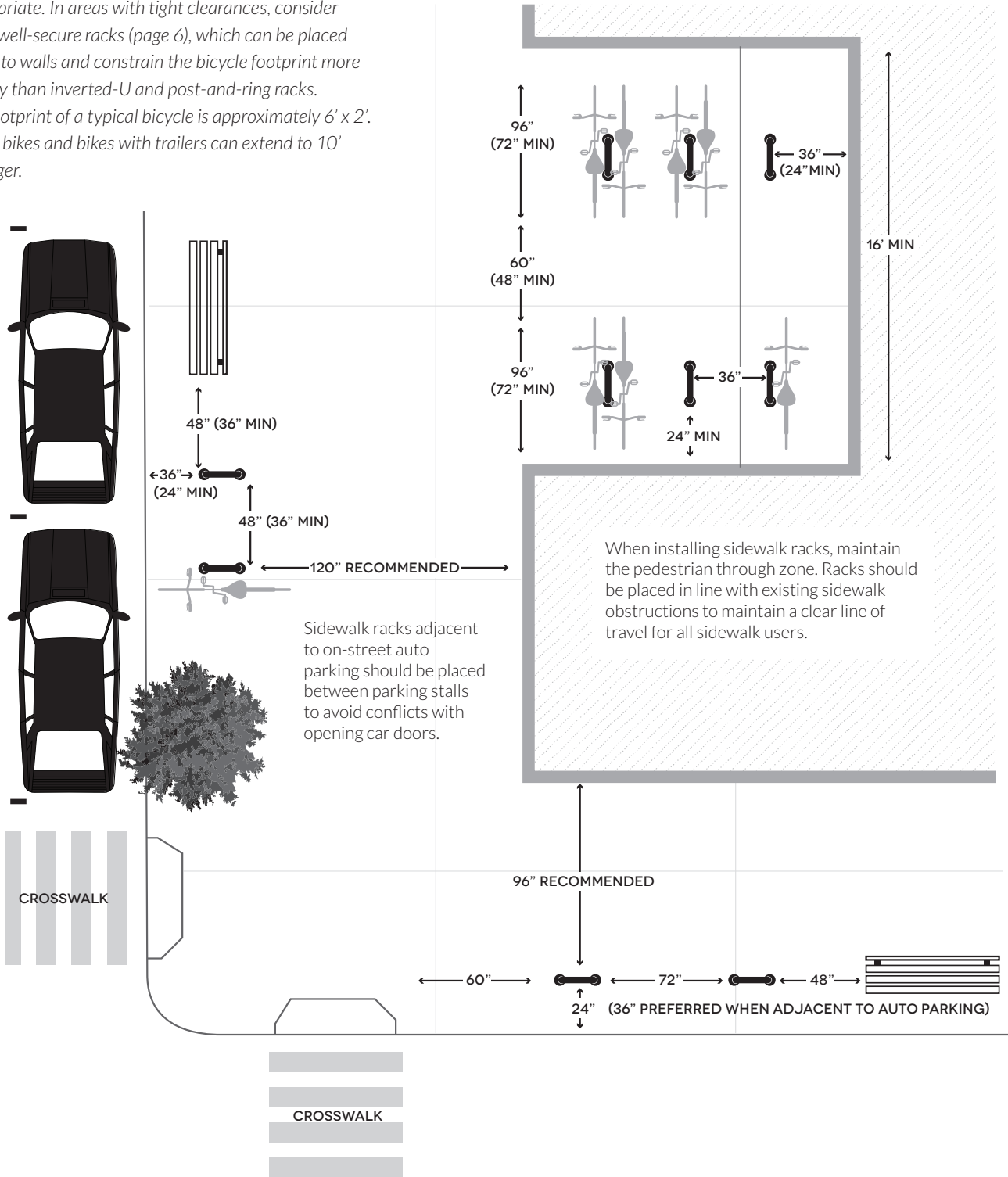
Most bicycle parking racks are made of carbon steel or stainless steel. Carbon steel requires a surface coating to resist rust while appropriate grades of stainless steel need no coating. Not all materials and coatings with the same name perform equally. Square tubing provides a security advantage as round tubing can be cut quietly with a hand-held pipe cutter. Before purchasing racks, talk to suppliers about your particular conditions and choose a material and coating that suit your needs. The following are common choices, depending on local considerations and preferences.

RACK MATERIAL - COATING	RELATIVE PURCHASE COST	DURABILITY	CAUTIONS
<b>Carbon steel - galvanized</b>	Usually lowest	Highly durable and low-maintenance; touch-up, if required, is easy and blends seamlessly	Utilitarian appearance; can be slightly rough to the touch
<b>Carbon steel - powder coat* (TGIC or similar)</b>	Generally marginally higher than galvanized	Poor durability	Requires ongoing maintenance; generally not durable enough for long service exposed to weather; not durable enough for large-scale public installations
<b>Carbon steel - thermoplastic</b>	Intermediate	Good durability	Appearance degrades over time with scratches and wear; not as durable as galvanized or stainless
<b>Stainless steel - no coating needed, but may be machined for appearance</b>	Highest	Low-maintenance and highest durability; most resistant to cutting	Can be a target for theft because of salvage value; maintaining appearance can be difficult in some locations

\* When applied to carbon steel, TGIC powder coat should be applied over a zinc-rich primer or galvanization to prevent the spread of rust beneath the surface or at nicks in the finish.

# PLACEMENT

The following minimum spacing requirements apply to some common installations of fixtures like inverted-U or post-and-ring racks that park one bicycle roughly centered on each side of the rack. Recommended clearances are given first, with minimums in parentheses where appropriate. In areas with tight clearances, consider wheelwell-secure racks (page 6), which can be placed closer to walls and constrain the bicycle footprint more reliably than inverted-U and post-and-ring racks. The footprint of a typical bicycle is approximately 6' x 2'. Cargo bikes and bikes with trailers can extend to 10' or longer.





# **APPENDIX E**

## **Recommendation Cost Range Estimates**

**Safe Routes to School Walk Audit Report  
and Active Transportation Action Plan**

## Appendix E: Recommendation Cost Range Estimates

Cost estimate was one of many factors considered when prioritizing recommendations for Napa County Safe Routes to School Walk Audit reports. Recommendations in which a high cost estimate would considerably delay implementation of the recommendation may have been given a lower priority level in order to prioritize recommendations that are lower cost and therefore more likely to be installed more quickly. Cost was considered on a high-level scale; real cost ranges of recommendations may differ from cost range estimates included in Walk Audit reports.

Cost range estimates for Safe Routes to School Walk Audit recommendations are as follows:

\$	< \$25,000
\$\$	Between \$25,000 and \$250,000
\$\$\$	\$250,000 to \$1 million
\$\$\$\$	> \$1 million

# **APPENDIX F**

## **Parent Champions Handout**

**Safe Routes to School Walk Audit Report  
and Active Transportation Action Plan**





Safe Routes  
to School  
**National  
Partnership**

# How to be a Parent Champion for Safe Routes to School



Schools, cities, parents, and students are embracing the Safe Routes to School movement and establishing tens of thousands of Safe Routes to School programs throughout the United States. This document describes how parents and families can get involved in Safe Routes to School, though data collection, school and neighborhood improvements, policy change, and programs to enable and encourage more walking and bicycling.

## **Education, Encouragement, and Enforcement**

Education, encouragement, and enforcement are additional strategies for implementing Safe Routes to School in your community. Often they require few resources and can be started right away. Discuss with other families, school staff, and neighbors which ideas below could be good options for your school. Ensure education, encouragement, and enforcement methods are inclusive of all members in your school. Consider language and cultural barriers when producing materials.

### *Organize a Walk or Bike to School Day Event*

Encouragement activities such as Walk to School or Bike to School Day can show families how easy and fun it is to walk or bike. Start campaigns for these national events and get teachers, staff members, students, and parents committed to participating. Register your event online at [walkandbike.org](http://walkandbike.org). For tips on walk or bike to school day read our [Bike to School Day blog](#).

### *Organize a Walking School Bus or Bike Train*

Walking school buses or bike trains are safe and fun ways for children to get physical activity as they travel to and from school with adult supervision. Each “bus” or “train” walks or bikes along a set route with one or more adults leading it, picking children up at designated stops along a predetermined route and using active travel to get them to school. The process is reversed in the afternoons on the way home from school. It is that easy! For information about starting a walking school bus or bike train refer to [Step In to a Walking School Bus Program](#) and [Get Rolling with a Bike Train Program](#).

### *Bicycle and Pedestrian Curricula in the Classroom*

To ensure that children receive appropriate safety training, work with your school to provide education about walking and bicycling safely. This type of training helps to address parent and school administrator concerns about traffic safety. For more information about why this training is important and what to look for in a training program refer to [Bicycle and Pedestrian Safety Curriculum for Safe Routes to School](#).

### *Remote Drop Off*

Many schools that struggle with including students that live too far to walk or bicycle to school have created remote drop off programs. Programs work with schools and school district transportation departments (including school buses) to designate student drop off locations at a short distance from the school. This helps to reduce traffic congestion around the school and encourages students to get additional exercise. [Read tips on remote drop off](#).

### *Create Partnerships with Law Enforcement*

Creating partnerships between law enforcement, schools, and community organizations can help bolster Safe Routes to School programs. Working with your local police department to increase patrols during school commute hours or implement measures to decrease speeding are two examples of partnerships with law enforcement. Work with families and law enforcement to make sure that a police presence will not end up targeting students of color.

### *Addressing School Bus Cuts*

When school districts face financial challenges, a common target for cuts is the school transportation system -- cutting back bus routes and stops as well as widening the walk zone around a school. However, reducing busing without also addressing student safety risks often leads to more traffic congestion, poorer air quality, increased safety risks, and higher family transportation costs as more parents drive children to school. If your school district is talking about transportation cuts, work with district and school staff members to ensure that a Safe Routes to School program is being implemented simultaneously.



## **Understanding the Problem and Opportunity**

Understand the challenges preventing many students from safely walking or biking to school. Using the [National Center for Safe Routes to School](#)'s parent survey you can begin gathering information on issues specific to your school. Survey parents every two to three years. Work with your school to understand how students are getting to and from school by conducting student travel tallies at the beginning and end of each school year.

Conduct a walk audit by surveying walking conditions around the school. Look for sidewalks, crosswalks, school zone signs, parent behavior during arrival and dismissal to better understand the challenges families and students face. Refer to [Let's Go For A Walk: A Toolkit for Planning and Conducting a Walk Audit](#) for more information and templates for conducting a walk audit. Walk audits are not the only method for establishing baseline data. Interviewing school staff, students, and parents is also a great way to discover your school's strengths and weaknesses when it comes to opportunities for walking and bicycling to and from school. When interviewing school staff members, students, and parents, make sure educational and marketing materials are accessible, and consider all languages and cultures in your school.

Historically, low income communities and communities of color have streets and schools with fewer sidewalks, crosswalks, bike lanes, bike racks, and less lighting than communities whose residents have higher incomes. These communities shoulder the burden of increased rates of death and injury because of missing or unsafe places to walk and bike. Many things contribute to street safety, but the presence or lack of safe places to walk and bike plays a major role. For more information on disparities in street infrastructure refer to "[At the Intersection of Active Transportation and Equity](#)."

## **School and Neighborhood Changes**

While changing the way streets and sidewalks function in your community may seem intimidating, it is quite possible. Cities and counties make decisions about traffic speeds, crosswalks, signage and other neighborhood design issues. School campus design can also support walking and bicycling. By talking with the principal, city traffic engineer, city councilperson, or other officials, families can change the environment in and around the school and throughout the neighborhood. You can help improve the school and neighborhood environment with the actions listed below.

### *Getting Bike Racks at the School*

Students won't bicycle to school if there isn't a place to safely store their bicycles. Creating space and securing funding or a donation for school bike racks assures the safety of bikes while children are in class. Work with the school and school district to make sure bike racks are secure, in a visible place, and easily accessible from school entrances. Asking the school district or city to provide needed bike racks is a great place to start.



## Maintenance

Regular maintenance of streets, sidewalks, trees, and bushes means the difference between a pleasant walk or bicycle ride to school and a harrowing experience tiptoeing over shards of glass and dodging overhanging bushes that push you into the street. The city often decides when to trim bushes and sweep streets, and what streets and paths to clear first when it snows. A walk audit with city officials can make maintenance a higher priority. Work with city staff or start by talking with an elected official, to address maintenance issues—they are often easy to solve. Consider organizing a cleanup party that brings families, students, and the community together to make sidewalks and paths clear and beautiful.

## Painting Crosswalks and Signage

Encourage communication between your city and school. Discuss problems that students encounter walking and bicycling to school with the city engineer and/or elected officials and help gather information for needed city projects. Share walk audit findings with city officials. Remember that the key to successful change is to share specific problems, such as busy intersections, pedestrian lights that don't allow enough time, or missing crosswalks, instead of telling the city 'the solution.' Ask about organizing temporary or low cost improvements such as a community crosswalk or intersection painting at your school.

## Safe Routes to School Grant Application

If your walk audit shows that the area around the school needs extensive improvements, work with your local decision makers at the city and school to apply for funding to initiate these projects. There may be local, regional, state, or private funding available. A well thought out proposal that includes strong partnerships in the community will lead to a powerful funding application that can improve the streets around your school.

## Policy Changes

The idea of changing government and school policies may seem overwhelming, but it doesn't have to be. Schools, cities, and counties all make policies that govern use of agency resources including funding. With parents and families advocating for changes, you can help these agencies support opportunities for children to walk and bicycle to school and in daily life. The following are policy changes that can improve walking and bicycling to schools. We suggest that you pick one or two policies that interest you, and work together with other concerned families to encourage changes.

### Reversing a No Walk/Bike Policy

Does your school prohibit walking or bicycling to school? If so, you can change this! There are many examples across the country of schools that have changed their policies after parents have asked them to be reviewed or reconsidered. For more information, see our [Safe Routes to School Local Policy Guide](#) and [Safe Routes to School District Policy Workbook](#).



## Integrating Safe Routes to School in Wellness Policies

Federal law requires all school districts that participate in the federal school meal program to adopt wellness policies that focus on nutrition and physical activity. Many schools have policies that focus on nutrition, but they need more ways to increase physical activity. Getting more students to walk and bike through this simple change is an excellent way to support your Safe Routes to School program. Find out if your school has a wellness policy, how it can be amended, and get Safe Routes to School included! This will help later with getting additional programs and policies initiated. For more information reference the [Safe Routes to School District Policy Workbook](#).

## School Siting and Closure Policies

When school districts grow, budgets contract, or the student population changes, there are often discussions around building or closing schools. Local districts have wide discretion regarding where they locate schools; where a school is built or which school is closed are critical components in enabling or preventing students from walking or bicycling to school. Find out more about school siting and closures [here](#). These policy initiatives provide preliminary ideas for how parents and community advocates can start implementing policies that support Safe Routes to School, changes to the built environment, and increased physical activity. Children can also get involved as advocates for better walking and bicycling conditions.

## Complete Streets

The design of streets is essential to the livability of the area around the school. Getting your city to pass a complete streets policy can lead to roads being designed and maintained for all modes of travel. By ensuring that streets are accessible to people walking, biking, driving, and taking transit, you can maximize the use of the street while creating a healthy place for everyone to move about. For more information, read our guide [Complete Streets: Making Roads Safe and Accessible for All Users](#).

**Be a champion for Safe Routes to School today! Find a strategy you're interested in and help make walking and biking to and around your school safer.**



# **APPENDIX G**

## **Next Steps**

**Safe Routes to School Walk Audit Report  
and Active Transportation Action Plan**

## From Recommendations to Action: Next Steps

Napa County Bicycle Coalition (NCBC) has concluded the final task under the Napa County Safe Routes to School Program in coordination with the Napa County Office of Education, funded under the One Bay Area Grant and the Active Transportation Program.

Evaluation of active transportation barriers at school sites are complete and final reports of recommendations for each school in Napa County will be published in the spring of 2022. The NCBC team is already planning the next phase of Safe Routes to School that will help bring these recommendations into reality. Supported by a “Quick Strike” grant through the Metropolitan Transportation Commission (MTC), NCBC will continue its SRTS work over the course of this next year.

### **NCBC SRTS Quick Strike Program Elements (2022-2023):**

- Engage parents in advocating for implementing the recommendations. Hold safety summits at various school sites that raise awareness of the recommendations and provide a forum for parents to discuss strategies and to plan next steps. Work with schools and other stakeholders to implement recommendations. Build a Safe Routes to School (SRTS) Advisory Committee, including “parent champions” from key school sites, to help guide the SRTS program into the next phase of growth and engagement and to help ensure the long-term viability of the program, providing a structure both for stakeholder feedback and input, as well as for increased local investment in future program activities.
  - Action Steps:
    - Hold up to seven safety summits at various school sites
    - Form SRTS advisory committee
- Provide education and encouragement programming at elementary and middle schools that includes bike rodeos throughout the year, Bike Month (and Bike to School Day) in the spring, and Walk and Roll to School Day in the fall. This programming aims to increase the number of students who walk or bike to school and to ensure that, as barriers are removed and facilities are improved, youth have the skills and confidence to take advantage of improvements.
  - Action Steps:
    - Hold up to 14 Bike Rodeos at elementary and middle schools
    - Provide outreach and support for Walk and Roll to School Day and Bike Month activities at up to seven school sites
    - Support local Agricultural & Hospitality Industry workers with bicycle safety education
- Conduct community-based safety education programming that reaches identified populations of concern. Through bilingual Family Biking Workshops, community rides in partnership with other local organizations, and safety education outreach to agricultural

and hospitality workers, NCBC will tailor our programming to help engage the full spectrum of our community.

- Action Steps:
  - Conduct up to nine bilingual Family Biking Workshops
  - Conduct up to six community events and rides
- Secure future funding for the Safe Routes to School Partnership (SRTS). We believe that every student should be able to safely walk or ride a bike to school. The SRTS program provides vital safety education, encouragement, and community engagement programs to thousands of students annually while advocating for facilities that make active transportation safe and accessible. SRTS will be a key force in helping to make the Walk Audit recommendations a reality. Napa County is one of the only counties in the region that lacks dedicated, long-term funding for these programs and efforts, and without that support implementing the recommendations will face more barriers.
  - Action Steps:
    - Apply for competitive and discretionary grant funding
    - Seek funding support from jurisdictions
    - Seek funding support from community health
    - Provide annual program reports to stakeholders