Walk Audit Report

SafeRoutes
Napa County

NAPA HIGH SCHOOL

NAPA HIGH SCHOOL

2475 JEFFERSON STREET
NAPA, CA

—

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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[ab] and reduced pedestrian-motorist collisions[cd]. 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[e].

Student health has been linked to improved academic performance[fg]. 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[h]. Families are also provided with a low-cost transportation option that can significantly reduce their annual expenses[i].

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.

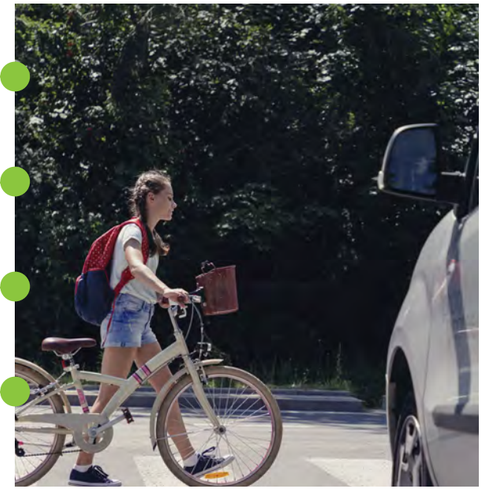
Schools and the community benefit immensely when students choose to walk or bike.

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. Enforcement statistics are not emphasized in this report, as this element needs more study and review.

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.

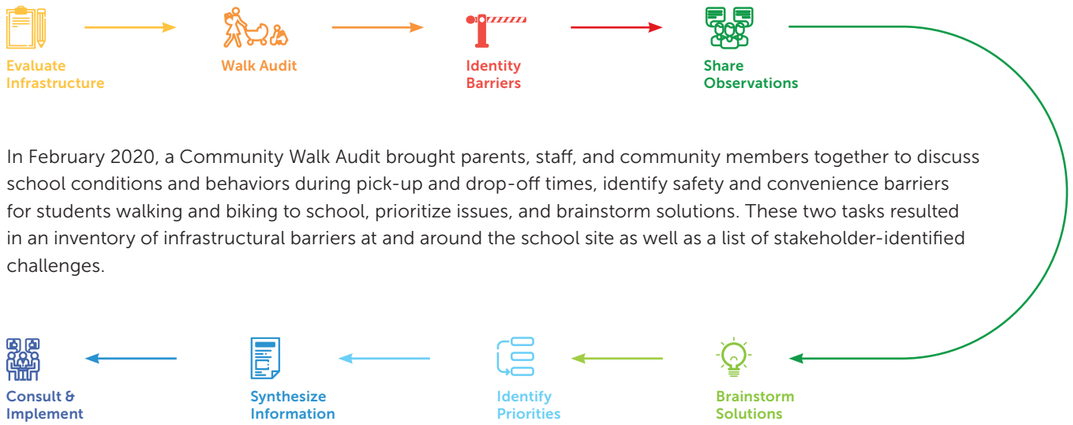
Education
Ensure that everyone learns how to travel safely and why biking and walking are important.

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 Napa High School, starting in the summer of 2018. Information on physical and behavioral challenges was collected in two phases. In August 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.



In February 2020, a Community Walk Audit 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. These two tasks resulted in an inventory of infrastructural barriers at and around the school site as well as a list of stakeholder-identified challenges.

A report draft was shared with the Napa Valley Transportation Authority, the Napa County Office of Education, law enforcement, public works and planning representatives from the City of Napa, the local school district, 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.

NAPA HIGH SCHOOL
SCHOOL SUMMARY

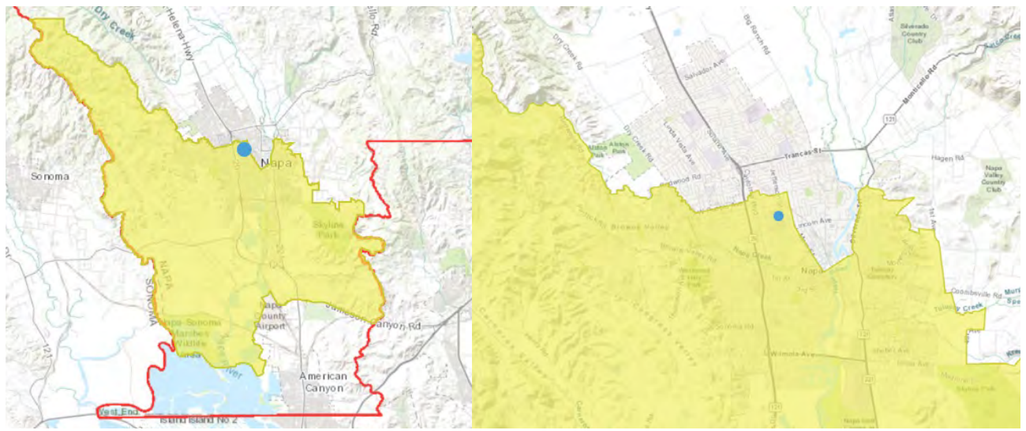
Principal	Monica Ready (previous) Ean Ainsworth (current)
First Bell	8:00 AM
Last Bell	3:00 PM (W 1:50)
District	Napa Valley Unified

Grades	9-12
Enrollment	1,901
Street	2475 Jefferson Street
City	Napa, CA 94558

Overall Facility Rating[j]: Good

While NVUSD has an open enrollment policy, Napa High School's default enrollment area covers most of the southern half of the city of Napa as well as unincorporated Napa County northwest and south of the school. According to the most recent data (2020-21 school year), 18.8% of students attending Napa High School reside outside of the school's enrollment boundary.

Through the open enrollment policy, families may apply to NVUSD for their student to attend a school other than their school of residence. Out-of-district students may also apply through the open enrollment process. This often results in students living farther away from school, making them more likely to rely on driving for transportation. At schools where open enrollment students constitute a high proportion of their enrollment, this can cause higher vehicular traffic volumes around the school during pick-up and drop-off.



Map 1: The enrollment boundaries (shaded yellow) of Napa High School (blue dot)

DATA

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

Data collected from the countywide EMC Research survey (Appendix A) conducted in Spring 2021 reflects parent perspectives on walking and biking to school for K-8 students only, and therefore cannot be directly applied to Napa High School.

Total Enrollment by Group (2019-20)

ETHNICITY	NAPA HIGH SCHOOL	DISTRICT
Black or African American	0.3%	2.1%
American Indian or Alaska Native	0.1%	0.2%
Asian	0.8%	2.4%
Filipino	0.8%	6.9%
Hispanic or Latino	69%	55.6%
White	27.2%	28.4%
Native Hawaiian or Pacific Islander	0.1%	0.2%
Two or More Races	1.8%	4.0%
EXPERIENCE		
Socioeconomically Disadvantaged	57.9%	51.2%
English Learners	14.8%	20.5%
Students with Disabilities	8.6%	12.5%
Foster Youth	0.5%	0.4%
Homeless	1.4%	1.1%

Figure 1: Enrollment Data by Group

Student Enrollment by Grade Level (2019-2020)

	NUMBER OF STUDENTS
Grade 9	463
Grade 10	471
Grade 11	485
Grade 12	482
Total	**1,901**

Figure 2: Enrollment Data by Grade

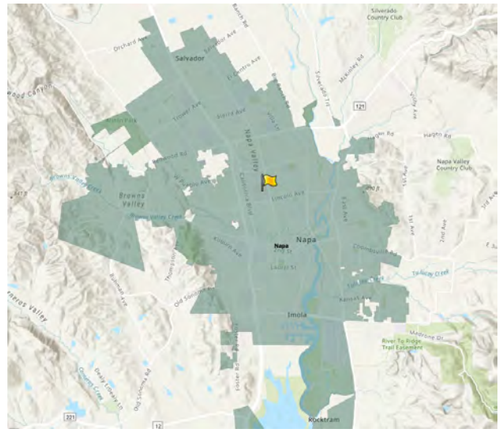
NEIGHBORHOOD CONTEXT

Napa High School is located in the City of Napa's Beard Planning Area in central Napa, characterized by its variety of land uses, including commercial strips, single- and multi-family housing, and a light industrial area. The school is located on the corner of Park Avenue and Jefferson Street, a significant north-south arterial. The block the campus is on is also bordered by Marin Street, a residential street, to the west and Lincoln Avenue, an east-west arterial, to the south, with Kennedy Way running north-south through the campus.

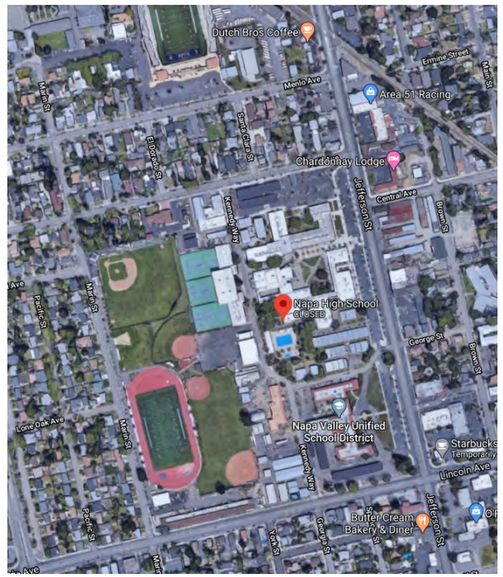
North of the school is a mix of single- and multi-family housing, commercial uses along Jefferson Street, Valley Oak High School, and a few childcare facilities. West of the school is primarily single-family residences. South of the school is the Napa Valley Unified School District office, a mix of single-family and multi-family residences, and commercial uses along Lincoln Avenue and Jefferson Street. East of the school are primarily commercial uses, followed by more mostly single-family residences. Most of the housing in this area was constructed between the 1950s and 70s, though some traditional subdivisions were built before 1940.

Popular destinations for Napa High students include Dutch Bros Coffee, Tacos La Playita, Joey's Bakery, La Morenita Market, Starbucks, and Butter Cream Bakery, all commercial locations along Jefferson Street.

Tacos La Playita, across Jefferson Street from Napa High School.



Map 2: Napa High School (yellow flag) is located in central Napa (city boundaries shaded blue).



Aerial photo of Napa High School and surrounding neighborhood.

EXISTING **CONDITIONS**

The Safe Routes to School Team conducted an initial evaluation of the school site and surrounding area prior to conducting the Community 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.

SITE CIRCULATION

Napa High School is a large campus with several access points. Pedestrians and bicyclists can enter the campus through one of the many entrances on Park Avenue, Kennedy Way, or Jefferson Street. Most of these entrances are gated. The most popular entrances are located on Park Ave at Kennedy Way, Jefferson Street at George Street, and travelling along Kennedy Way from Lincoln Avenue. Kennedy Way provides less stressful entrances for pedestrians and bicyclists than Jefferson Street and Park Avenue, as there is far less vehicle traffic to navigate.

Napa High School has one large parking lot that stretches along the north side of the school's campus on Park Avenue around the east length of the campus along Jefferson Street. The only entrances to this parking lot are on Park Avenue, though there is an exit on Park Avenue and on Jefferson Street. A crosswalk/sidewalk from the corner of Park Avenue and Jefferson Street cuts through the parking lot and connects to campus, dividing the lot into two sections: the Park Avenue lot and the Jefferson Street lot. Motorists are also permitted to park on the streets surrounding the school; many students park on Marin Street and cross the sports fields to access campus or park along southbound Jefferson Street in front of the school.

Vehicles can only access the campus from Park Avenue, where they enter the parking lot from one of two entrances. The official loading zone is located along the southwest curb of the parking lot on Park Avenue. One-way circulation through the loading zone is indicated by painted white arrows. However, many motorists drive through the Park Avenue lot to the Jefferson Street parking lot and drop students off in the middle of the lot, closer to the school's main entrance. Cars can exit the Park Avenue parking lot either back on to Park Avenue, or by driving through the one-way Jefferson Street parking lot and exiting onto Jefferson Street.

Access points to Napa High on Jefferson Street (left) and Kennedy Way (right).

Speed cushions discourage speeding in the parking lot.

The school's parking policy is provided in the student handbook and is reviewed in all English classes in the Fall by the school's assistant principals.

STUDENT PARKING/PARKING LOT BEHAVIOR:

Student Parking

There are 108 total parking spaces in the student lot on Park Avenue.

- ➔ 4 spaces are reserved for our Booster Club Fundraisers (Athletics, Band, Choir, Spirit Leaders)
- ➔ 2 spaces are reserved for Electric Vehicles
- ➔ 5 spaces are reserved for Handicapped parking

Students can park on the surrounding streets or in any space that is not marked green around the district office.

Parking in our campus parking lot is a privilege and comes with expectations for high levels of safety and appropriate use of the space. Students are permitted to park in the North lot with two entrances on Park Ave. The East parking lot is for staff and faculty only. Students who park cars in the staff and faculty lot may be ticketed.

Students may access their cars during the school day during the morning milk break and/or at lunch time IF they have an approved off-grounds pass, which is only available to 10th-12th grade students.

Loitering or playing loud music is not permitted in our parking lots. A student may lose the privilege of using our parking lot if these guidelines are not followed.

Staff & Visitor Parking

There are 133 total parking spaces in the staff lot on Jefferson Street.

- ➔ 8 spaces are reserved for Handicapped parking
- ➔ 1 space is reserved for our school nurse
- ➔ 1 space is reserved for our school resource office
- ➔ Staff vehicles should have a staff placard or sticker
- ➔ Visitors can pick up a visitor parking pass in the main office.

Students who park in staff parking will receive a ticket and staff who park in the student lot will receive a ticket.

Student Drop Off & Pick Up: We ask that families follow the arrows in the parking lot and obey the signs for student drop off and pick up. If families want to pick up their student in the front lot, please do not block the flow of traffic.

Figure 3: Napa High Parking/Parking Lot Policy

Bike parking near Jefferson Street entrance.

Kennedy Way gates act as informal bike parking.

The Vine transit bus stop in front of Napa High School has a shelter and a bench.

Bus service through NVUSD is not available for Napa High students. Students who live beyond 4.25 miles walk distance and attend their school of residence may apply for transportation. The Vine transit N line, operated by the Napa Valley Transportation Authority, provides service in north/central Napa, mostly along Trancas Street and Jefferson Street, and has a southbound stop in front of the campus on Jefferson Street and a northbound stop on Jefferson Street just south of George Street.

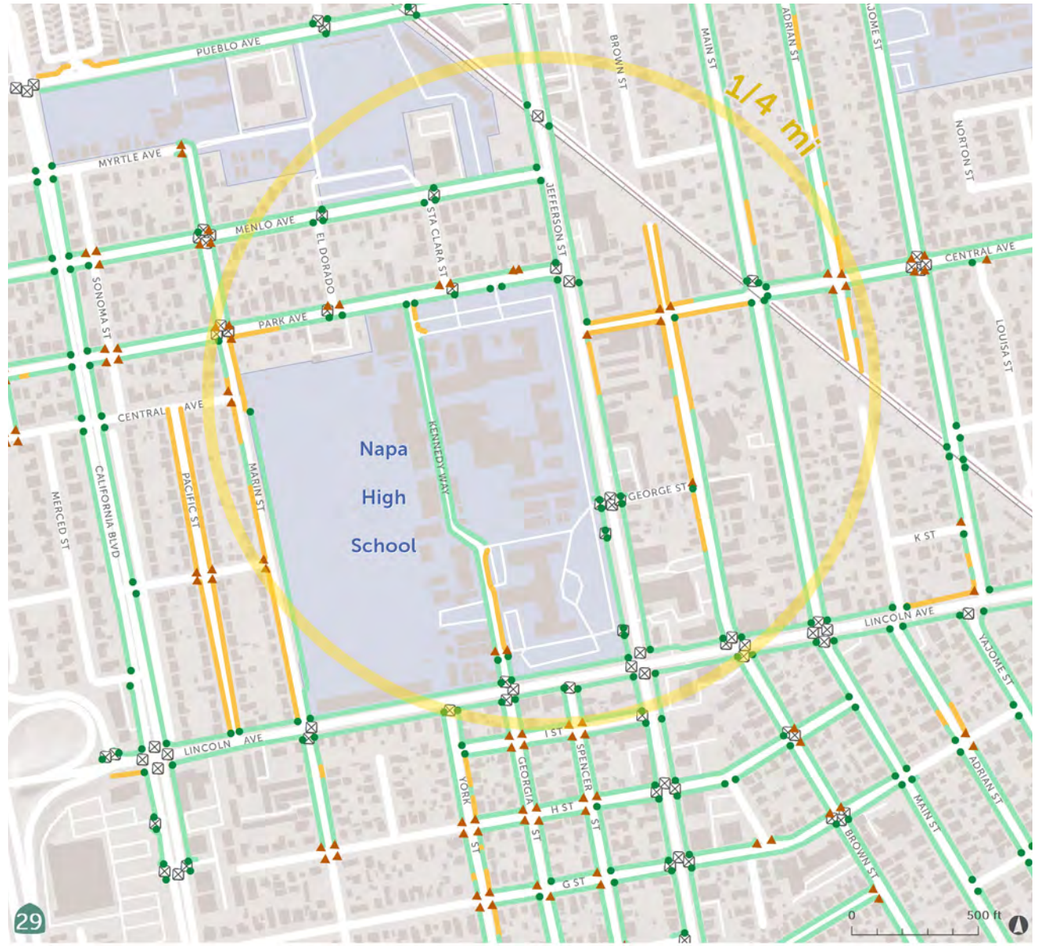
BICYCLE AND PEDESTRIAN INFRASTRUCTURE

The school provides several 7-bike wave-style bike racks near the main entrance on Jefferson Street. However, the school does not provide bike parking near the back entrances of the school off of Kennedy Way; consequently, several students utilize the fencing along the back of the school as informal bike parking than use the bike racks.

MAP OF EXISTING BICYCLE FACILITIES

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

MAP OF EXISTING PEDESTRIAN FACILITIES



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

ENCOURAGEMENT AND EDUCATION PROGRAMS

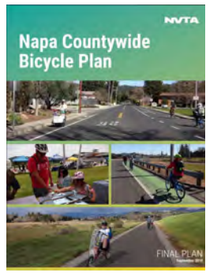
Napa High School has participated in the two annual countywide encouragement events, Bike to School Day and Walk and Roll to School Day. Bike to School Day and Walk and Roll to School Day are annual encouragement events facilitated by Napa County Safe Routes to School in the spring and fall, respectively, that celebrate students making the healthy choice to walk or bike to school. The school has not expanded its encouragement program beyond these annual events. The school does not provide bicycle safety education to its students.

The energizer station hosted by NVUSD on Bike to Work and School Day is located at the Vine Trail entrance on Jefferson Street, close to Napa High School.

YEAR	EVENT	STUDENT PARTICIPANTS
2016/17	Bike to School Day	33
2018/19	Walk and Roll to School Day	136
2018/19	Bike to School Day	10
2019/20	Walk and Roll to School Day	54

Figure 4: Encouragement and Education Data

EXISTING PLANS



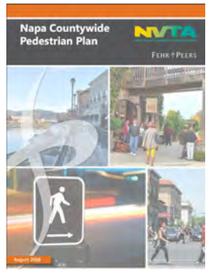
NVTA Napa Countywide Bicycle Plan (2019):

The Napa Countywide Bicycle Plan recommends improving bicycle facilities around the school site. The Bicycle Plan designates Jefferson Street as a study corridor and recommends the installation of Class III bicycle boulevards along some nearby streets, such as Park Avenue, Central Avenue, Main Street between Pueblo Avenue and Lincoln Avenue, and Brown Street south of Lincoln Avenue. The Bike Plan also recommends Class II bike lanes for Pueblo Avenue north of the school.

NVUSD Facilities Master Plan (2016):

NVUSD's Facilities Master Plan lists several projects for Napa High School. These projects include installation/upgrade of fencing around the school perimeter, and site ADA improvements. As the school currently has several entrances, changes in fencing could impact future circulation around the school site by altering entry points.

MEASURE H
BUILDING ON OUR VISION
NVUSD



NVTA Napa Countywide Pedestrian Plan (2016):

The improvement nearest to the school listed in the Napa Countywide Pedestrian Plan is a Pueblo Avenue overpass from West Pueblo Avenue to Pueblo Avenue, just a little more than a half-mile away from the school. Another project that may impact student travel to the school is the SR 29 bike and pedestrian undercrossing at the North Bank of Napa Creek, southwest of the school, as many students travel from this part of town and currently use the informal path that will become the undercrossing.

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. Projects in the school area include the Lincoln Avenue/Jefferson Street Intersection Modifications project, which includes additional right-turn lanes, and the Lincoln Avenue and California Boulevard intersection, and recommends modifying that intersection and reconfiguring the northbound SR 29 off-ramp at Lincoln Avenue.

CITY OF NAPA

City of Napa General Plan 2020 (1998) / 2040 (Not Yet Adopted):

The current General Plan for the City of Napa was adopted in 1998; a General Plan update began in 2018 and at the time of this report, is still ongoing. The General Plan update strives to build a more livable, sustainable, and inclusive future for the City of Napa by outlining the City's plan for land use, housing, transportation, climate change, and more. One of the draft guiding principles for the General Plan update is to "increase travel options through enhanced walking, bicycling, and public transportation systems, and promote mobility through increased connectivity and intelligent transportation management."

WALK **AUDIT**

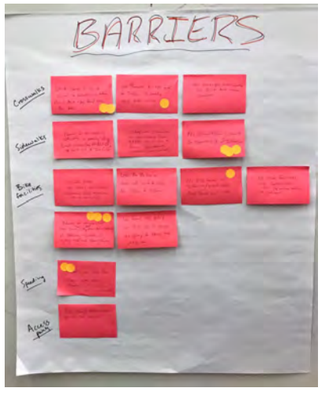
Date: 2/28/20
Day of the Week: Friday

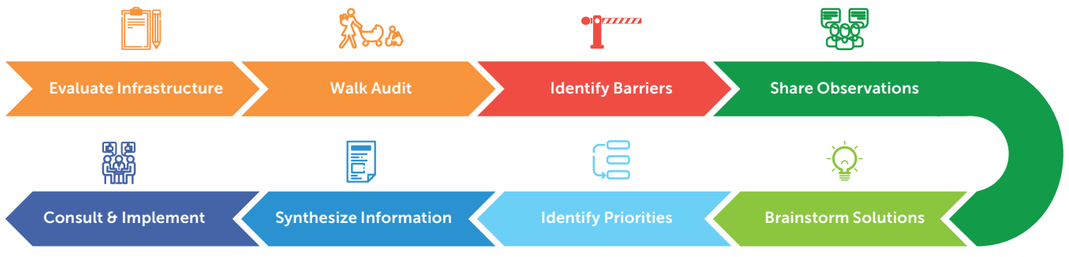
Meeting Time: 7:15 AM
Weather: Partly cloudy and cool

METHODOLOGY

The Community Walk Audit brought school stakeholders together to observe existing conditions during drop-off time, identify barriers to safe walking or biking, and explore solutions. The Walk Audit team consisted of one parent, a community member, and one of the school's assistant principals. The group met 30 minutes prior to the school bell for a brief presentation on the SRTS program and the process and purpose of Walk Audits. The team then walked north on Kennedy Way, east on Park Avenue, south on Jefferson Street, west on Lincoln Avenue, and north on Kennedy Way to return to campus. During this walk, participants observed and discussed the physical infrastructure around the school as well as the behavior of motorists, pedestrians, and bicyclists in the school site area. They also shared their own experiences traveling to and from school on foot and by car. Fifteen minutes after the bell, the team returned to the classroom to discuss their observations, map issue areas, and record and prioritize the major barriers identified during the exercise.

During the prioritization exercise, participants wrote down three barriers that were of high priority to them on sticky notes, placed them on a poster, and organized them into sections based on similar topics. Then, participants were given three round stickers to place 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.





WALK AUDIT FINDINGS

This section of the report lists the barriers identified by Walk Audit participants during the Walk Audit activity. The barriers listed in the following table are the results of the Walk Audit prioritization activities – the content and language used reflect what Walk Audit participants wrote on their sticky notes.

The barrier identification and prioritization exercise resulted in a list of location-specific and geographically general barriers organized by Vote Score in the table below. Vote Score was determined during the prioritization exercise by the number of stickers and sticky notes addressing a particular issue, with a higher number correlating to a higher Vote Score, indicating a higher importance to Walk Audit participants.

Stakeholder-Identified Barriers:

DESCRIPTION	LOCATION	VOTE SCORE
Unsafe bike facilities (narrow, close to fast vehicles, storm drains)	Lincoln Ave	8
No bike facilities	Jefferson St	7
No sidewalk/poor sidewalk on opposite side of Jefferson	Northbound Jefferson St	4
Unsafe crossing or lack of crosswalk to popular destinations on Jefferson	Jefferson St	3
Speeding	Park Ave	3
Not safe crosswalk for N/S travel, needs better visibility	Jefferson St at Central Ave	2
Inadequate/lack of sidewalks (narrow, disappears, not elevated)	Kennedy Way (Lincoln Ave to north end of Tech Center)	2
Not enough crosswalks	Park Ave near the school	1
No bike parking	West side of campus off of Kennedy Way	1
No lighting for informal bike parking	West side of campus off of Kennedy Way	1
Too many entrance/exit points	School site	1

Figure 5: Walk Audit Stakeholder-Identified Barriers

Stakeholder-Identified Treatments:

DESCRIPTION	BARRIER ADDRESSED	LOCATION	PRIORITY
Curb extensions	Low pedestrian visibility, poor motorist yielding behavior, motorist speeding, long crossing distances	High-volume intersections (Park Ave and Santa Clara St, Park Ave and Jefferson, Central Ave, George St)	5
Road diet and buffered bike lanes; add/expand sidewalks	No bike facilities, sidewalk gaps, narrow sidewalks	Jefferson St from Lincoln Ave to Vine Trail	5
Install sidewalks (high-volume where possible)	Sidewalk gaps, narrow/unelevated sidewalks	Kennedy Way	4
Mid-block crosswalk with high-visibility striping and RRFB	Lack of crosswalks to popular destinations	Across Jefferson St to south side of Central Ave	2
Crosswalk with RRFB	Lack of crosswalks to popular destinations	Across Jefferson St to south side of Central Ave	2
Crosswalk improvements (RRFB, raised crosswalk, and/or curb extensions)	Speeding, poor motorist yielding behavior, low pedestrian visibility	Park Ave crosswalks	2
Protected bike lanes	High-stress bike facilities	Lincoln Ave	1
Add bike facilities	No bike facilities	Jefferson St	1
Improve bike facilities (buffered bike lanes, painted conflict markings)	High-stress bike facilities	Lincoln Ave	1
Complete, connected northbound sidewalks and southbound multi-use path	No bike facilities, sidewalk gaps	Jefferson St	1
High-volume sidewalks	Narrow sidewalks in high pedestrian volume area, sidewalk gaps	On and around school site (Lincoln Ave, Jefferson St)	1
Speed feedback signs or other means to increase awareness of school zone speed limits	Speeding	General area	1

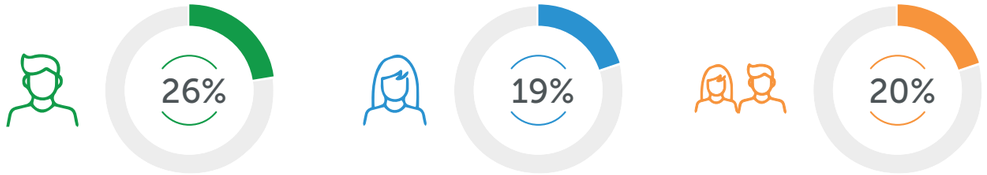
Figure 6: Walk Audit Stakeholder-Identified Treatments

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[1]. 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[2]. 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**[3].

50%

29%

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.

400 MILLION

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.

[1] 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. [2] 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. [3] 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 feedback and 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; high-level potential cost/complexity of recommendation; and Walk Audit participant input.

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 "NAI," and recommendations that suggest programmatic treatments are denoted by "NAP." Please note that implementing these recommendations will often require further evaluation and study, as well as design, right-of-way acquisition, compliance checks with existing laws, and coordination with utility, public safety, and other local government departments.

RECOMMENDATIONS #NAI-259, NAI-260, AND NAP-043: LINCOLN AVENUE MULTIMODAL ACCESS

Narrative – Lincoln Avenue borders the school block on the south side, and is a key high-volume east-west arterial corridor through central Napa, providing access to several residential neighborhoods including multi-family and mobile home neighborhoods, SR 29 and SR 121, other key north-south routes such as Jefferson Street and Soscol Avenue, and many commercial destinations. This corridor is long, straight, and wide, with several lanes of vehicle traffic, no traffic-calming, and only some traffic control, consequently facilitating frequent motorist speeding over the posted 30-mph speed limit. Lincoln Avenue currently has on-street Class II bike lanes and crosses the Vine Trail shared-use path just east of Iroquois Street.

IDENTIFIED BARRIERS

- ***Auto-oriented corridor –*** Lincoln Avenue's current design, featuring wide lanes on a relatively straight corridor with no traffic-calming and little traffic control, prioritizes vehicle speed, volumes, and convenience and facilitates frequent motorist speeding.
- ***High-speeds and volumes of traffic –*** Lincoln Avenue carries extremely high volumes of high-speed traffic, which many bicyclists and pedestrians do not feel comfortable or safe navigating.
- ***High-stress bicycle facilities –*** The existing Class II bicycle facilities are stressful for riders due to the lack of separation between high speeds and volumes of vehicle traffic and high conflict-risk intersections. This stress is exacerbated in areas where road quality in the bike lane is poor, the bike lane narrows to substandard widths, or storm drains obstruct the bike lane and pose a fall hazard.
- ***Bike lane obstructions –*** The existing bike lanes on Lincoln Avenue are frequently obstructed with debris, gravel, broken glass, and garbage, and are often blocked by signage during periods of construction.

The existing Class II bike lanes on Lincoln Avenue are high-stress, which is exacerbated in areas where the bike lane is narrowed and obstructed by storm drains.

RECOMMENDATIONS

- ***NAI-259 Road diet –*** Implement a road diet along Lincoln Avenue to create a street with one travel lane in each direction and a middle turn lane. Use reclaimed space for multimodal improvements, including widened bicycle facilities (recommended Class IV) and widened sidewalks. Due to high multimodal use potential and multiple stakeholders and land uses, this may require a Corridor Plan similar to Imola Avenue.
- ***NAI-260 Protected bike lane –*** Install a Class IV protected bike lane with conflict markings at major intersections and driveways. This protected bike lane may be parking protected in some locations where parking-protected bike lanes do not obstruct visibility of bicyclists to turning vehicles, but parking removal will be necessary around intersections and driveways. Buffered Class II bike lanes can also be used in areas where Class IV is not feasible.
- ***NAP-043 Bike lane maintenance –*** Ensure that existing bike lanes are being fully swept with regular street sweeping and increase frequency of sweeping if maintenance issues continue.

RECOMMENDATIONS #NAI-262, NAI-263, NAI-265, AND NAI-266: JEFFERSON STREET MULTIMODAL FACILITIES

Narrative – Jefferson Street borders the school block on the east side and provides direct access to campus at George Street and Park Avenue, though the main front entrance to campus is located midblock between Park and George. Jefferson Street is an integral high-volume north-south arterial corridor that runs from Salvador Avenue to Atrium Parkway, spanning nearly the entire City limits on the east side of SR 29. Jefferson Street is a key part of direct routes to several residential neighborhoods, commercial destinations such as shopping centers, pharmacies, and health services, schools, and downtown throughout the east side of Napa; consequently, Jefferson plays a crucial role in the multimodal transportation network for the City of Napa.

IDENTIFIED BARRIERS

- ***Auto-oriented corridor –*** Jefferson Street's current design, featuring wide lanes on a relatively straight corridor with no traffic-calming and little traffic control, prioritizes vehicle speed, volumes, and convenience and facilitates frequent motorist speeding.
- ***High speeds and volumes of traffic –*** Jefferson Street carries extremely high volumes of high-speed traffic, which many bicyclists and pedestrians do not feel comfortable or safe navigating.
- ***No bicycle facilities –*** The lack of bicycle facilities on the corridor fails to provide a dedicated space for bicyclists, making the corridor unwelcoming to bicyclists and increasing potential road user conflicts.

The lack of bicycle facilities on Jefferson Street strongly discourages students from biking to school.

- ***High-stress crosswalks –*** Infrequent and high-stress/conflict-risk crosswalks across Jefferson Street along the corridor, particularly south of Lincoln Avenue where most crosswalks across Jefferson Street are uncontrolled, makes travelling along the corridor challenging and inconvenient for pedestrians and creates a higher risk of road user conflict.
- ***Minimal shade –*** Minimal shade along the corridor, in addition to being adjacent to high volumes of vehicle traffic, creates an increased heat effect that deters walking along the corridor.

RECOMMENDATIONS

- ***NAI-262 and NAI-265 From Trancas St to Cedar Ave***
  - ***Road diet –*** Implement a road diet and redesign of corridor to improve and prioritize safe, accessible, and comfortable multi-modal transportation through a Complete Streets framework. Integrate specific recommendations from SRTS reports into road redesign.
- ***NAI-263 Bicycle facilities from Trancas St to Lincoln Ave***
  - ***Long-term:*** Class IV protected bike lanes preferred for this corridor with reclaimed space from road diet.
  - ***Evaluate and implement if feasible short-term solution pending road diet.*** One design could include removing on-street parking and shifting lanes where necessary to make a two-way protected cycle track on the southbound (west) side. Any curb extension recommendations along Jefferson should not conflict with this.
- ***NAI-266 Bicycle facilities from Lincoln Ave to Cedar Ave***
  - ***Find a short-term solution pending the road diet/redesign that creates continuous bicycle facilities in both directions for this corridor –*** minimum separation level is Class II bike lanes. This may require reallocating space from motor vehicles.

RECOMMENDATION #NAI-268: LINCOLN AVE AND JEFFERSON ST INTERSECTION IMPROVEMENTS

Narrative – As is described in the narratives above for Lincoln Avenue and Jefferson Street, both arterial corridors are crucial, highly-travelled components of the transportation network. These two streets intersect at the southeast corner of the school block, along routes from the school to residential neighborhoods, popular student destinations such as Starbucks, and the Vine Trail entrance on Lincoln Avenue. As a result, in addition to its regular traffic volumes, this intersection experiences high volumes of school-related multimodal travel.

IDENTIFIED BARRIERS

- ***Large, busy intersection –*** This intersection of two arterials is a key intersection in the school zone, as it is highly travelled by all modes of transportation, both school-related and non-school related, which can increase road user conflict risk and can feel chaotic and challenging for students.
- ***Long crossing distances –*** Long crossing distances across several lanes of traffic on all legs of the intersection pushes bicyclists and pedestrians further out of the range of vision of motorists and requires them to be in the roadway for a longer time than necessary, increasing the risk of collisions.
- ***Low-visibility crosswalks –*** The crosswalks are faded and painted with a standard, parallel line pattern, despite being located in a highly-travelled school zone.

The Lincoln Ave and Jefferson St intersection is highly-travelled throughout the day, particularly during school arrival and dismissal times and peak commute hours.

RECOMMENDATIONS

- ***Leading Pedestrian Interval –*** Install Leading Pedestrian Intervals for all crosswalks to provide pedestrians with a protected head-start through the intersection, improving driver awareness of pedestrians and reducing risk of turning conflicts.
- ***High-visibility crosswalks –*** Repaint all crosswalks with a high-visibility school-zone pattern to increase pedestrian visibility and motorist yielding behavior.
- ***Limit lines –*** Install advanced limit lines on all travel lanes to indicate to motorists to stop with some distance from the crosswalk, improving pedestrian visibility, particularly for motorists planning to turn right on a red light.
- ***Green conflict markings –*** Paint green conflict markings on the Lincoln Avenue bike lanes approaching the intersection to increase visibility of bicyclists.
- ***Curb extension –*** Install a curb extension on the northeast corner to tighten the curb radius, slow right turns, and square up the intersection.
- ***Redesign intersection with recommended road diets and Jefferson Street corridor study* to prioritize bicyclist and pedestrian separation and safety and slow motorist speeds.*** Consider protected intersection during redesign.

RECOMMENDATION #NAI-276: NAPA HIGH CAMPUS BIKE PARKING

Narrative – The school provides several 7-bike wave-style bike racks near the main entrance on Jefferson Street. However, the school does not provide bike parking near the back entrances of the school off of Kennedy Way; consequently, several students utilize the fencing along the back of the school as informal bike parking than use the bike racks. On the morning of the Walk Audit, more bikes were seen informally locked to the Kennedy Way campus gates than the formal bike parking on Jefferson Street, indicating that bicyclists prefer to enter campus through Kennedy Way.

IDENTIFIED BARRIERS

- ***Insufficient bike parking –*** On-campus bike parking is provided at only one entrance near Jefferson Street, and there is no parking at entrances on the more bicycle-accessible Kennedy Way side of campus. A perceived lack of secure bike parking in visible, convenient locations near school entrances, and potential theft resulting from informal bike parking, can deter students from biking to school.

Bicycles locked to campus fences on Kennedy Way on the morning of the Walk Audit.

RECOMMENDATIONS

- ***Bike parking on west side –*** Install several secure bike racks near entry points on the west side of campus to accommodate bicyclists entering from Kennedy Way.

RECOMMENDATION #NAI-284: LINCOLN AVE AND KENNEDY WAY INTERSECTION IMPROVEMENTS

Narrative – Many students enter campus through the multiple gated entrances on Kennedy Way. Kennedy Way may offer a lower-stress north-south alternative to Jefferson Street for active transportation users, especially bicyclists who would otherwise have to navigate high-speed and high-volume Jefferson Street traffic with no bicycle facilities. As a result, many students, especially those coming from neighborhoods south or southwest of the school, may have to navigate the Lincoln Avenue and Kennedy Way intersection to reach campus.

IDENTIFIED BARRIERS

- ***Wide curb radius –*** The wide curb radius on the southwest corner facilitates fast motorist turning movements.
- ***Vehicles obstructing visibility –*** The lack of "no parking" red zones on Georgia Street allows motorists to park adjacent to the crosswalks and obstruct pedestrian visibility.
- ***Low-visibility crosswalk –*** The existing crosswalk across Georgia Street is painted with a standard, parallel line pattern, despite being located in a highly-travelled school zone.

The Lincoln Avenue crosswalk has been updated to a high-visibility school-zone pattern since the time of the Walk Audit.

RECOMMENDATIONS

- ***Curb extension –*** Install small curb extension on southwest side to reduce the curb radius and improve pedestrian visibility.
- ***Red curbs –*** Paint "no parking" red curbs on Georgia Street to prevent motorists from parking adjacent to crosswalks and obstructing pedestrian visibility.
- ***High-visibility crosswalk –*** Paint high-visibility school-zone crosswalk pattern across Georgia Street to increase pedestrian visibility and motorist yielding behavior.
- ***Pedestrian refuge island –*** Extend the existing painted median on Lincoln Avenue with paint/bollards through the crosswalk to create a pedestrian refuge island, allowing pedestrians to focus on one direction of traffic at a time.

RECOMMENDATION #NAP-039: STUDENT-LED EDUCATION/ENCOURAGEMENT

Narrative – A vehicle-oriented transportation culture contributes to students choosing not to walk or bike to school. In addition to infrastructure barriers, much of which exists due to this transportation culture, many students drive or are driven to school because it is the „cool" or „normal" thing to do, or because they have recently earned their driver's license, a source of excitement and sense of independence. It is also likely that many students are unaware of the impacts their everyday transportation choices have on their health, environment, and community. An increase in encouragement programming can help raise awareness of and enthusiasm towards active transportation and complement infrastructure improvements.

IDENTIFIED BARRIERS

- ***Vehicle-oriented transportation culture –*** Being surrounded by a vehicle-oriented transportation culture significantly contributes to students developing the habit of driving or being driven to school.
- ***Congestion in school zone –*** Congestion in the school zone during school arrival and dismissal times can increase conflict risk and make the school zone feel unpredictable and unsafe to bicyclists and pedestrians, especially in conjunction with infrastructure barriers.

The teen program of Marin County Safe Routes to School provides resources, messaging, and events tailored to students in middle and high school. Image credit: Marin County Safe Routes to School.

RECOMMENDATIONS

- ***Student-led Programs –*** Empower student clubs, classes, and organizations like Student Council in developing and hosting regular active transportation encouragement events. Students should lead encouragement efforts, as peer-to-peer messaging is more effective and engaging.
  - Encouragement events, such as Walk and Roll Wednesdays, VMT reduction competitions, and Cycle for Cider, can introduce students to the joys of walking and biking to school and help bring about long-term mode shift. Marin County Safe Routes to School successfully runs similar programs through their Safe Routes to School Teen Program and may be a helpful resource.
  - Education outreach initiatives can help increase awareness amongst students of the various benefits of active transportation. For example, an Environmental Club can emphasize how walking and biking reduces greenhouse gases, and a Leadership Club can highlight the positive physical and mental health effects of active transportation.

RECOMMENDATION #NAP-042: BIKE SAFETY AND MAINTENANCE EDUCATION

Narrative – Bicycle safety education is a crucial component of increasing biking mode share and safety at a school site, as it teaches students rules of the road and safe biking behaviors, reminding students that bicyclists have the same rights and responsibilities as motorists. This understanding not only improves bicyclist safety, but also increases confidence and comfort for students. Common unsafe behaviors that are done unknowingly due to lack of education, such as riding against traffic or failing to stop at stop signs on a bike, are hazardous to students, as this behavior is unpredictable to motorists and can increase risk of collisions. While many of these behaviors can be addressed by improved infrastructure, such as clearly marked bicycle facilities, implementing annual education on bicyclist safety within the school system raises awareness of rules of the road and encourages safe behavior.

IDENTIFIED BARRIERS

- ***No existing bike education –*** The lack of a bicycle safety education program can result in unintentional unsafe student bicyclist behavior and a sense of discomfort riding a bike.

RECOMMENDATIONS

- ***Annual bicycle education –*** Provide annual bike safety and maintenance education to all students to ensure that all students are familiar with rules of the road and taking care of their bikes.

Bicycle maintenance is an important part of bicycle safety education for middle and high school levels.

RECOMMENDATIONS #NAI-264, NAI-105, AND NAI-267: JEFFERSON STREET MULTIMODAL FACILITIES

IDENTIFIED BARRIERS

- ***Sidewalk gap –*** The sidewalk gap on northbound Jefferson between George Street and Central Avenue creates a barrier in the pedestrian network that forces pedestrians to walk in the road or unnecessarily cross the arterial corridor.

- ***Long signal time and crossing distance –*** The traffic signal at the Vine Trail crossing is currently coupled to the Jefferson and Pueblo signal, which creates an extremely long signal adaptation time for bicyclists and pedestrians. The long crossing distance requires pedestrians and bicyclists to be in the roadway for a longer time than necessary, increasing the risk of collisions.

- ***Poor motorist yielding behavior –*** Motorist yielding behavior is significantly decreased at uncontrolled crosswalks across Jefferson (from Lincoln to Cedar) due to long crossing distances, low-visibility pattern crosswalks, no traffic-control/calming, high speeds of traffic, and vehicles parked next to crosswalks reducing visibility.

The Vine Trail crossing at Jefferson Street.

RECOMMENDATIONS

- ***NAI-264 Fill sidewalk gap –*** Fill the sidewalk gap to provide a continuous pedestrian network and reduce unnecessary pedestrian road crossings.

- ***NAI-105 Vine Trail crossing***

  - ***Decouple traffic signal –*** Decouple the Vine Trail traffic signal from the Jefferson Street and Pueblo Avenue signal to prioritize Vine Trail users and reduce waiting times.

  - ***Shorten crossing distance –*** Shorten the crossing distance across Jefferson Street with the corridor study* and potential road diet on the Jefferson corridor.

- ***NAI-267 Traffic-calming and crosswalk improvements –*** Install curb extensions and high-visibility crosswalks at uncontrolled crosswalks across Jefferson Street between Lincoln and Cedar. Consider Rectangular Rapid Flashing Beacons at G Street. Implement additional traffic-calming along the corridor to slow motorist speeding.

RECOMMENDATION #NAI-269: PARK AVENUE BIKE BOULEVARD

IDENTIFIED BARRIERS

- ***No bicycle facilities –*** The lack of bicycle facilities on the corridor fails to provide a dedicated space for bicyclists and indicate to motorists where to expect bicyclists, making the corridor appear unwelcoming to bicyclists.

- ***Motorist speeding –*** Motorist speeding, which can be facilitated by wide, straight roads with little traffic-calming or traffic control, reduces motorists' range of vision and increases both risk of collisions and potential severity of collisions.

RECOMMENDATIONS

- ***Class III bike boulevard –*** Install Class III bike boulevard with sharrows, signage, and traffic-calming measures.

There are no bicycle facilities on Park Avenue.

RECOMMENDATION #NAI-271: JEFFERSON ST AND CENTRAL AVE INTERSECTION

IDENTIFIED BARRIERS

- ***Low pedestrian visibility –*** Visibility of pedestrians crossing Central Avenue is reduced by the lack of a crosswalk, parked cars on the north side of Central obstructing visibility, and the building on south corner blocking pedestrians from view of motorists turning off of Jefferson.

- ***No Jefferson crosswalk –*** There is no crosswalk across Jefferson Street at Central Avenue for students to use to access popular destinations near the school and as a more direct route to and from campus.

RECOMMENDATIONS

- ***High-visibility crosswalks –*** Paint high-visibility school-zone crosswalks across Central Avenue and Jefferson Street to increase pedestrian visibility and create a marked pedestrian crossing to popular student destinations on Jefferson.

The building on the south corner of the Jefferson/Central intersection is located much closer to the street than other buildings, reducing pedestrian visibility on Central Avenue.

- ***Jefferson visibility –*** Install Rectangular Rapid Flashing Beacons and curb extensions for the crosswalk across Jefferson to improve pedestrian visibility and motorist yielding behavior.

- ***Pedestrian crossing signage –*** Install pedestrian crossing signage for motorists turning right off of Jefferson Street onto Central Avenue to increase driver awareness of pedestrians they may not be able to see.

- ***Further study –*** Address visibility issues created from the building on the south corner.

RECOMMENDATIONS #NAI-273 AND NAI-275: KENNEDY WAY BIKE/PED ACCESS

IDENTIFIED BARRIERS

- ***No bicycle facilities –*** The lack of bicycle facilities on the corridor, which is a lower stress alternative to Jefferson Street, fails to provide a dedicated space for bicyclists and indicate to motorists where to expect bicyclists, making the corridor appear unwelcoming to bicyclists.

- ***Student drop-off –*** Motorists misuse Kennedy Way for student drop-off despite this being prohibited by the school, increasing risk of road user conflicts.

RECOMMENDATIONS

- ***NAI-273 Class III bike boulevard –*** Install Class III bike boulevard with sharrows and signage (speed cushions and limited vehicle access already exist to accomplish traffic-calming).

- ***NAI-275 Signage –*** Install "No drop-off" signage around the entrance to Kennedy Way off of Lincoln Avenue to deter motorists from entering.

There are no bicycle facilities on Kennedy Way.

RECOMMENDATION #NAI-278: PARK AVE AND SANTA CLARA ST CURB EXTENSIONS

IDENTIFIED BARRIERS

- ***Low-visibility crosswalk –*** The existing crosswalk across Pueblo Avenue is painted with a standard, parallel line pattern, despite being located in a highly-travelled school zone.
- ***Vehicles obstructing visibility –*** Minimal "no parking" red zones around the north side of the Park Ave crosswalk allows motorists to park close to the crosswalk and obstruct pedestrian visibility.
- ***Motorist speeding –*** Motorist speeding, which can be facilitated by wide, straight roads with little traffic-calming or traffic control, reduces motorists' range of vision and increases both risk of collisions and potential severity of collisions.

The Park and Santa Clara intersection is highly travelled by students heading north.

RECOMMENDATIONS

- ***Curb extensions –*** Install curb extensions on both sides of the Park Avenue crosswalk to slow motorists through the intersection and improve pedestrian visibility.
- ***High-visibility crosswalk –*** Upgrade the existing crosswalk to be a high-visibility school-zone pattern to increase pedestrian visibility and motorist yielding behavior.

RECOMMENDATION #NAI-279: JEFFERSON ST AND PARK AVE INTERSECTION

IDENTIFIED BARRIERS

- ***Low-visibility crosswalks in school zone –*** The crosswalks are faded and painted with a standard, parallel line pattern, despite being located in a highly-travelled school zone.
- ***Long crossing distance –*** Long crossing distance across Jefferson requires pedestrians to be in the roadway for a longer time than necessary, increasing the risk of collisions, and pushes pedestrians further out of the range of vision of motorists.
- ***Wide curb radii –*** Wide curb radii on the west side of the intersection facilitate fast motorist turning movements.

Jefferson Street and Park Avenue intersection.

- ***Missing stop lines –*** Missing stop lines for northbound Jefferson Street allow motorists to stop close to the crosswalk, which exacerbates visibility issues created by the diagonal positioning of the crosswalk.

RECOMMENDATIONS

- ***High-visibility crosswalks –*** Upgrade crosswalks to be high-visibility school-zone patterns to increase pedestrian visibility and motorist yielding behavior.
- ***Curb extensions –*** Install curb extensions on all crosswalk curbs, with significant extensions on the Jefferson sides of the south crosswalk, to reduce crossing distance, reduce curb radii, and improve pedestrian visibility.
- ***Stop lines –*** Paint stop lines on northbound Jefferson to stop vehicles further from the crosswalk and improve pedestrian visibility.
- ***Further study –*** Consider redesign of intersection with Jefferson Street corridor study*/road diet recommendation.

RECOMMENDATION #NAI-281: CENTRAL AVE AND MAIN ST VINE TRAIL INTERSECTION

IDENTIFIED BARRIERS

- ***Poor pavement condition –*** Pavement in this intersection, particularly around the railroad tracks, is in poor condition.
- ***Low-visibility/missing striping –*** The crosswalk on the north side of the intersection is a low-visibility pattern and there is no crosswalk on the east side of the intersection, which are the two crosswalks that would be used for the Vine Trail crossing.
- ***Low pedestrian visibility –*** The geometry of the intersection due the railroad crossing, the missing/low-visibility crosswalks, and parked vehicles close to the intersection reduce pedestrian and bicyclist visibility in this intersection.

The Central Ave/Main Street intersection also acts as a Vine Trail road crossing point.

RECOMMENDATIONS

- ***High-visibility crosswalks –*** Paint high-visibility crosswalks across north and east legs of the intersection to improve visibility of Vine Trail users.
- ***Curb extension –*** Install curb extensions for both crosswalks to improve pedestrian/bicyclist visibility, prevent vehicles from parking close to crosswalks, and improve motorist yielding behavior.
- ***Increase pedestrian/bike signage –*** Increase signage indicating pedestrian and bicyclist crossing ahead, particularly on Central Avenue, to improve motorist awareness of active transportation users.

RECOMMENDATION #NAI-287: CENTRAL AVE BIKE BOULEVARD

IDENTIFIED BARRIERS

- ***No bicycle facilities –*** The lack of bicycle facilities on the corridor fails to provide a dedicated space for bicyclists and indicate to motorists where to expect bicyclists, making the corridor appear unwelcoming to bicyclists.
- ***Motorist speeding –*** Motorist speeding, which can be facilitated by wide, straight roads with little traffic-calming or traffic control, reduces motorists' range of vision and increases both risk of collisions and potential severity of collisions.

There are no bicycle facilities on Central Avenue.

RECOMMENDATIONS

- ***Class III bike boulevard –*** Install Class III bike boulevard with sharrows, signage, and traffic-calming measures.

RECOMMENDATION #NAI-104: PUEBLO AVE AND JEFFERSON ST INTERSECTION

IDENTIFIED BARRIERS

- ***High volume intersection –*** This intersection of an arterial and a collector is a key intersection in the school area, as it is highly travelled by all modes of transportation, both school-related and non-school related, and can feel chaotic and challenging during school arrival and dismissal times.
- ***Low-visibility crosswalks –*** Faded, low-visibility pattern crosswalks do not provide pedestrian visibility and motorist yielding behavior benefits that high-visibility patterns provide.
- ***Long crossing distance –*** Long crossing distances in the intersection require pedestrians to be in the roadway for a longer time than necessary, increasing the risk of collisions, and push pedestrians further out of the range of vision of motorists.

The crosswalks at the Pueblo Ave and Jefferson St intersection are extremely faded.

RECOMMENDATIONS

- ***High-visibility crosswalks –*** Upgrade the existing crosswalks to be a high-visibility pattern to increase pedestrian visibility and motorist yielding behavior.
- ***Leading Pedestrian Intervals –*** Install Leading Pedestrian Intervals for all crosswalks to provide pedestrians with a protected head-start through the intersection, improving driver awareness of pedestrians and reducing risk of turning conflicts.
- ***Curb extensions –*** Based on results of corridor study and potential for a road diet on Jefferson Street, consider installation of curb extensions at all four corners of intersection to reduce pedestrian crossing distance and improve motorist yielding behavior.

RECOMMENDATION #NAI-303: SR 29 INFORMAL BIKE/PED UNDERCROSSING

IDENTIFIED BARRIERS

- ***Informal bike path –*** An informal dirt path from Crosswalk Community Church to D St Alley that is frequently used by bicyclists as an undercrossing to SR 29 has a rough surface that poses a fall risk, is not weather-resistant, and is not comfortable or safe-feeling to use for many users, especially due to the lack of lighting.

The informal SR 29 undercrossing. Photo credit: Raphael Kluzniok (Napa Valley Register).

RECOMMENDATIONS

- ***Formalize undercrossing –*** Formalize the SR 29 undercrossing with a Class I shared-use path and lighting.

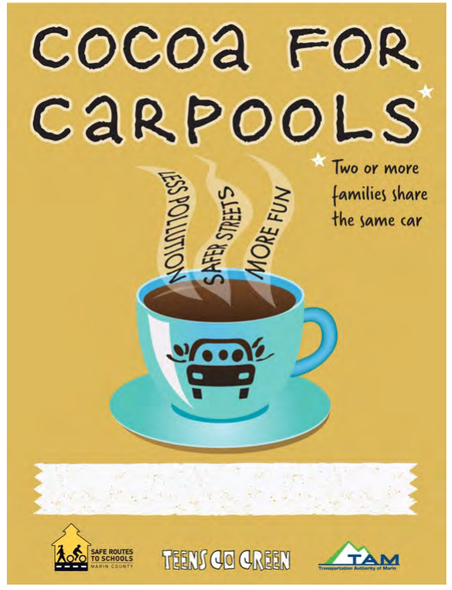
RECOMMENDATION #NAP-040: CARPOOL PROGRAM

IDENTIFIED BARRIERS

- ***Congestion in school zone –*** Congestion in the school zone during school arrival and dismissal times can increase conflict risk and make the school zone feel unpredictable and unsafe to bicyclists and pedestrians, especially in conjunction with infrastructure barriers.

RECOMMENDATIONS

- ***Carpool program –*** Develop a carpool system to reduce the number of cars in the school zone. The carpool system should include incentives for carpooling, such as reserved parking spaces in school parking lots or incentives otherwise identified by the school.



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 #NAP-041: ANNUAL COUNTYWIDE ENCOURAGEMENT EVENTS

IDENTIFIED BARRIERS

- ***Low participation in encouragement events –*** Infrequent participation or low student engagement in annual countywide encouragement events reduces the impact of these events on potential mode shift to active transportation.

RECOMMENDATIONS

- ***Annual countywide events –*** Participate regularly in annual countywide encouragement events, Bike to School Day and Walk and Roll to School Day, with the goal of increasing participation. These annual events provide students who may be considering walking or biking with an opportunity to try it out in a positive schoolwide setting.

Leadership students at American Canyon High School host a welcome table during Walk and Roll to School Day 2021.

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 #NAI-103: PUEBLO AVE VINE TRAIL ACCESS

IDENTIFIED BARRIERS

- ***Faded low-visibility crosswalk***
- ***Uncontrolled crosswalk***
- ***Long crossing distance***

RECOMMENDATIONS

- ***High-visibility school-zone crosswalk***
- ***Curb extensions***
- ***Rectangular Rapid Flashing Beacons***
- ***Vine Trail alignment***

Relevant Reports:

- *Valley Oak High School Walk Audit Report*

RECOMMENDATION #NAI-098: LINCOLN AVE AND CALIFORNIA BLVD INTERSECTION

IDENTIFIED BARRIERS

- ***Busy intersection***
- ***Long crossing distances***
- ***Right-hook conflicts***

RECOMMENDATIONS

- ***Leading Pedestrian Intervals***
- ***Limit lines***
- ***Bicycle facilities***
- ***High-visibility crosswalks***
- ***Additional study***

Relevant Reports:

- *Valley Oak High School Walk Audit Report*

RECOMMENDATIONS #NAI-207, NAI-088, NAI-089: PUEBLO AVENUE

IDENTIFIED BARRIERS

- ***High speed/volume traffic***
- ***Motorist speeding***
- ***Vehicles obstructing visibility***
- ***No bicycle facilities***
- ***Narrow sidewalks/sidewalk gap***

RECOMMENDATIONS

- ***Traffic-calming and daylighting***
- ***Class II bike lanes***
- ***Widen sidewalks***
- ***Fill sidewalk gap***

Relevant Reports:

- *Valley Oak High School*

RECOMMENDATIONS #NAI-292 – NAI-295: LINCOLN AVE AND YAJOME ST INTERSECTION

IDENTIFIED BARRIERS

- ***Long crossing distances***
- ***Wide curb radii***
- ***High traffic speeds/volumes***
- ***Fast motorist turning movements***
- ***Bike facilities disappear***
- ***Missing crosswalk***
- ***Parked vehicles obstruct visibility***

RECOMMENDATIONS

- ***Curb extensions***
- ***Crosswalk across Yajome***
- ***Continue bicycle facility with conflict markings***
- ***High-visibility crosswalk and Rectangular Rapid Flashign Beacons across Lincoln Avenue***
- ***Sharks' teeth***

Relevant Reports:

- *New Tech High School Walk Audit Report*
- *McPherson Elementary School Walk Audit Report*

RECOMMENDATION #NAI-299: YAJOME STREET VINE TRAIL CROSSING

IDENTIFIED BARRIERS

- ***No crosswalk***

RECOMMENDATIONS

- ***High-visibility crosswalk***
- ***Curb extensions***

Relevant Reports:

- *New Tech High School*
- *McPherson Elementary School Walk Audit Report*

RECOMMENDATIONS #NAI-091 AND NAI-092: CALIFORNIA BOULEVARD BIKE FACILITIES

IDENTIFIED BARRIERS

- ***High-stress bike facilities***
- ***Bike lane narrows***
- ***Divot***

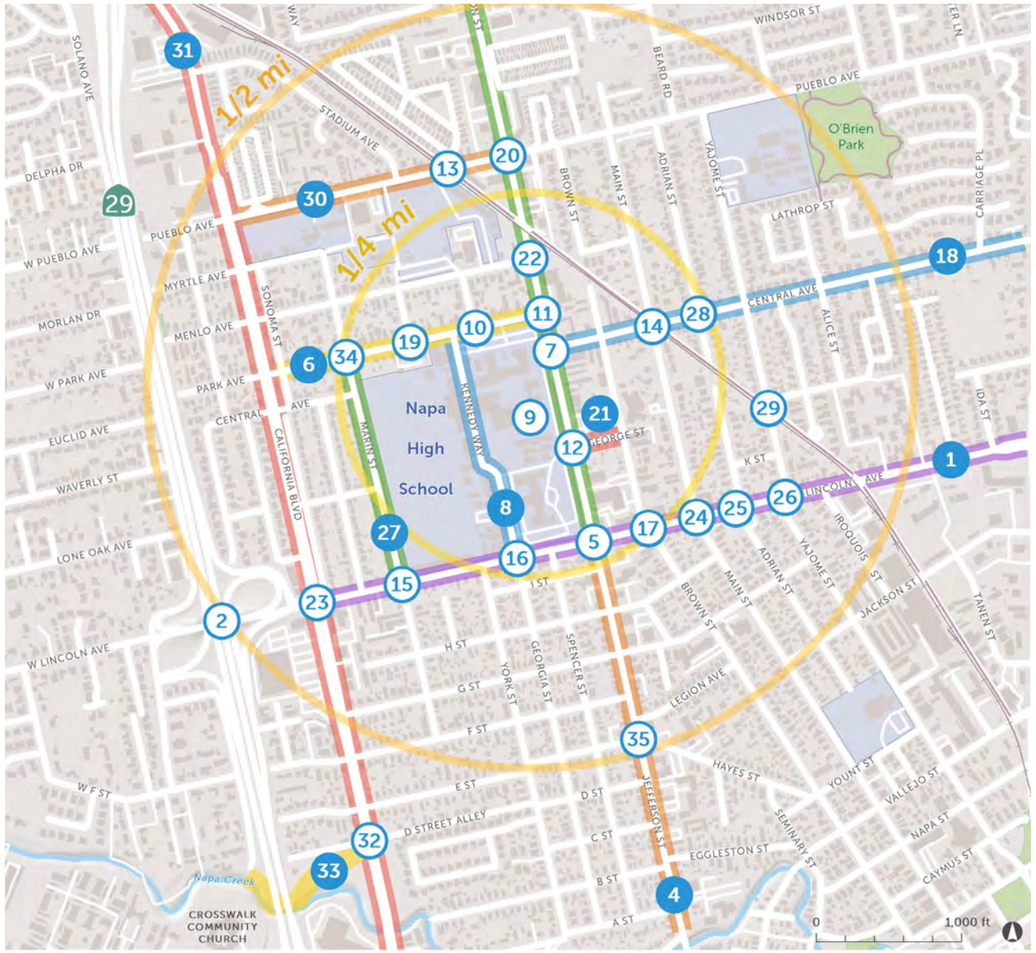
RECOMMENDATIONS

- ***Class IV protected bike lanes***
- ***Widen northbound bike lane***
- ***Repair southbound bike lane divot***

Relevant Reports:

- *Valley Oak High School*

MAP OF RECOMMENDATIONS



Map 5: Recommendations

TABLE OF RECOMMENDATIONS

Infrastructure:

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
1	Lincoln Avenue from California Boulevard to Soscol Avenue	NAI-259	High-stress bicycle facilities – poor road quality, dips/fall hazards from storm drains, narrow and unprotected next to high speed and high-volume traffic.	Implement a road diet along Lincoln Avenue to create a street with one travel lane in each direction and a middle turn lane. Use reclaimed space for multimodal improvements (widen sidewalks, install low-stress bike facilities). Due to high multimodal use, may require a Corridor Plan similar to Imola Ave.	$$	**High**
		NAI-260		Install a Class IV bike lane – can be parking protected to preserve some parking in some locations but should remove parking around intersections and driveways. Install conflict markings at (major) intersections and driveways. Buffered Class II bike lanes can also be used in areas where Class IV is not feasible.	$$	**High**
2	Lincoln Ave and SR 29 on-/off-ramps intersection	NAI-261	Low-visibility crosswalks, high volumes and speeds of vehicle traffic that may not be anticipating pedestrians.	Upgrade crosswalks to high-visibility pattern; install pedestrian crossing signage.	$	**Low**
3	Jefferson Street from Trancas Street to Lincoln Avenue*	NAI-262	Significant high-volume central north/south arterial – wide, straight, auto-oriented corridor designed to prioritize vehicle speed and convenience over safety/access of other modes. Road design facilitates frequent motorist speeding. Infrequent and high-stress/ conflict-risk crosswalks across the corridor, minimal shade, no bike facilities.	Long term: Road diet and redesign of corridor to improve and prioritize safe, accessible, and comfortable multi-modal transportation through a Complete Streets framework. Integrate specific recommendations from SRTS reports into road redesign.	$$$-$$$$	**High**
		NAI-263	No bicycle facilities.*	Class IV protected bike lanes preferred for this corridor with reclaimed space from road diet	$$-$$$	**High**
		NAI-264	Sidewalk gap on northbound (east) side between George Street and Central Avenue.	Fill sidewalk gap.*	$-$$	**Medium**
		NAI-105	Long signal adaptation time at Vine Trail crossing, long crossing distance.	Decouple traffic signal from Jefferson Street and Pueblo Avenue signal to prioritize Vine Trail crossing; shorten crossing distance with corridor study* and potential road diet on Jefferson corridor.	$-$$	**Medium**

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
4	Jefferson Street from Lincoln Avenue to Cedar Ave*	NAI-265	Significant central north/south collector/arterial – wide, straight, auto-oriented corridor designed to prioritize vehicle speed and convenience over safety/access of other modes. Road design facilitates frequent motorist speeding. Infrequent and inadequate crosswalks across the corridor, minimal shade, high-stress, no bike facilities.	Long term: Road diet and redesign of corridor to improve and prioritize safe, accessible, and comfortable multi-modal transportation through a Complete Streets framework. Integrate specific recommendations from SRTS reports into road redesign.	$$$-$$$$	**High**
		NAI-266	No bicycle facilities.*	Find a short-term solution pending the road diet/redesign that creates continuous bicycle facilities in both directions for this corridor – minimum separation level is Class II bike lanes. May require reallocating space from motor vehicles.	$-$$$	**High**
		NAI-267	Uncontrolled crosswalks across Jefferson are extremely difficult to cross – low driver yielding behavior, low-visibility pattern crosswalks, no traffic-control/calming, high volumes and speeds of traffic, parked vehicles close to crosswalks, long crossing distance, low field of vision for motorists.	Install curb extensions (may require removing parking) and high-visibility crosswalks at uncontrolled crosswalks across Jefferson Street.	$$	**Medium**
5	Lincoln Avenue and Jefferson Street intersection	NAI-268	Large, busy intersection: long crossing distances across several lanes of traffic, high volumes of vehicles, faded low-visibility pattern crosswalks in a school zone and at an intersection of two arterials/collectors.	Install Leading Pedestrian Intervals for all crosswalks. Repaint crosswalks with a high-visibility pattern. Install stop lines for all vehicle travel lanes. Paint green conflict markings on Lincoln Ave bike lanes approaching the intersection. Curb extension on northeast corner to tighten curb radius and slow right turns and square up intersection. Redesign intersection with recommended road diets and Jefferson Street corridor study* to prioritize bicyclist and pedestrian separation and safety and slow motorist speeds. Consider protected intersection during redesign.	$$	**High**

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
6	Park Avenue from California Boulevard to Jefferson Street	NAI-269	No bicycle facilities, motorists speeding.	Install Class III bike boulevard with sharrows, signage, and traffic-calming.*	$$	**Medium**
		NAI-270	Gap in eastbound sidewalk between El Dorado Street and Marin Street.	Fill sidewalk gap.*	$	**Low**
7	Jefferson Street and Central Avenue intersection	NAI-271	Low pedestrian visibility crossing Central – no crosswalk, building on south corner obstructs visibility for motorists turning on/off Jefferson. Parked cars on north side of Central can obstruct pedestrians. No crosswalk across Jefferson to popular destinations near the school.	Paint high-visibility crosswalks across Central Ave and Jefferson St, install Rectangular Rapid Flashing Beacons and curb extensions for crosswalk across Jefferson. Install pedestrian crossing signage for motorists turning off of Jefferson. Address visibility issues created from building on south corner.	$$	**Medium**
8	Kennedy Way from Lincoln Avenue to Park Avenue	NAI-272	Narrow sidewalks/sidewalk gaps.	Fill sidewalk gaps* and widen sidewalks.	$$	**Low**
		NAI-273	No bicycle facilities on north/south alternative to Jefferson St.	Install Class III bike boulevard stencils and signage (speed cushions and limited vehicle access already exist to accomplish traffic-calming).	$	**Medium**
		NAI-274	Low lighting (especially north of the bend).	Install pedestrian-scale lighting.	$$	**Low**
		NAI-275	Motorists misuse for student drop-off (prohibited).	Install "No drop-off" signage around entrance to Kennedy Way off of Lincoln Avenue.	$	**Medium**
9	Napa High School Campus	NAI-276	No bike parking on the west side of campus along Kennedy Way.	Install several bike racks near entry points on west side of campus to accommodate bicyclists entering from Kennedy Way.	$	**High**
		NAI-277	No lighting for informal bike parking on the west side of campus.	Install light structures on west side of campus near entry points.	$	**Low**
10	Park Avenue and Santa Clara Street intersection	NAI-278	Low pedestrian visibility due to low-visibility crosswalk pattern in school zone, cars parking close to crosswalk on north side of Park; speeding on Park.	Install curb extensions on both sides of Park Avenue crosswalk, upgrade crosswalk to high visibility school-zone pattern.	$-$$	**Medium**
11	Jefferson Street and Park Avenue intersection	NAI-279	Faded low-visibility crosswalk patterns, long crossing distance across Jefferson, speeding, wide curb radii on west side facilitates fast right turn motions, no stop lines for northbound Jefferson.	Upgrade crosswalks to high-visibility pattern, install curb extensions on all crosswalk curbs, with significant extensions on Jefferson sides of south crosswalk. Install stop lines on northbound Jefferson to improve pedestrian visibility.	$$	**Medium**

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
12	Jefferson Street and George Street intersection	NAI-280	Faded low-visibility crosswalk pattern, long crossing distance across Jefferson, high traffic volumes and speeds along Jefferson.	Upgrade crosswalks to high-visibility crosswalks, install curb extensions on Jefferson adjacent to crosswalks, install Leading Pedestrian Interval for Jefferson crosswalk.	$$	Low
13	Pueblo Avenue and Vine Trail entrance intersection	NAI-103	Faded low-visibility pattern crosswalk in school zone, high-speed/high-volume Pueblo traffic is uncontrolled reducing motorist yielding behavior at high pedestrian/ bicyclist volume crosswalk, diagonal crosswalk increases crossing distance.	Realign north side of Vine Trail to curve so crosswalk is perpendicular across Pueblo. Paint high-visibility crosswalk pattern. Install curb extensions and Rectangular Rapid Flashing Beacons.	$$-$$$	High
14	Central Avenue and Main Street intersection	NAI-281	Poor sight lines and pavement condition, lack of striping for Vine Trail crossing. Poor pavement condition, low-visibility crosswalk on north side and missing crosswalk on east side for Vine Trail users, low pedestrian visibility due to the railroad crossing/the geometry of the intersection and parked vehicles close to the intersection.	Paint high-visibility crosswalks across north and east leg for Vine Trail path and install curb extensions for both crosswalks, increase pedestrian/bike crossing signage.	$$	Medium
		NAI-244		Repave road through and around intersection and replace/implement existing and recommended striping.	$$	Low
15	Lincoln Avenue and Marin Street intersection	NAI-283	Missing crosswalk across Marin Street on north side, low visibility crosswalk patterns, long crossing distance across Lincoln Ave, high volumes and speeds of traffic on Lincoln Ave.	Paint high-visibility school zone crosswalk across Marin Street, install curb extension on southeast corner, paint sharks' teeth on Lincoln Ave to improve pedestrian visibility and motorist yielding behavior. Paint red curbs on Marin St adjacent to crosswalk.	$-$$	Low
16	Lincoln Avenue and Kennedy Way/Georgia Street intersection	NAI-284	Wide curb radius on southwest side, cars park close to crosswalk on Georgia Street, low-visibility crosswalk pattern across Georgia Street.	Install small curb extension on southwest side to reduce curb radius, paint red curbs on Georgia Street, paint high-visibility crosswalk pattern across Georgia Street, extend painted median with paint/bollards on Lincoln Ave through crosswalk to create pedestrian refuge island.	$-$$	High

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
17	Lincoln Avenue and Brown Street intersection	NAI-285	Difficult intersection, motorists fail to yield to pedestrians, long crossing distance, faded crosswalks, extremely faded low-visibility crosswalks, high volumes and speeds of Lincoln Ave traffic.	Install Rectangular Rapid Flashing Beacons across Lincoln Ave, repaint crosswalks, upgrade crosswalks across Lincoln Ave to be high-visibility pattern, install small curb extension on northwest corner, paint red curbs on Brown Street adjacent to crosswalks.	$$	Low
18	Central Avenue from Jefferson Street to Soscol Avenue	NAI-286	No eastbound sidewalk from Jefferson Street to Main Street.	Install eastbound sidewalk where missing.*	$$	Low
		NAI-287	No bicycle facilities, speeding.	Install Rectangular Rapid Flashing Beacons across Lincoln Ave, repaint crosswalks, upgrade crosswalks across Lincoln Ave to be high-visibility pattern, install small curb extension on northwest corner, paint red curbs on Brown Street adjacent to crosswalks.	$$	Medium
19	Park Avenue and El Dorado Street intersection	NAI-288	Low-visibility crosswalk pattern across Park Ave, cars park close to crosswalk across Park Ave.	Upgrade school zone crosswalk across Park Ave to high-visibility crosswalk pattern, paint/extend red curbs on Park Ave.	$	Low
20	Pueblo Avenue and Jefferson Street intersection	NAI-104	High volume intersection of collector and arterial roads, faded low-visibility pattern crosswalks, long crossing distances. See collision history.	Repaint crosswalks with high-visibility pattern; install Leading Pedestrian Intervals for all crosswalks to reduce turning conflicts. Based on results of corridor study* and potential for road diet (Jefferson), consider installation of curb extensions at all four corners of intersection.	$-$$	Medium
21	George Street from Jefferson Street to Brown Street	NAI-289	No continuous sidewalks.	Install continuous sidewalk on at least one side of the street.*	$	Low
22	Jefferson Street and Menlo Avenue intersection	NAI-106	No crosswalk across Menlo Avenue.	Paint crosswalk across Menlo Avenue.	$	Low

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
23	Lincoln Avenue and California Boulevard intersection	NAI-098	High traffic volume/speed intersection right next to highway entrance; long crossing distances require crossing several lanes of traffic. High risk of right-hook conflicts between motorists and bicyclists, especially on southbound California Blvd.	Leading Pedestrian Interval, install advanced limit lines on east and west legs of intersection to improve pedestrian visibility; continue bike facilities to the intersection instead of ending them in advance and install green conflict markings in bike facilities approaching intersection on all sides. Update crosswalks to high-visibility pattern. Evaluate near-term improvements to the intersection that will prioritize bicyclist and pedestrian safety over vehicle convenience/ speed pending Lincoln Ave road diet recommendation.	$	Medium
24	Lincoln Avenue and Main Street intersection	NAI-290	Faded crosswalks, wide corner radii, large intersection with high speeds/volumes of vehicle traffic on Lincoln Ave.	Repaint crosswalks with high-visibility pattern, install curb extension on southeast side.	$-$$	Low
25	Lincoln Avenue and Adrian Street intersection	NAI-291	Misaligned intersection, no crosswalks, cars park close to intersection on Adrian St and block pedestrian visibility, high volumes and speeds of vehicle traffic on Lincoln Ave.	Paint crosswalks across Adrian Street, install curb extensions on north corners and paint red curbs on Adrian St on south curbs.	$$	Low
26	Lincoln Avenue and Yajome Street intersection	NAI-292	Yajome St (south side) – widens at intersection, increasing ped crossing distance and facilitating fast right turns onto Lincoln Ave. No stop control for high speed/ volume Lincoln Ave traffic may cause drivers on Yajome to make fast turns/crossings without looking for bicyclists/peds. Bike facilities disappear through intersection.	Install significant curb extension on southwest corner and curb extension on southeast corner (Yajome sides only) to square up intersection, reduce crossing distance, and calm traffic.	$$	Medium
		NAI-293	Yajome St (north side) – no crosswalk across Yajome St, wide curb radii on both north corners, bike facilities disappear through intersection, cars park close to intersection and obstruct visibility.	Paint crosswalk across Yajome. Install curb extensions on both north corners, removing one parking space on both Lincoln and Yajome per curb extension (improve pedestrian visibility and motorist visibility so motorists don't block crosswalk).	$$	Medium
		NAI-294	Bicyclist/motorist conflict area leading up to intersection with motorist right turns onto Yajome.	Paint green conflict markings in existing Lincoln Avenue bicycle facilities leading up to intersection on both sides.	$	High
		NAI-295	No crosswalk across Lincoln Avenue to connect Yajome Street.	Install high-visibility crosswalk across Lincoln Avenue with Rectangular Rapid Flashing Beacons at northeast corner of Lincoln/Yajome. Install sharks' teeth on Lincoln Ave travel lanes.	$$	High
		NAI-296	Southbound Yajome sidewalk north of Lincoln Ave does not reach intersection.	Fill sidewalk gap.*	$	Low

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
27	Marin Street from Lincoln Avenue to Park Avenue	NAI-101	Sidewalk gaps. (Southbound: Lincoln Avenue to 2601 Marin Street Northbound: Baseball field north side of parking lot to Park Avenue).	Fill sidewalk gaps.*	$$	Medium
28	Central Avenue and Adrian Street intersection	NAI-297	No crosswalks.	Install crosswalks on all legs of intersection.	$	Low
29	Yajome Street Vine Trail crossing (intersection)	NAI-299	No crosswalk across Yajome at Vine Trail crossing.	Install curb extensions at Vine Trail curbs and paint high-visibility crosswalk across Yajome to mark Vine Trail crossing path.	$$	High
30	Pueblo Avenue from California Boulevard to Jefferson Street	NAI-207	High speeds and volumes of traffic, speeding, vehicles park close to intersections and obstruct visibility of pedestrians and oncoming traffic. See collision history.	Implement traffic-calming measures and daylighting strategies along corridor.	$$	High
		NAI-088	Narrow sidewalks from California Boulevard to Jefferson Street and sidewalk gap on north side (California Boulevard to 1667 Pueblo Avenue).	Widen eastbound sidewalk to 6' and fill sidewalk gap* on westbound side (California Blvd to 1667 Pueblo Ave).	$$	Medium
		NAI-089	No bike facilities.	Install Class II bike facilities from California Boulevard to Jefferson Street – reflects school boundaries, consider for whole corridor (California Boulevard to Soscol Avenue).*	$	High

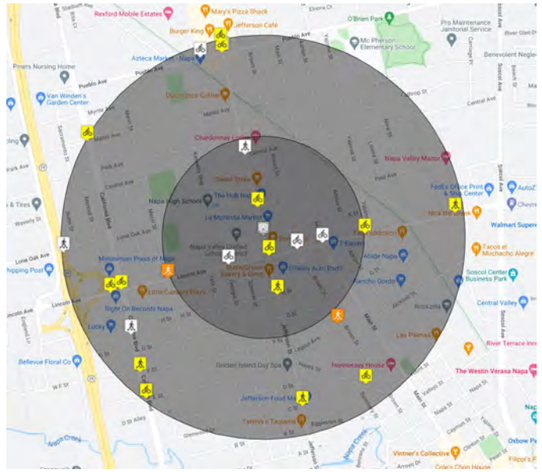
	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
31	California Boulevard from Trancas Street to Clay Street	NAI-091	High-stress bicycle facilities – unprotected facilities adjacent to high volumes of traffic on roadway that facilitates speeding.	From Lincoln Avenue to Trancas Street: Upgrade existing Class II bike lanes to Class IV protected bike lanes, with parking-protected lanes between Pueblo Avenue and Industrial Way.	$$	**High**
		NAI-300		Install Class IV protected bike lanes from Lincoln Avenue to Clay Street with green conflict markings at major driveways and side streets. Will require redesign of transit stop on southbound California Blvd in front of Lucky Supermarket.	$$-$$$	**Low**
		NAI-092	Northbound bike lane narrows and dips near Lincoln Ave; long divot in southbound bike lane approaching Lincoln Ave poses tire-catching hazard next to high speeds and volumes of traffic.	Widen the northbound bike lane where widths are substandard and repave or otherwise address the dip in the pavement. Repair southbound bike lane approaching Lincoln Avenue where divot in roadway poses tire-catching hazard.	$	**Medium**
		NAI-093	Narrow sidewalks between Pueblo Avenue and Lincoln Avenue.	Widen sidewalks on both sides between Pueblo Avenue and Lincoln Avenue.	$$	**Low**
		NAI-301	Sidewalk gap in southbound sidewalk between D St Alley and Napa Creek bridge.	Fill sidewalk gap.*	$$	**Low**
32	California Boulevard and D Street Alley intersection	NAI-302	No way to comfortably cross California at D St Alley from informal bike path, may result in bicyclists on sidewalk or going against traffic.	Create high-visibility crosswalk with Rectangular Rapid Flashing Beacons across California Blvd on south side of D St Alley.	$$	**Low**
33	SR 29 Informal Bike/Ped Undercrossing Path	NAI-303	Informal dirt path from Crosswalk Community Church to D St Alley not weather-resistant or comfortable/safe-feeling to use (goes under highway with no lighting).	Formalize path and undercrossing with lighting.*	$$$-$$$$	**Medium**
34	Marin Street and Park Avenue intersection	NAI-100	Faded crosswalks across Park Avenue and Marin Street on north side, missing crosswalk across Marin Street on south side; no ADA-compliant curb ramps.	Repaint faded crosswalks, paint missing crosswalk across Marin Street; install ADA-compliant curb ramps.	$	**Low**
35	Jefferson Street and E Street/Hayes Street intersection	NAI-304	Free right turn off of northbound Jefferson St facilitates fast motorist turning movement, reduces motorist yielding behavior. Long crossing distance across Jefferson. Low-visibility school zone crosswalk patterns. Wide curb radii facilitate fast motorist turning movement, especially off of Jefferson St.	Close free right turn off of northbound Jefferson Street – can use bollards for quick response. Upgrade crosswalks to high-visibility pattern. Curb extensions on west corners. Install Leading Pedestrian Interval for Jefferson crosswalks.	$$	**Low**

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

Programmatic Improvements:

	ISSUE	ID #	RECOMMENDATION	LOCATION	FREQUENCY	COST	PRIORITY
1	Vehicle-oriented transportation culture, congestion in school zone	NAP-039	Peer/Student-led encouragement programs and education campaigns highlighting health, environmental, social, and academic benefits of walking/biking to school.	School site	Annually	$	**High**
		NAP-040	Carpool program with parking spot incentives.	School site	Throughout school year	$	**Medium**
2	Low participation in existing encouragement programs	NAP-041	Continue participating regularly in annual countywide encouragement events with goal of growing student participation.	School site	Annually	$	**Medium**
3	No existing bike education program	NAP-042	On-campus bike maintenance and safety workshop for students.	School site	Annually	$	**High**
4	Debris / gravel / obstructions in existing Lincoln Ave bike lanes	NAP-043	Improve existing maintenance – ensure that bike lanes are swept with regular street sweeping and increase frequency of maintenance if maintenance issues continue.	Lincoln Avenue from California Boulevard to Soscol Avenue	Regular street-sweeping schedule, increase if needed	$	**High**

COLLISION MAP AND DATA



Map 6: Collision Map (2016-2020) (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	5	6	3	8	11
.25-.5 mi.	0	2	11	8	9	12	21
Total	0	2	16	14	12	20	32

Collision List

DATE	TIME	PRIMARY	SECONDARY	BIKE/PED
2016-02-07	12:58	Legion Av	Legion Av	No/Yes
2016-04-24	16:02	Jefferson St	Pueblo Av	No/Yes
2016-07-05	00:34	Hayes St	Hayes St	Yes/No
2016-08-30	16:15	California Bl	Menlo Av	Yes/No
2016-08-31	08:54	Lincoln Av	RT 29	No/Yes
2016-09-23	07:11	California Bl	E St	Yes/No
2016-11-04	17:29	Lincoln Av	Marin St	No/Yes
2017-03-28	00:54	Jefferson St	Lincoln Av	Yes/No
2017-06-12	17:30	California Bl	F St	No/Yes
2017-08-31	18:44	Pueblo Av	Jefferson St	Yes/No
2018-01-08	07:31	Jefferson St	Lincoln Av	Yes/No
2018-01-05	15:08	Pueblo Av	Jefferson St	Yes/No
2018-04-19	07:56	California Bl	E St	Yes/No
2018-07-30	21:56	Brown St	Lincoln Av	No/Yes
2018-08-20	15:24	Jefferson St	Pueblo Av	Yes/No
2018-11-02	18:41	Lincoln Av	Lincoln Av	No/Yes
2018-03-15	16:40	California Bl	E St	Yes/No
2016-04-01	16:00	Jefferson St	Lincoln Av	Yes/No
2016-05-12	12:35	Lincoln Av	California Bl	Yes/No
2016-07-24	21:49	Lincoln Av	Yajome St	Yes/No
2016-09-27	17:26	California Bl	Lucky Center	No/Yes
2016-11-07	16:16	Jefferson St	Pueblo Av	Yes/No
2017-02-24	18:16	C St	Jefferson St	No/Yes
2017-07-01	09:02	Jefferson St	C St	No/Yes
2017-08-22	08:02	Brown St	Lincoln Av	Yes/No
2018-06-19	10:06	Kennedy Wy	Lincoln Av	Yes/No
2018-08-01	15:19	Jefferson St	George St	Yes/No
2018-08-19	12:57	California Bl	Lincoln Av	Yes/No
2018-08-11	13:00	Lincon Av	Main St	Yes/No
2018-08-28	20:03	Jefferson St	H St	Yes/No
2018-09-19	07:44	Central Av	Jefferson St	No/Yes
2018-11-05	11:05	H St	Jefferson St	No/Yes

Figure 7: Collision Data (2016-2020) (Source: UC Berkeley Transportation Injury Mapping System: SRTS Collision Map Viewer)

APPENDICES

FIGURES & MAPS

FOOTNOTES

[a] 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.

[b] 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.

[c] 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.

[d] 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.

[e] 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.

[f] 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

[g] 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....

[h] 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.

[i] 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....

[j] 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

- **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-8th 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-8th 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 → **TERMINATE**	-
(No response) → **TERMINATE**	-

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

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

(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 **to** 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 **from** 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.
(RANDOMIZE)							
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
(RANDOMIZE)							
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)
(RANDOMIZE)					
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[1] indicates that high-visibility crosswalk striping improves the visibility of crosswalks compared to standard parallel lines and can improve yielding behavior by drivers[2]. Additionally, crosswalk visibility enhancements, which include but are not limited to high-visibility crosswalks, can reduce crashes by 23-48%[1].

- 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.

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[1] https://safety.fhwa.dot.gov/ped_bike/step/docs/TechSheet_VizEnhancemt_508compliant.pdf

2 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**.

CALIFORNIA BICYCLE COALITION

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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Cover image: *Sign D4-3 from Standard Highway Signs, 2004 Edition, http://mutcd.fhwa.dot.gov/ser-shs_millennium_eng.htm*

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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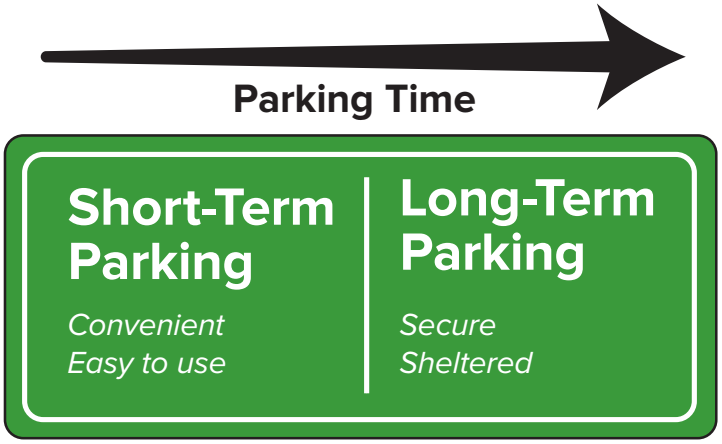
TABLE OF CONTENTS

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.

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

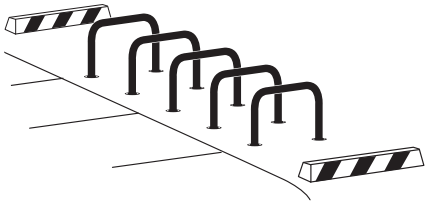
Effective bike parking for short-term users depends on two main factors: 1) proximity to the destination and 2) ease of use.

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.

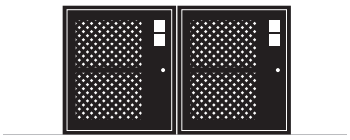
BIKE CORRALS

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**

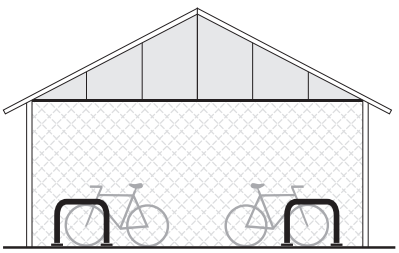
LONG-TERM PARKING

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**

INSTALLATION

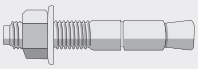
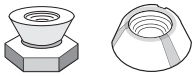
Selecting an appropriate installation surface and technique is key to creating bicycle parking that remains secure and attractive over time.

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**

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
Supports bike upright without putting stress on wheels	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".
Accommodates a variety of bicycles and attachments	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.
Allows locking of frame and at least one wheel with a U-lock	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.
Provides security and longevity features appropriate for the intended location	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).
Rack use is intuitive	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

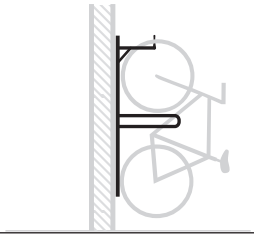
These rack styles do not meet all performance criteria but may be appropriate in certain constrained situations.

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

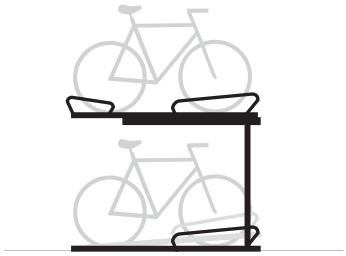
Variation of the wheelwell-secure rack designed to stagger handlebars vertically or horizontally to increase parking density. Reduces usability and limits kinds of bikes accommodated, but contains bikes well and aids in fitting more parking in constrained spaces.

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.

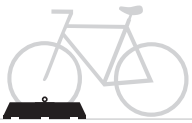
SCHOOLYARD
also called comb, grid

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

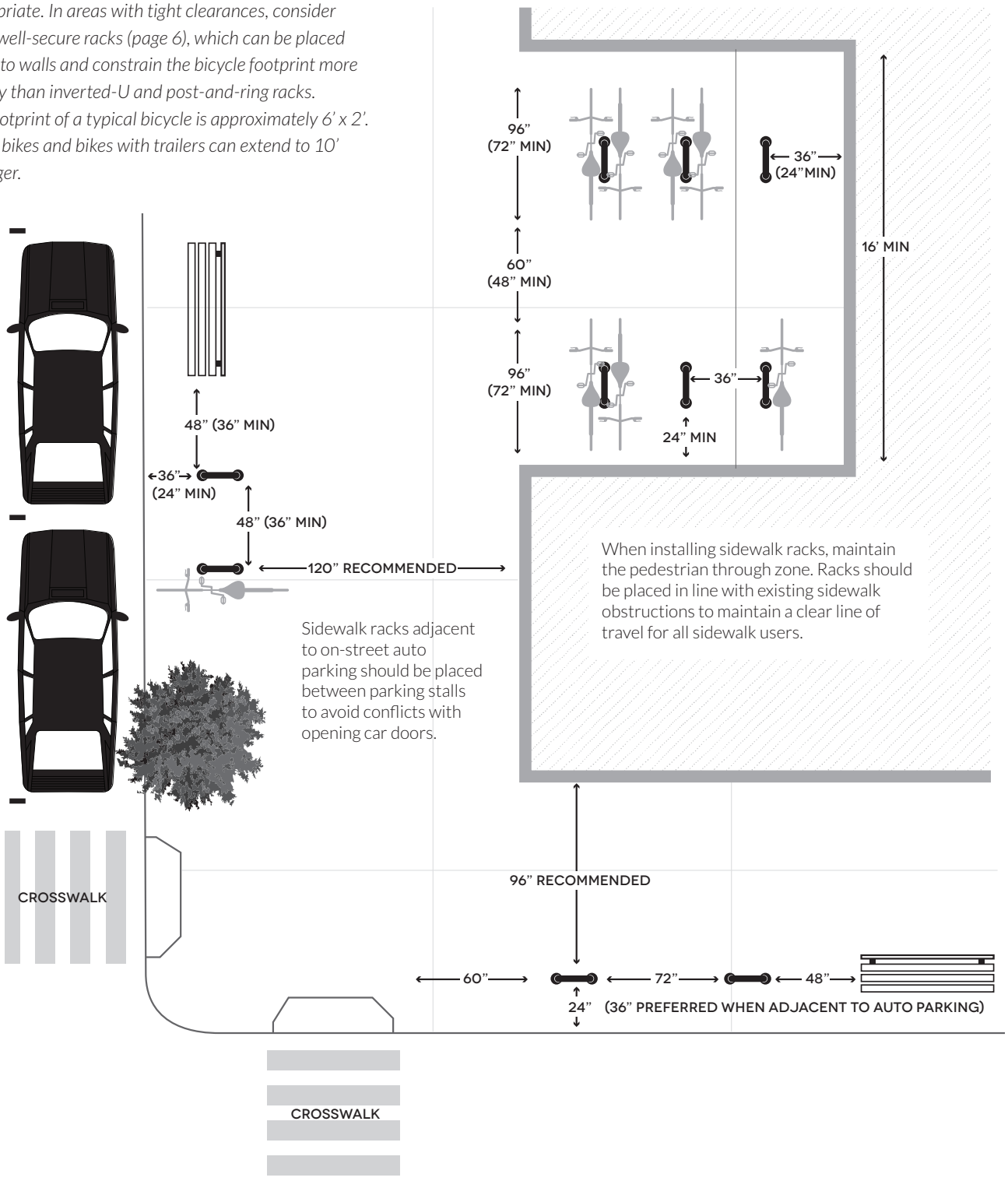
Most bicycle parking racks are made of carbon steel or stainless steel. Carbon steel requires a surface coating to resist rust while appropriate grades of stainless steel need no coating. Not all materials and coatings with the same name perform equally. Square tubing provides a security advantage as 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
Carbon steel - galvanized	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
Carbon steel - powder coat* (TGIC or similar)	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
Carbon steel - thermoplastic	Intermediate	Good durability	Appearance degrades over time with scratches and wear; not as durable as galvanized or stainless
Stainless steel - no coating needed, but may be machined for appearance	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

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