Walk Audit Report

SafeRoutes
Napa County

PHILLIPS MAGNET
ELEMENTARY SCHOOL

PHILLIPS MAGNET ELEMENTARY SCHOOL

**1210 SHETLER AVENUE
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.
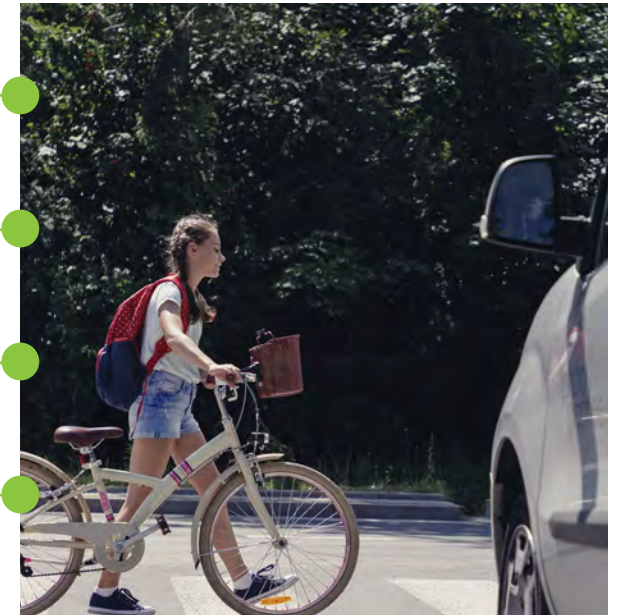
THE SIX E'S

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 Phillips Magnet Elementary 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.

Evaluate Infrastructure → **Walk Audit** → **Identity Barriers** → **Share Observations**
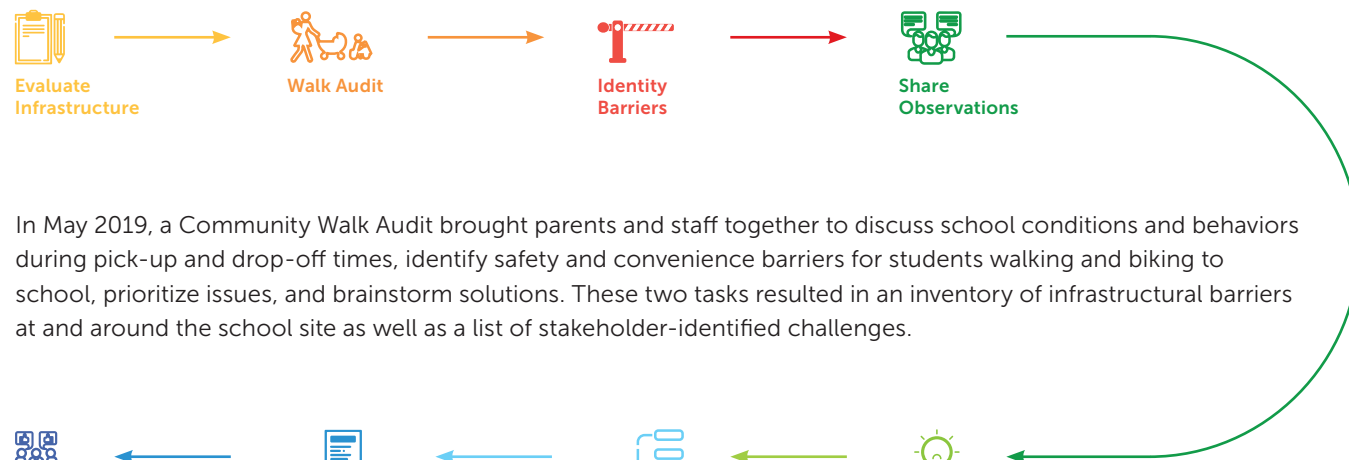
In May 2019, a Community Walk Audit brought parents and staff together to discuss school conditions and behaviors during pick-up and drop-off times, identify safety and convenience barriers for students walking and biking to school, prioritize issues, and brainstorm solutions. These two tasks resulted in an inventory of infrastructural barriers at and around the school site as well as a list of stakeholder-identified challenges.

Consult & Implement ← **Synthesize Information** ← **Identify Priorities** ← **Brainstorm Solutions**

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

PHILLIPS MAGNET ELEMENTARY SCHOOL
SCHOOL SUMMARY

Principal	Julie Jones (current) Matthew Manning (previous)
First Bell	8:05 AM
Last Bell	2:25 PM (1:00 PM on Wednesdays)
District	Napa Valley Unified

Grades	TK-5
Enrollment	402
Street	1210 Shetler Avenue
City	Napa, CA 94559

Overall Facility Rating[j]: Fair

While NVUSD has an open enrollment policy, Phillips Magnet Elementary School's default enrollment area covers mostly southeast unincorporated Napa County and the southeast corner of the city of Napa. Its boundaries run east along the Napa County boundary, south along Jameson Canyon Road, and west along the Napa River. The north boundary does not follow a clear pattern.

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.

According to the most recent data (2020-21 school year), 31.0% of students attending Phillips Elementary reside outside of the school's enrollment boundary.
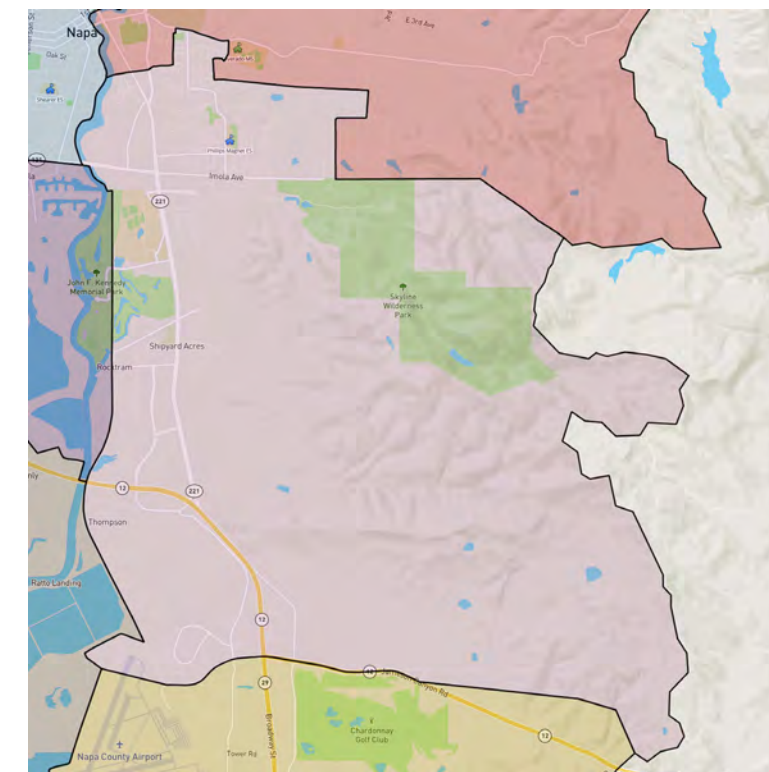
Map 1: The enrollment boundaries (shaded light purple) of Phillips Magnet Elementary School (blue school icon).

DATA

A hand tally survey collected by the Napa County Office of Education in Spring 2019 reflected that on average, almost 1 in 4 Phillips Elementary School students walked to school. Almost half (48%) arrived by family vehicle.

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

Family Vehicle 48%
Unknown 22%
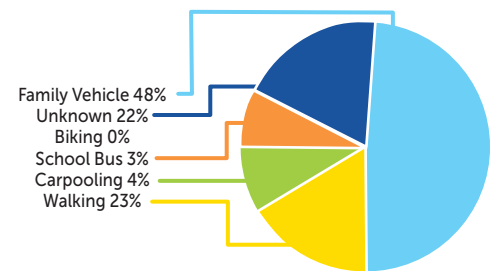Biking 0%
School Bus 3%
Carpooling 4%
Walking 23%

Figure 1: NCOE Hand Tally Data

Total Enrollment by Group (2018-19)

ETHNICITY	PHILLIPS MAGNET ELEMENTARY SCHOOL	DISTRICT
Black or African American	0.2%	2.1%
Asian	1.0%	2.4%
Filipino	0.7%	6.9%
Hispanic or Latino	89.8%	54.9%
White	7.0%	29.2%
Two or More Races	1.2%	3.9%
Not Reported	0.1%	0.3%

EXPERIENCE		
Socioeconomically Disadvantaged	82.3%	50.7%
English Learners	59.7%	21.2%
Students with Disabilities	13.9%	11.5%
Foster Youth	--	0.3%

Figure 3: Enrollment Data by Group

Countywide K-8 Primary Transportation to/from School (EMC Research)
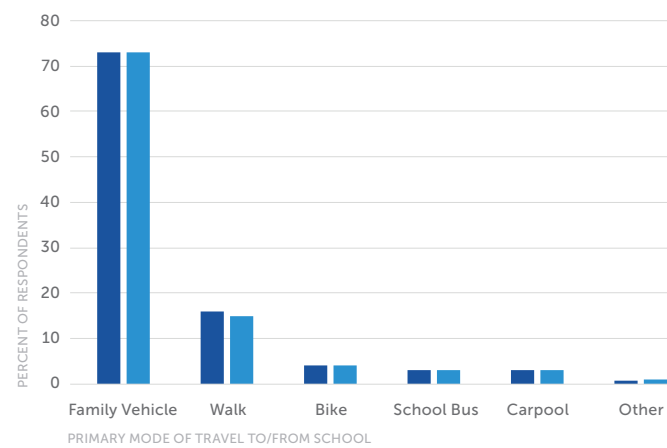
Figure 2: EMC Research Polling Results

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

Student Enrollment by Grade Level (2018-19)

	NUMBER OF STUDENTS
Kindergarten	75
Grade 1	61
Grade 2	77
Grade 3	60
Grade 4	64
Grade 5	65
Total	**402**

Figure 4: Enrollment Data by Grade

NEIGHBORHOOD CONTEXT

Phillips Magnet Elementary School is located in southeast Napa in the city of Napa's Terrace/Shurtleff Planning Area, a partially developed and somewhat rural area containing a patchwork of unincorporated islands.

The surrounding neighborhoods consist primarily of single-family homes built as early as the 1940s as well as some multi-family housing located along major streets. The street pattern is fragmented parallel with some cul-de-sacs and becomes more curvilinear with more frequent cul-de-sacs further north. The reduced intersections, access points, and route choice of fragmented parallel and curvilinear streets can decrease neighborhood walkability. While cul-de-sacs can reduce traffic speeds and volumes, they also reduce pedestrian access points and interconnectivity.

Destinations south of the school include commercial uses along Imola Avenue and the Napa State Hospital. The South Napa Market Place, a large shopping center, is located less than a mile west of the school. Shurtleff Park borders the campus immediately to the east, Camille Park is northwest of the school, and Skyline Wilderness Park is located about a mile southeast.

The school offers special programs including a family resource center, part-day preschool, COOL School after-school program, and Parent University program.

Map 2: Phillips Elementary, marked by a blue dot, is located in southeast Napa. The shaded blue area indicates city limits.

Figure 5: Street Patterns (Source: Southworth, 1997)
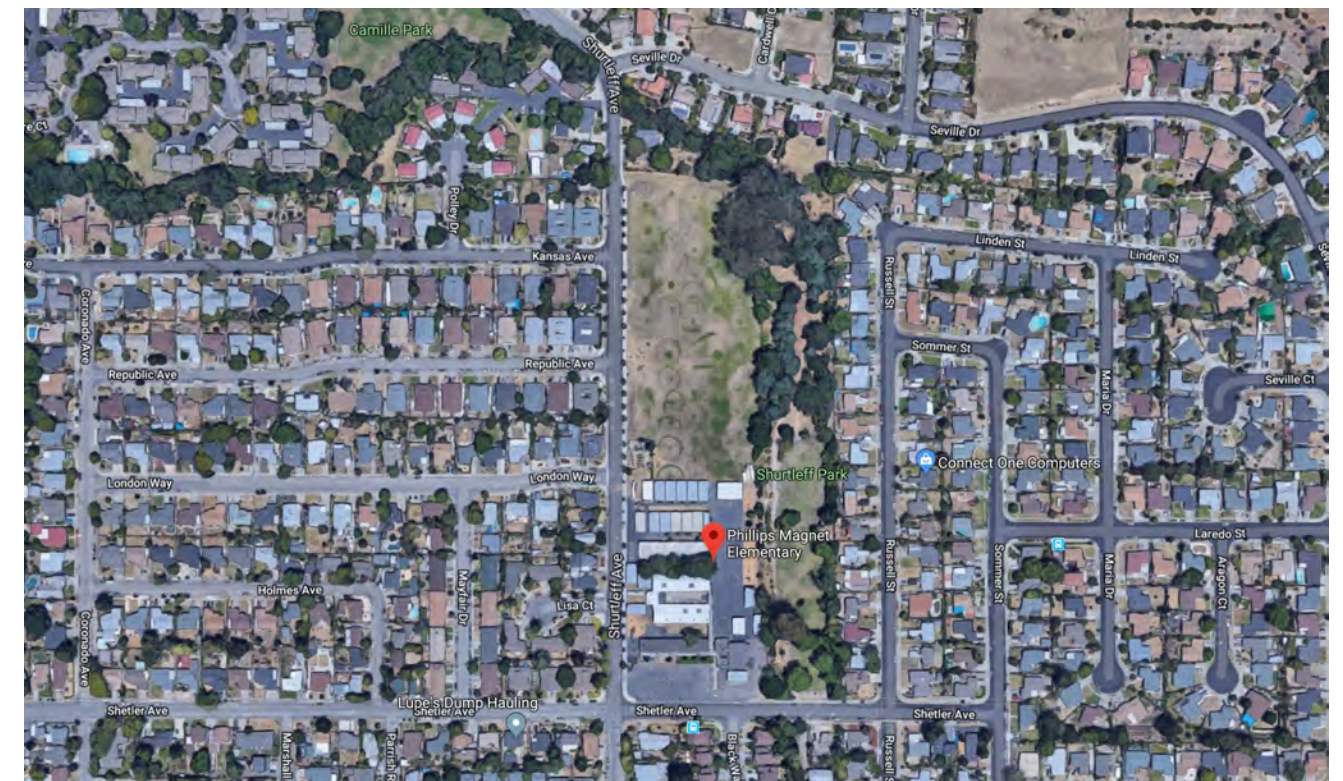
Phillips Magnet Elementary School is primarily surrounded by single-family residences, with Shurtleff Park and Camille Park nearby.

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

Phillips Magnet Elementary School is located on the corner of Shurtleff Avenue and Shetler Avenue, two collectors. There are three gated entrances on the west side of campus off of Shurtleff Avenue, including one on the southwest corner adjacent to the school parking lot and loading zone, and one entrance off of Shetler Avenue accessible by a sidewalk/crosswalk on the east side of the parking lot. As the school is only accessible from Shurtleff Avenue and Shetler Avenue, school traffic of all modes concentrates on these streets.

The school's loading zone is accessible by entering the school parking lot on Shetler and exiting onto Shurtleff. One-way circulation through the loading zone/parking lot is indicated by painted white arrows and a Do Not Enter sign at the exit. The school distributes a circulation policy and map that directs motorists to travel one-way though the loading zone/parking lot. Signs are also placed at the parking lot exit during drop-off and pick-up that prohibit left turns out of the parking lot.

Signage and painted white arrows regulate circulation through the school parking lot/loading zone.

A staff member and a dedicated group of parents help manage safety during pick-up and drop-off, ensuring that drivers follow procedures and that students are able to cross safely at major intersections. Crossing guards assist students crossing at the Shetler and Shurtleff and the Shurtleff and London Way intersections.

As many drivers approach the school from Shurtleff or the west side of Shetler, some congestion occurs in the school zone, particularly when motorists attempt to turn left from Shetler into the parking lot. Other parents avoid the loading zone and instead park along neighboring streets to pick up or drop off students.

A bus loading zone exists on Shetler just east of the parking lot entrance, although bus service through NVUSD is not available for Phillips Magnet Elementary students. However, students who live beyond 1.25 miles walking distance from school and attend their school of residence may apply for transportation through NVUSD.
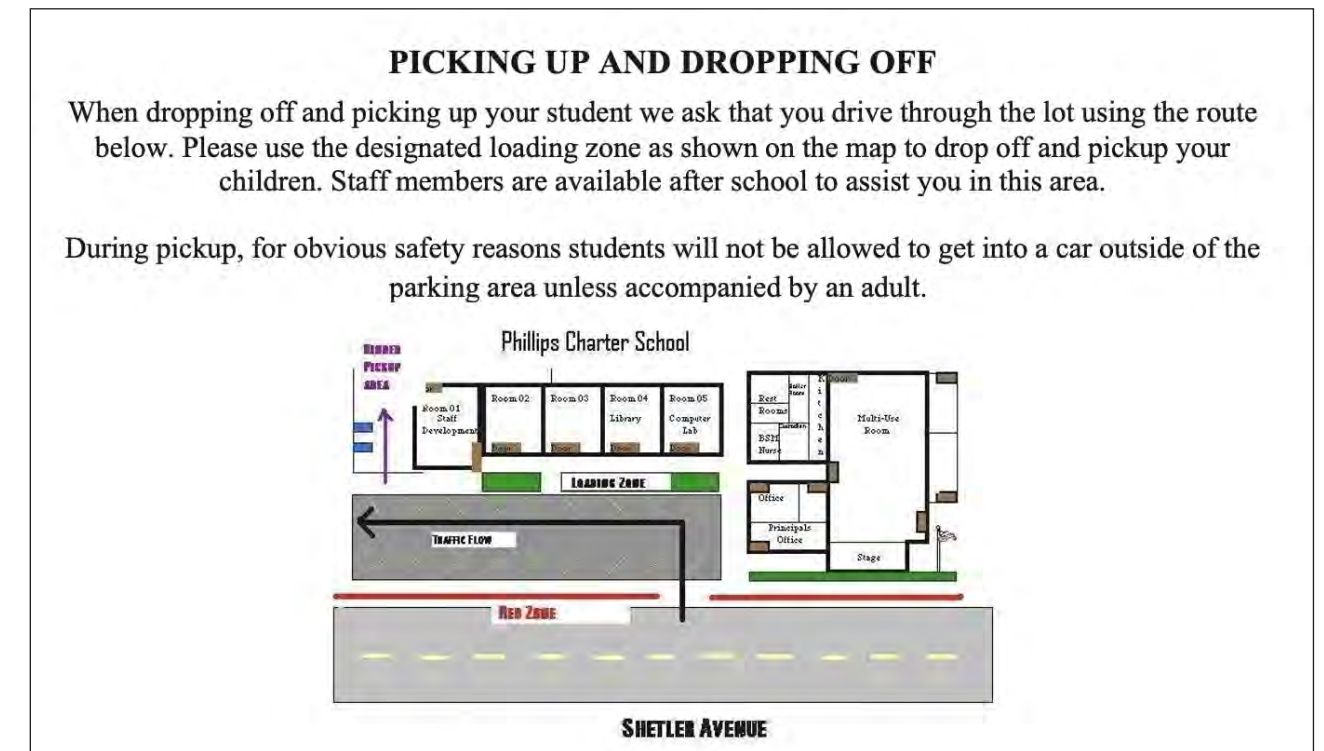
Figure 6: The loading zone policy is provided on the school's website

A crossing guard helps families cross the busy Shurtleff and Shetler intersection.

The bus loading zone on Shetler.

BICYCLE AND PEDESTRIAN INFRASTRUCTURE

None of the surrounding streets have bicycle facilities of any kind. The school does not provide any on-campus bike parking.

MAP OF EXISTING BICYCLE FACILITIES
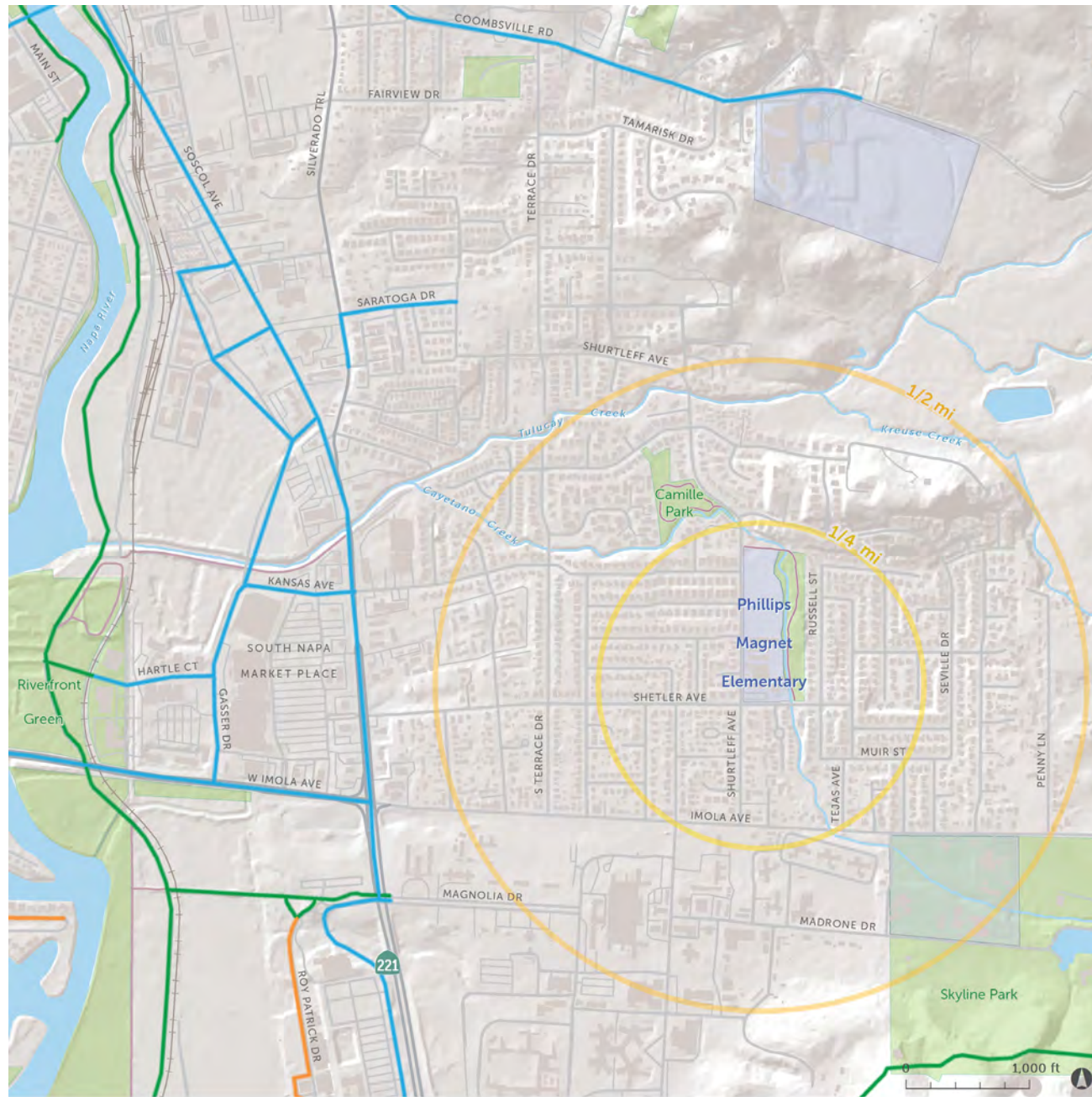
Legend:
- ——— Shared Use Path (Class I)
- ——— Bike Lane (Class II)
- ——— Bike Route (Class III)
- ——— Bike Boulevard (Class III)
- ——— Separated Bike Lane (Class IV)
- ——— Trail

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

MAP OF EXISTING PEDESTRIAN FACILITIES
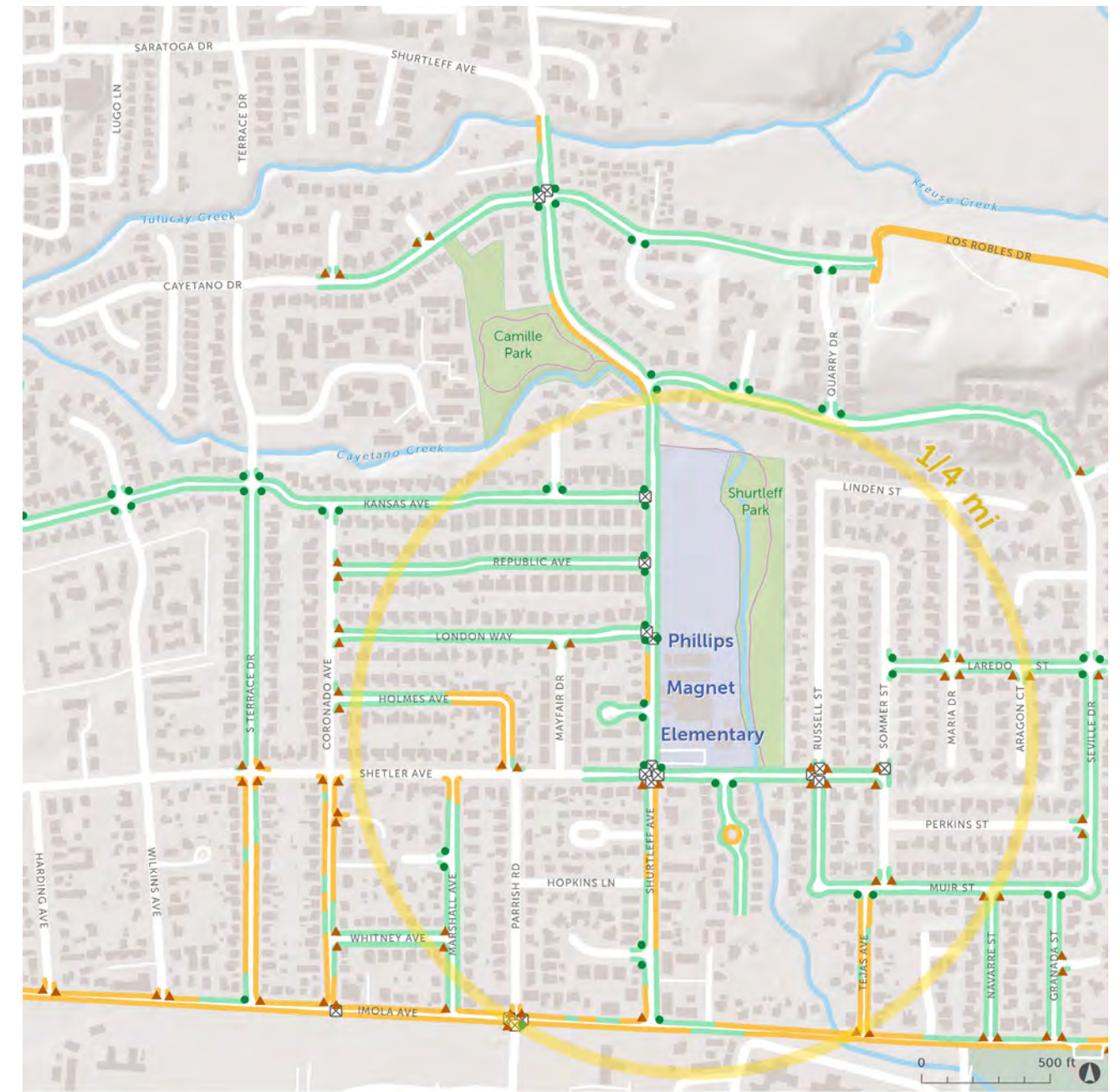
Curb Ramp	Sidewalk	Crosswalk
● Existing ▲ Missing	——— Existing ——— Missing	⊠ Present

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

ENCOURAGEMENT AND EDUCATION PROGRAMS

Phillips Magnet Elementary School regularly participates in and promotes annual countywide encouragement events, such as Bike to School Day and Walk and Roll to School Day. Walking counts are often higher than bicycling counts during Walk and Roll to School events. The school has also regularly provided bike and pedestrian safety to students, often through the school's COOL School program.

Bike to School Day at Phillips Elementary School.

YEAR	EVENT	STUDENT PARTICIPANTS
2015/16	Bike Safety Education	37
2016/17	Bike Safety Education	20
2016/17	Bike to School Day	61
2017/18	Bike to School Day	43
2018/19	Walk and Roll to School Day	30
2018/19	Bike Safety Education	14
2018/19	Pedestrian Safety Education	66
2018/19	Bike to School Day	4
2019/20	Walk and Roll to School Day	163

Figure 7: Encouragement and Education Data

EXISTING PLANS

NVUSD Facilities Master Plan (2016):
NVUSD's Facilities Master Plan lists several projects for Phillips Magnet Elementary School. These projects include installing fencing around the school's perimeter, constructing a new administration building and parking lot on Shurtleff Avenue, and making site ADA improvements. These projects could impact circulation around the school site by reducing access points to the school and altering traffic patterns.

NVTA Napa Countywide Bicycle Plan (2019):
The Napa Countywide Bicycle Plan recommends improving bicycle facilities around the school site. The Bicycle Plan suggests installing a Class II bike lane along Shurtleff Avenue and Class III bike boulevards on multiple nearby streets, such as Kansas Avenue and Shetler Avenue. The plan also designates Imola Avenue as a study corridor and recommends that a Class I multi-use path be installed along the corridor.

NVTA Napa Countywide Pedestrian Plan (2016):
The Napa Countywide Pedestrian Plan proposes sidewalk gap closures along the Shetler Avenue corridor. The plan also cites the Imola Corridor Complete Streets Plan (below) as the recommended improvement along Imola Avenue, which will include sidewalks and bicycle facilities.
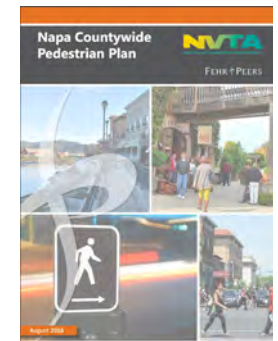
NVTA Napa Valley Countywide Transportation Plan: Advancing Mobility 2045 (2021):
The NVTA Countywide Transportation Plan is a long-range plan of countywide transportation priorities that provides a direction for the four- to five-year plan while considering a 25-year planning horizon. This plan is part of the regional planning process for the Regional Transportation Plan by the Metropolitan Transportation Commission. There are 28 projects by the City of Napa listed in the Plan. Two listed projects, the Terrace Drive Bridge and Extension and Terrace Drive Sidewalks, will impact the school site.

Imola Corridor Complete Streets Improvement Plan (2020):
The Imola Complete Streets Improvement Plan, finalized in September 2020 by the Napa Valley Transportation Authority, outlines a vision of transportation improvements for the corridor, documents existing conditions and challenges, and presents an implementation plan to improve multimodal travel along Imola Avenue from Foster Road to 4th Avenue. The corridor is split into three segments; the east segment, from Soscol Avenue to 4th Avenue, is the one that would impact school travel the most. Plans include a shared-use path along the south side of the segment and a continuous sidewalk along the north side.

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: 5/1/19
Day of the Week: Wednesday

Meeting Time: 7:30 AM
Weather: Sunny

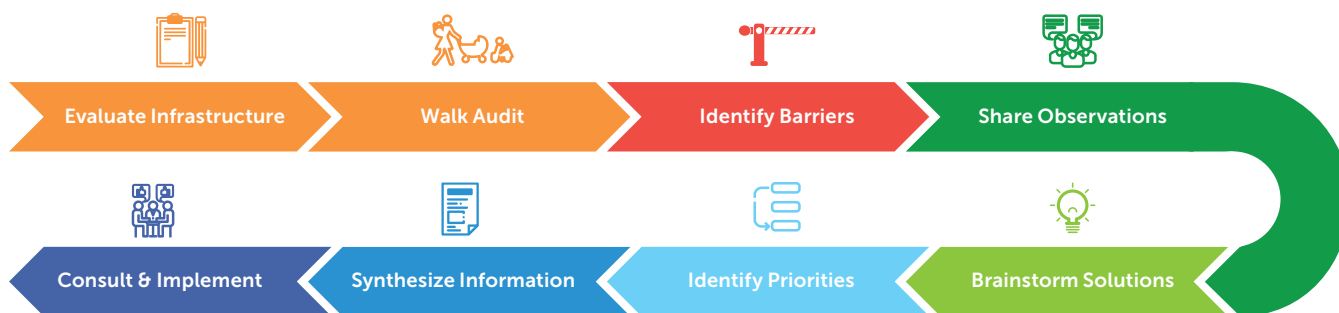---

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 brainstorm solutions. The Walk Audit team consisted of six parents and one staff member who provided input and translation support. The parents regularly volunteer to help manage school traffic and ensure student safety during pick-up and drop-off; consequently, they were very familiar with the school's circulation situation and were fierce advocates for traffic safety. Principal Matt Manning regularly dropped in throughout the Walk Audit activity.

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 moved out to the front of the school 15 minutes before the school bell to walk along Shetler Avenue and Shurtleff Avenue, observe the drop-off space, and observe how parents and students behave and circulate through the space. Ten 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 several barriers that were of high priority to them on sticky notes, placed them on a poster on the wall, and organized them into sections based on similar topics. Then, participants were given four 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 brainstormed potential solutions to each issue. Participants repeated the prioritization process with potential solutions to the barriers identified.

Evaluate Infrastructure → Walk Audit → Identify Barriers → Share Observations → Consult & Implement ← Synthesize Information ← Identify Priorities ← Brainstorm Solutions

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
Missing sidewalks	Shurtleff Ave south of school
Not enough crosswalks/low-visibility crosswalks with no signs or lights	Shurtleff Ave
Missing sidewalk, not enough crosswalks	Shetler Ave west of school
Dangerous driver and pedestrian behavior	School zone
Culture of driving	General
Low-visibility, unsafe-feeling crosswalks/pedestrian infrastructure	Parrish Rd and Shetler Ave, Parish Rd and Imola Ave
Lack of safe route through parking lot	From southwest corner of lot
Missing or unsafe-feeling sidewalks, crosswalks, and bicycle infrastructure	Surrounding neighborhood

Figure 8: Walk Audit Stakeholder-Identified Barriers

Stakeholder-Identified Treatments:

| DESCRIPTION	BARRIER ADDRESSED	LOCATION	PRIORITY
Fill sidewalk gaps	Missing sidewalks	Shurtleff Ave	8
Install speed hump	Speeding	Lisa Ct and Shurtleff Ave	7
Install crosswalk	No crosswalk	Shetler Ave at Black Walnut Ln	5
Install crosswalk	No crosswalk	Walnut St	3
Install additional crosswalk	Missing crosswalk	Across Shurtleff Ave at Kansas Ave	3
Install raised crosswalk	Speeding, poor motorist yielding behavior	Shetler Ave and Shurtleff Ave	2
Fill sidewalk gaps	Missing sidewalks	Shetler Ave	2
Rectangular Rapid Flashing Beacons	Poor motorist yielding behavior, low pedestrian visibility	London Way and Shurtleff Ave Crosswalk	2
Lighting	Low lighting	Parrish Rd	2

Figure 9: 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.

26%   **19%**   **20%**
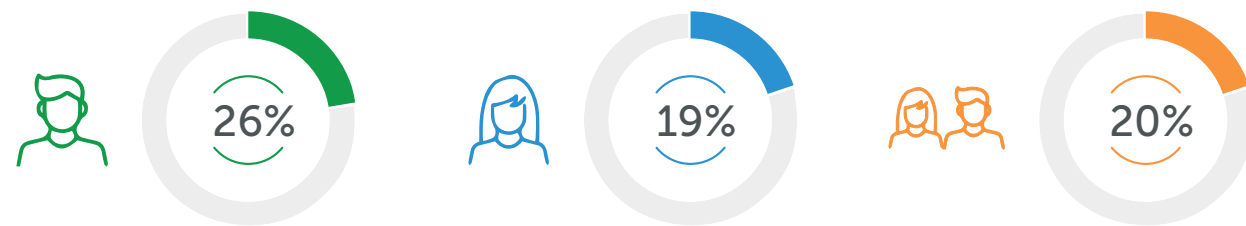
However, only about **26% of men**, **19% of women**, and **20% of adolescents** are meeting the aerobic and muscle-strengthening guidelines developed by the Department of Health. Increased walking and biking to school can help boost that percentage by incorporating physical activity into one's daily 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
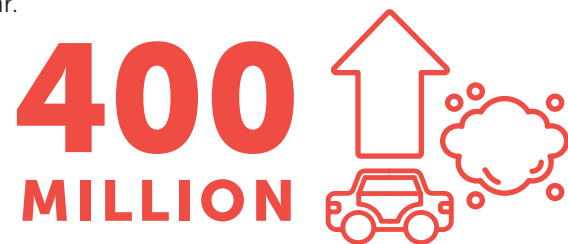
In addition to the consequences already discussed, barriers to safe walking and bicycling can lead to increased collisions and conflicts between motorists, pedestrians, and bicyclists. Safety barriers can lead to more people choosing to drive, even if the destination is within walking or biking distance, 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.

HIGH PRIORITY

RECOMMENDATION #NAI-066: PHILLIPS ELEMENTARY BIKE PARKING

Narrative – At the time of the Walk Audit, Phillips Elementary did not provide on-campus bicycle parking. Providing convenient and secure bicycle parking near school entrances can help increase visibility of bicycling to school as an option for students and greatly increases sense of security for students who do bike to school.

IDENTIFIED BARRIERS

- **No bicycle parking –** There are no bicycle parking facilities on campus, which can deter students from biking to school due to concern around bike theft and reduced visibility of biking as a transportation option.

RECOMMENDATIONS

- **Bike parking –** Provide well-lit, secure bike parking near main school entrances. Provide enough bike parking to accommodate 20% bike mode share. See Appendix D for bicycle parking guidance.

Nearby Alta Heights Elementary School in Napa provides a bicycle rack at both a north entrance (left) and a south entrance (right) to campus.

RECOMMENDATION #NAI-067: SHURTLEFF AND SHETLER INTERSECTION

Narrative – The intersection of Shurtleff Avenue and Shetler Avenue, two collectors, was one of the primary locations discussed during the Walk Audit. As these two streets are the only two streets from which students can enter campus, all school traffic is concentrated on these streets, generating high volumes of multimodal traffic in the intersection. Walk Audit participants reported aggressive driver behavior and poor motorist yielding behavior during arrival and dismissal times when the intersection is congested. At the time of the Walk Audit, the school stationed a crossing guard at this intersection; Walk Audit participants also reported that some motorists do not follow crossing guard directions.

IDENTIFIED BARRIERS

- *Poor motorist yielding –* Walk Audit participants reported poor motorist yielding behavior at this intersection to be a barrier to students walking and biking to school.

- *Low-visibility crosswalks –* The existing crosswalks are painted with a standard, parallel line pattern, despite being in a highly-travelled school zone intersection.

The Shurtleff and Shetler intersection is immediately adjacent to the school parking lot/loading zone.

- *Missing red zones –* Missing red zones in the intersection allow motorists to park close to the intersection and obstruct pedestrian visibility.

- *Wide curb radii and set-back curbs* facilitate fast turning movements and increase pedestrian crossing distances.

RECOMMENDATIONS

- *Curb extensions –* Install curb extensions on all corners of the intersection to improve pedestrian visibility and motorist yielding behavior and prevent motorists from parking adjacent to crosswalks.

- *High-visibility crosswalks –* Paint high-visibility school-zone pattern crosswalks on all legs of the intersection to improve pedestrian visibility and motorist yielding behavior.

RECOMMENDATIONS #NAI-016 AND NAI-070: SHURTLEFF AND SHETLER SIDEWALKS

Narrative – As previously mentioned, all school entrances are located on either Shurtleff Avenue or Shetler Avenue, making these two streets key routes to Phillips Elementary School. Both streets are collectors serving the surrounding neighborhoods; consequently, they connect to several residential streets and provide direct routes from these neighborhoods to the school. Both feedback from the Walk Audit activity and data from previous encouragement events indicate that walking for transportation is the more common active mode in neighborhoods around Phillips Elementary School. Thus, the pedestrian network on these two key streets to the school is integral to supporting students safely walking to school.

IDENTIFIED BARRIERS

- *Sidewalk gaps –* Sidewalk gaps along Shurtleff Avenue (from Lexington Court to Imola Avenue) and Shetler Avenue (from Parrish Road to Soscol Avenue) force pedestrians to either walk in the road or cross the street in an unmarked location to reach the other existing sidewalk (if present). Large sections of missing sidewalks can prevent students from walking to school altogether.

RECOMMENDATIONS

- *NAI-016 and NAI-070 Fill sidewalk gaps –* Fill sidewalk gaps along both key corridors to the school to provide a continuous, separated pedestrian network.

One of the southbound sidewalk gaps on Shurtleff Avenue, south of the school.

RECOMMENDATION #NAI-018: SHURTLEFF AVE AND LONDON WAY INTERSECTION

Narrative – The Shurtleff Avenue and London Way intersection is a highly-travelled intersection in the school zone, as it is along direct routes to the school from neighborhoods north and west of the school. Student pedestrians or bicyclists may prefer to cross Shurtleff Avenue at this intersection instead of at Shetler Avenue, as the Shurtleff/Shetler intersection is frequently congested due to motorist travel patterns and the adjacent parking lot/loading zone. Additionally, students may cross at this location to neighborhoods west/northwest of the school in order to avoid traveling along high-volume corridors such as Shurtleff and Shetler and instead walk/bike on quieter neighborhood streets.

IDENTIFIED BARRIERS

The Shurtleff and London intersection during the Walk Audit.

- *Low-visibility crosswalk –* The existing crosswalk across London Way is painted with a standard, parallel line pattern and the high-visibility crosswalk across Shurtleff Avenue is extremely faded, reducing pedestrian visibility in a highly-travelled school zone.

- *Uncontrolled Shurtleff Ave traffic –* Shurtleff Avenue, which experiences high volumes of traffic during school arrival and dismissal and frequent motorist speeding, is uncontrolled at this intersection, facilitating motorists approaching the intersection without slowing down and reducing motorist yielding behavior.

- *Curb geometry –* Wide curb radii facilitate fast motorist turning movements through the intersection, and the set-back curbs increase pedestrian crossing distances across the intersection.

- *Missing red zones –* Missing red zones in the intersection allow motorists to park close to the intersection and obstruct pedestrian visibility.

RECOMMENDATIONS

- *Curb extensions –* Install curb extensions on all crosswalk curbs to improve motorist yielding behavior, reduce curb radii, slow motorists through the intersection, and prevent motorists from parking next to crosswalks.

- *High-visibility crosswalks –* Paint both existing crosswalks with a high-visibility school-zone pattern to improve pedestrian visibility and motorist yielding behavior.

RECOMMENDATION #NAP-010: ENCOURAGEMENT EVENTS

Narrative – Phillips Magnet Elementary School has frequently participated in the annual encouragement events facilitated by Napa County Safe Routes to School: Bike to School Day and Walk and Roll to School Day. While annual programming can remind and excite students about the option of using active transportation to travel to school, the infrequency of these events makes them less effective at encouraging students to adopt active transportation as an everyday form of transportation. Increasing the frequency of encouragement events, in conjunction with infrastructure improvements, can help increase mode shift towards active transportation.

IDENTIFIED BARRIERS

An example of a bike train group led by parent volunteers at El Roble Elementary School in Gilroy. (Photo by Ihui Lopez, Silicon Valley Bicycle Coalition).

- *Congestion in school zone –* High volumes of vehicle traffic in the school zone during pick-up and drop-off can make the school zone feel chaotic and unwelcoming to bicyclists and pedestrians.

RECOMMENDATIONS

- *Encouragement programs –* Continue to grow participation in annual encouragement events and organize additional encouragement events throughout the year (ex: Walk and Roll Wednesdays).

- *Walking bus/bike train program –* Develop a walking school bus/bike train program to increase the number of students who walk and bike to school while improving sense of safety by forming an adult-supervised group.

RECOMMENDATION #NAP-009: BICYCLE/PEDESTRIAN SAFETY EDUCATION

Narrative – Bicycle and pedestrian safety education is a crucial component of increasing biking and walking mode share at a school site, as it teaches students rules of the road and safe biking and pedestrian behaviors, such as scanning and signaling before turns for bicyclists. This understanding not only improves bicyclist and pedestrian safety, but also increases confidence and comfort for young bicyclists and pedestrians. 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 and pedestrian safety within the school system raises awareness of rules of the road and encourages safe behavior.

IDENTIFIED BARRIERS

- *Irregular safety education –* While Phillips Magnet Elementary School has provided some bicycle safety education in the past, irregularly provided bicycle/pedestrian safety education can result in unintentional unsafe student bicyclist/pedestrian behavior and a sense of discomfort riding a bike.

RECOMMENDATIONS

- *Bicycle and pedestrian safety education –* Provide annual in-school bicycle and pedestrian safety education for all students to ensure that all students are familiar with rules of the road and best safety practices.

Bicycle safety education at Phillips Elementary School in 2018.

RECOMMENDATIONS #NAI-017 AND NAI-069: SHURTLEFF AVE BIKE FACILITIES AND TRAFFIC-CALMING

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 –* Shurtleff Avenue is a long corridor with multiple straightaways, no traffic-calming, and little traffic control, which facilitates frequent motorist speeding.

Shurtleff Avenue has no bicycle facilities.

RECOMMENDATIONS

- *NAI-017 Class II bike lanes –* Install Class II bike lanes as recommended by the adopted 2019 Bicycle Plan.

- *NAI-069 Traffic-calming –* Install traffic-calming measures throughout the corridor, prioritizing projects that will slow traffic entering the school zone, to reduce motorist speeding.

RECOMMENDATION #NAI-072: SHETLER AVENUE BICYCLE 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.

RECOMMENDATIONS

- *Class III bike boulevard -* Install Class III bike boulevards with sharrows and signage and traffic-calming measures from Soscol Avenue to Sommer Street.

Shetler Avenue, facing east towards the school.

RECOMMENDATION #NAI-075: SHURTLEFF AVE AND PEPPERGRASS ST INTERSECTION

IDENTIFIED BARRIERS

- *Low visibility –* The sweeping curve in the road approaching the intersection decreases visibility of bicyclists and pedestrians in the road, which can be particularly hazardous in conjunction with motorist speeding on Shurtleff Avenue.

RECOMMENDATIONS

- *Signage/stencils –* Install temporary signage and stencils alerting motorists to presence of bicyclists where visibility is reduced at the curve in the road until Class II bike lanes and traffic-calming recommendations can be implemented.

Shurtleff Avenue facing north, approaching the Peppergrass intersection.

RECOMMENDATIONS #NAI-076 AND NAI-077: SOUTH TERRACE DRIVE SIDEWALKS AND BIKE FACILITIES

IDENTIFIED BARRIERS

- *Missing/narrow sidewalks –* Sidewalk gaps along South Terrace Drive force pedestrians to either walk in the road or cross the street in an unmarked location to reach the other existing sidewalk (if present). Large sections of missing sidewalks can prevent students from walking to school altogether. In some areas where there are sidewalks, these sidewalks are narrow and do not accommodate pedestrians walking in groups or with strollers or mobility assistance devices.

South Terrace Drive, facing north.

- *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.

RECOMMENDATIONS

- *NAI-076 Install/widen sidewalks –* Fill sidewalk gaps along the corridor to provide a continuous, separated pedestrian network, and widen existing sidewalks where narrow to at least City minimum standard (4 feet).

- *NAI-077 Class II bike lanes –* Install Class II bike lanes as recommended by the adopted 2019 Bicycle Plan.

RECOMMENDATION #NAI-078: WILKINS AVENUE SIDEWALKS

IDENTIFIED BARRIERS

- *Missing sidewalks –* Missing sidewalks along Wilkins Avenue (from Park Sienna Apartments to Shetler Avenue) force pedestrians to either walk in the road or cross the street in an unmarked location to reach the other existing sidewalk (if present). Large sections of missing sidewalks can prevent students from walking to school altogether.

Wilkins Avenue facing south.

RECOMMENDATIONS

- *Install sidewalks –* Install sidewalks where missing and address the tree obstruction of the sidewalk in front of Park Sienna Apartments to provide a continuous, separated pedestrian network.

RECOMMENDATION #NAP-001: NEIGHBORHOOD EDUCATION

IDENTIFIED BARRIERS

- *Sidewalk obstructions –* In the neighborhoods around the school, sidewalks are frequently obstructed by garbage cans, vehicles parked partially on the sidewalk, and vegetation.

RECOMMENDATIONS

- *Neighborhood education –* Implement neighborhood education addressing keep sidewalks and crosswalks clear of obstructions through proper garbage bin placement and laws around vehicle parking.

A motorist blocks the sidewalk with their parked car on Shurtleff Avenue.

RECOMMENDATION #NAP-008: CIRCULATION PLAN/POLICY

IDENTIFIED BARRIERS

- *Congestion and conflict in school zone –* High volumes of vehicle traffic in the school zone during pick-up and drop-off can make the school zone feel chaotic and unwelcoming to bicyclists and pedestrians. Additionally, unsafe motorist behaviors such as failing to yield to pedestrians and aggressive driving increases risk of road user conflicts in the school zone.

RECOMMENDATIONS

- *Circulation plan –* Update the existing circulation plan and policies with an emphasis on separation of travel modes and behavior expectations of road users. Increase communication of plan/policies to families.

Circulation policies and plans can provide an opportunity for schools to establish expected road user behavior.

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.

RECOMMENDATIONS #NAI-004-NAI-009: IMOLA AVENUE (SOSCOL AVE TO PENNY LANE)

IDENTIFIED BARRIERS
- *No eastbound sidewalk*
- *Significant westbound sidewalk gaps*
- *No bicycle facilities*
- *Low street lighting*
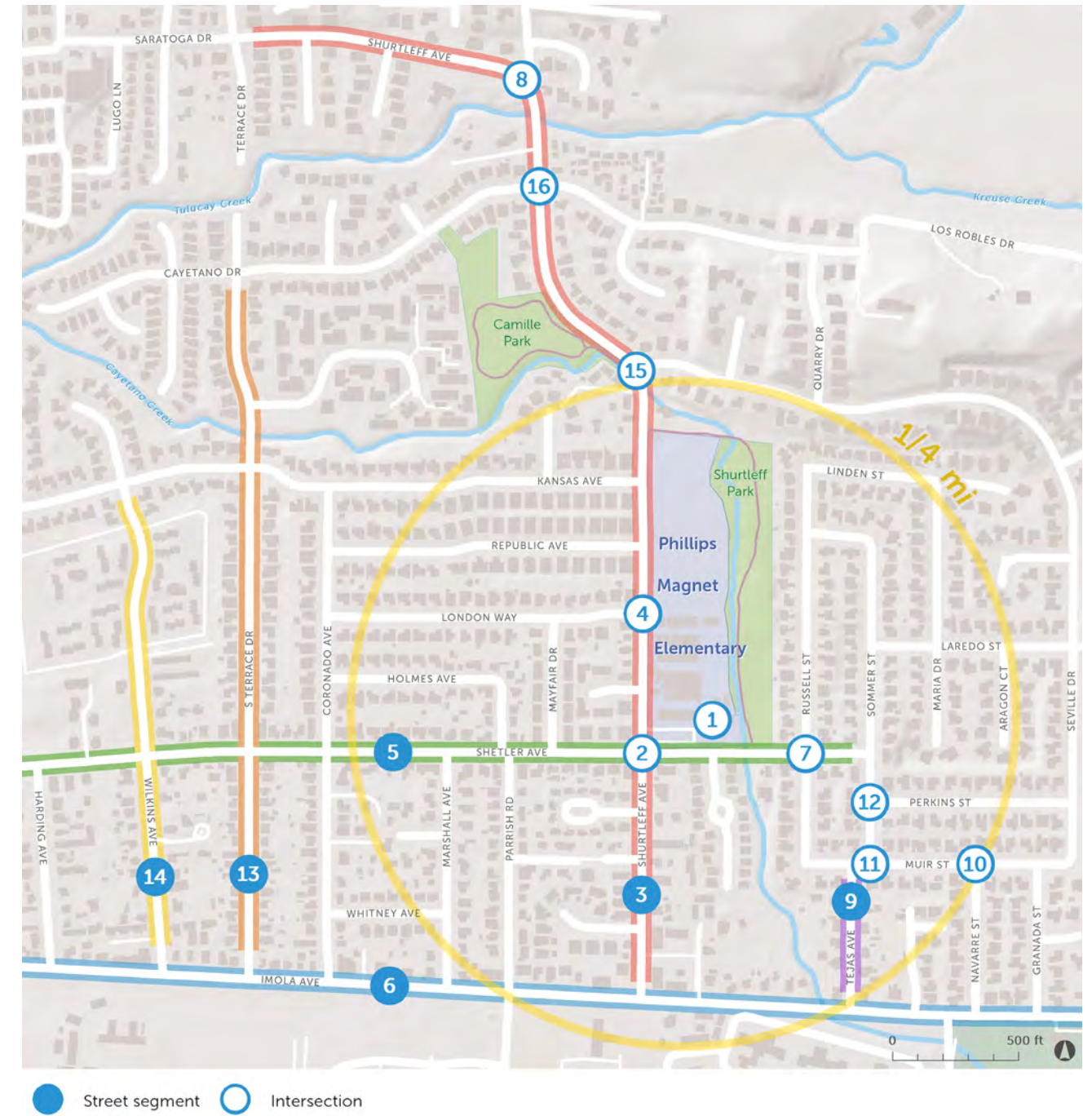- *Frequent motorist speeding*

RECOMMENDATIONS
- *Class I shared-use path (south side)*
- *Class II bike lanes (Soscol to Shurtleff)*
- *Class III bike boulevards/Class II bike lanes (Shurtleff to Penny)*
- *Street lighting*
- *Traffic-calming consistent with Imola Corridor Plan*

Relevant Reports:
- *Camille Creek Community School Walk Audit Report*

Map 5: Recommendations

TABLE OF RECOMMENDATIONS

Infrastructure:

	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
1	School grounds	NAI-065	Congestion and conflict in school zone during pick-up/drop-off.	Install more prominent and permanent signage at exit that reinforces circulation plan.	$	Low
		NAI-066	No bicycle parking on campus.	Provide well-lit secure bike parking near main entrances of school. Provide enough bike parking to accommodate 20% bike mode share.	$	High
2	Shurtleff Avenue and Shetler Avenue intersection	NAI-067	Poor motorist yielding behavior; low-visibility crosswalks in highly-travelled school-zone intersection; missing red zones allow motorist to park adjacent to crosswalks; wide curb radii and set-back curbs facilitate fast turning movements and increase pedestrian crossing distances.	Install curb extensions on all four corners, upgrade existing crosswalks to high-visibility school-zone pattern.	$$	High
		NAI-068		Install curb ramp where missing on southwest corner.	$	Low
3	Shurtleff Avenue from Terrace Drive to Imola Avenue	NAI-016	Sidewalk gaps along corridor.	Fill sidewalk gaps on both sides from Lexington Court to Imola Avenue.*	$$$$	High
		NAI-017	No bike facilities.	Install Class II bike lanes*	$$	Medium
		NAI-069	Long corridor with multiple straightaways and no traffic-calming and little traffic control facilitates motorist speeding.	Install traffic-calming measures throughout corridor.	$$-$$$$	Medium
4	Shurtleff Avenue and London Way intersection	NAI-018	Low-visibility crosswalk in school zone, high-visibility pattern is faded across Shurtleff. Shurtleff Avenue traffic uncontrolled. Wide curb radii facilitate fast turning movements, set-back curbs increase pedestrian crossing distances, missing red zones allow motorists to park adjacent to crosswalks.	Install curb extensions on London Way corners and east side of Shurtleff Avenue, repaint both crosswalks with high-visibility school-zone pattern.	$$	High

|	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
5	Shetler Avenue from Soscol Avenue to Sommer Street	NAI-070	Sidewalk gaps from Parrish Road to Soscol Avenue.	Fill sidewalk gaps.*	$$$	High
		NAI-071	No crosswalk striping at South Terrace Drive, Wilkins Avenue, and Coronado Avenue.	Install crosswalk striping along Shetler Avenue at Coronado Avenue, South Terrace Drive, and Wilkins Avenue.	$	Low
		NAI-072	No bicycle facilities.	Install Class III bike boulevard with sharrows, signage, and traffic-calming measures from Soscol to Sommer.*	$$	Medium
		NAI-073	Missing "Slow School Crossing" paint on Shetler at Parrish Road intersection.	Paint "Slow School Crossing" stencil on Shetler Avenue approaching Parrish Road.	$	Low
6	Imola Avenue from Soscol Avenue to Penny Lane*	NAI-004	No eastbound sidewalk, significant westbound sidewalk gaps. No bicycle facilities.	Install Class I shared-use path* on the south side of the corridor per the Imola Plan.	$$$$	High
		NAI-005		Fill sidewalk gaps on the north (westbound) side of the corridor and address maintenance issues (broken sidewalks, lack of curb ramps).*	$$$$	High
		NAI-007	No bicycle facilities.	Install Class II bicycle lanes in both directions from Soscol to Shurtleff Avenue. Install Class III bike boulevards with sharrows, signage, and traffic-calming measures and Class III/Class II hybrid facilities from Shurtleff Avenue to Penny Lane, consistent with the NVTA Imola Corridor Plan.*	$$	Medium
		NAI-008	Low street lighting.	Install street lighting.	$$-$$$	High
		NAI-009	Long, straight corridor heading into rural area with no traffic-calming or traffic control and little bicycle/pedestrian infrastructure facilitates frequent motorist speeding.	Install traffic-calming measures along corridor (consistent with Imola Corridor Plan).	$$-$$$	Medium
7	Shetler Avenue and Russell Street intersection	NAI-006	No curb ramps, faded low-visibility crosswalk pattern in school zone.	Install ADA-compliant curb ramps on all corners of the intersection. Restripe crosswalk with high-visibility, yellow striping.	$	Low

Left Table

#	LOCATION	ID #	BARRIER	RECOMMENDATION	COST	PRIORITY
8	Shurtleff Avenue and Peppergrass Street intersection	NAI-074	No crosswalk across Peppergrass Street and curb ramp on east corner of Peppergrass Street and Shurtleff Avenue; sweeping curve in road decreases visibility of bicyclists and pedestrians on the road.	Paint crosswalk across Peppergrass Street. Install ADA-accessible curb ramp on east corner of intersection.	$	Low
		NAI-075	Long, straight corridor with no traffic-calming or traffic control facilitates motorist speeding.	Install traffic-calming measures throughout corridor; prioritize traffic-calming features that can also improve Terrace Drive crossings (ex. Terra Verde Dr).	$$-$$$$	Medium
9	Tejas Avenue from Imola Avenue and Muir Street	NAI-013	No sidewalks on either side of the street. Motorist speeding (particularly through Muir intersection).	Install sidewalks on both sides from Imola Avenue to Muir Street.*	$$	Low
		NAI-014		Install crosswalks across Tejas Avenue at Muir Street and Imola Avenue and across Imola Avenue on the west side of the intersection.	$	Low
10	Navarre Street and Muir Street intersection	NAI-015	No crosswalk across Navarre Street; curbs do not have curb ramps; cars park along intersection curbs and obstruct pedestrian visibility.	Paint crosswalk across Navarre; install ADA-compliant curb ramps with red zones on both sides.	$	Low
11	Sommer Street and Muir Street intersection	NAI-019	No crosswalks; curbs do not have curb ramps.	Paint crosswalks across Sommer Street and across Muir Street on west side of intersection; install ADA-compliant curb ramps.	$	Low
12	Perkins Street and Sommer Street intersection	NAI-020	Curbs do not have curb ramps.	Install ADA-compliant curb ramps.	$	Low
13	South Terrace Drive from Imola Avenue to north end of road	NAI-076	Missing/narrow sidewalks.	Install sidewalks where missing*, widen existing sidewalks where narrow to City minimum standard (4 feet).	$$$	Medium
		NAI-077	No bike facilities.	Install Class II bike lanes.*	$$	Medium
14	Wilkins Avenue from Kansas Avenue to Imola Avenue	NAI-078	Missing sidewalks from Park Sienna Apartments to Shetler Avenue.	Install sidewalks where missing.* Address tree obstruction of sidewalk in front of Park Sienna Apartments.	$$	Medium
		NAI-079	Missing sidewalks from Shetler Avenue to Imola Avenue.	Install sidewalks where missing.*	$$	Low
15	Shurtleff Avenue and Seville Drive intersection	NAI-080	No crosswalks	Paint crosswalk across Seville Drive.	$	Low
16	Shurtleff Avenue and Cayetano Drive intersection	NAI-081	Missing crosswalk across Cayetano Drive; long crossing distance across Shurtleff Avenue; Shurtleff Avenue traffic uncontrolled; missing curb cuts on northwest corner.	Install crosswalk across Cayetano Dr on east side; install curb extensions on corners of crosswalk across Shurtleff Ave; install ADA-compliant curb ramp on northwest corner.	$$	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	Obstructions in sidewalk (garbage cans, parked vehicles, vegetation).	NAP-001	Neighborhood education addressing obstructions in sidewalks and crosswalks (garbage cans, vehicles).	Surrounding neighborhoods	As needed	$	Medium
2	Congestion and conflict in school zone.	NAP-008	Update circulation plan and policies with emphasis on separation of travel modes and behavior expectations of road users. Increase communication of plan/policies to families.	School zone	Update plan annually if needed and increase communication as-needed.	$	Medium
		NAP-010	Continue growing participation in annual countywide encouragement events. Organize additional encouragement events with goal of increasing frequency of events over time. Form walking school bus/bike train groups.	School zone	Annual for countywide events. Quarterly for independent events. Walking school bus/bike train monthly with the goal of increasing frequency.	$	High
3	Irregular bicycle/pedestrian safety education.	NAP-009	Provide annual in-school bicycle and pedestrian safety education for all students.	School campus	Annual	$	High

COLLISION MAP AND DATA
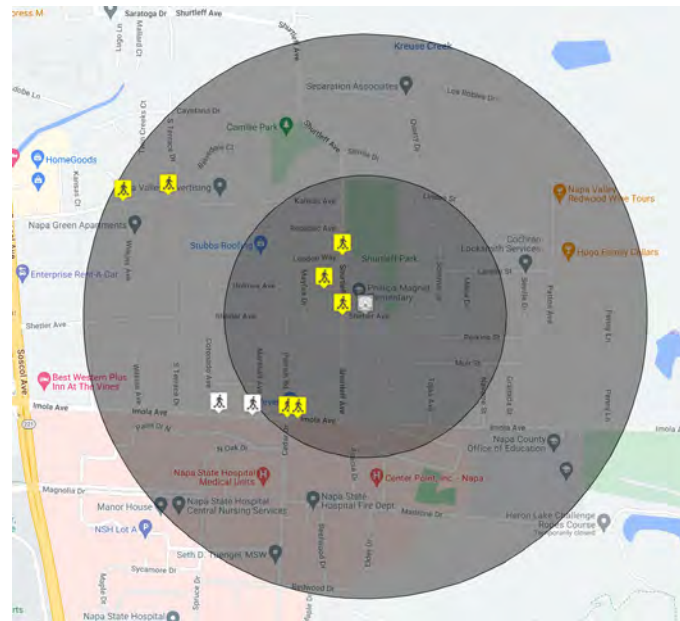
Map 6: Collision Map (2016-2020) (Source: UC Berkeley Transportation Injury Mapping System: SRTS Collision Map Viewer)

Summary Statistics

RADIUS	FATAL	SEVERE INJURY	VISIBLE INJURY	COMPLAINT OF PAIN	PEDESTRIAN	BICYCLE	TOTAL
< .25 mi.	0	0	5	1	6	0	6
.25-.5 mi.	0	0	2	2	4	0	4
Total	0	0	7	3	10	0	10

Collision List

Case ID	Date	Time	Primary	Secondary	Distance	Direction	Bike	Ped
7183992	2016-01-22	07:03	KANSAS AV	WILKINS AV	0.00	-	No	Yes
7188105	2016-02-05	07:53	SHETLER AV	SHURTLEFF AV	0.00	-	No	Yes
8172179	2016-11-05	18:54	KANSAS AV	SOUTH TERRACE DR	75.00	W	No	Yes
8859443	2019-05-06	15:02	LONDON WY	SHURTLEFF AV	0.00	-	No	Yes
90257272	2016-08-25	18:50	IMOLA AVE	PARRISH ROAD	0.00	-	No	Yes
90896126	2018-12-28	14:27	IMOLA AVE	CORONADO AVE	80.00	E	No	Yes
91317973	2020-09-26	04:25	IMOLA AVENUE	MARSHALL AVENUE	80.00	W	No	Yes
8030872	2016-04-22	14:07	LISA CT	SHURTLEFF AV	300.00	W	No	Yes
8310301	2017-02-13	16:12	SHETLER AV	SHURTLEFF AV	0.00	-	No	Yes
90246699	2016-08-12	20:50	IMOLA AVENUE	PARRISH ROAD	100.00	E	No	Yes

Figure 10: Collision Data (2016-2020) (Source: UC Berkeley Transportation Injury Mapping System: SRTS Collision Map Viewer)

APPENDICES

Appendix A: EMC Survey Toplines

Appendix B: Universal Recommendations

Appendix C: Quick-Build Options for Infrastructure Improvements

Appendix D: Bike Parking Guide

Appendix E: Recommendation Cost Range Matrix

Appendix F: Next Steps

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.

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[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 <u>ONLY</u> RESPONSE SELECTED**	14
(No response) → **TERMINATE**	-

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614-268-1660   972-717-7427   510-844-0680   503-444-6000   206-652-2454   202-686-5900

(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

EMC research

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

EMC research

9INT. Continuing to <u>think about times **before** the COVID-19 pandemic,</u> 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**)** <u>**walking**</u> 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**)** <u>**riding a bike**</u> 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

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

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)

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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 <u>once the COVID-19 pandemic has
        ended?</u> **(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**)** <u>currently</u> 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

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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!

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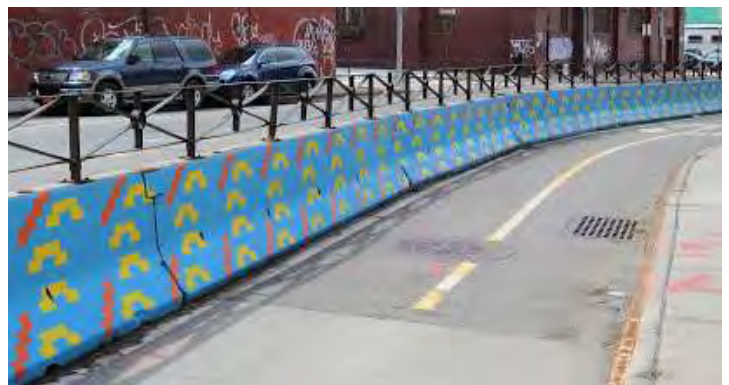
Photo credits, top to bottom: Alta Planning + Design; Real Hartford; Alta Planning + Design; Street Plans Collaborative

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.

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.

Photo credit: Alta Planning + Design

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

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.

Parking Time →

Short-Term Parking	Long-Term Parking
Convenient *Easy to use*	*Secure* *Sheltered*
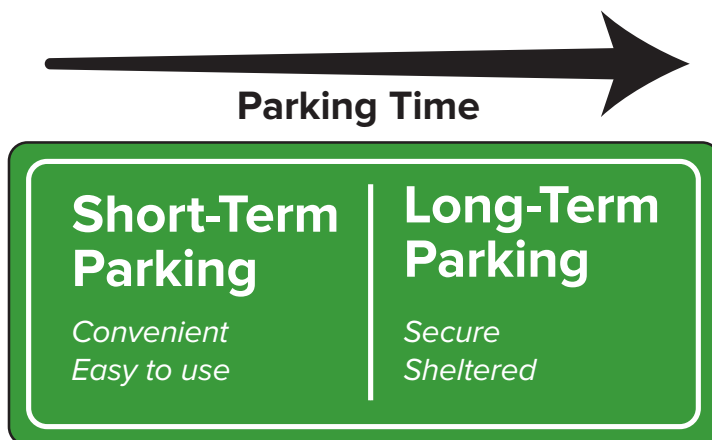
SHORT–TERM PARKING

Effective bike parking for short-term users depends on two main factors: 1) proximity to the destination and 2) ease of use.
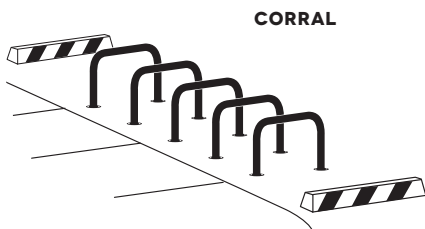
Short-term parking is designed to meet the needs of people visiting businesses and institutions, and others with similar needs—typically lasting up to two hours. Short-term users may be infrequent visitors to a location, so the parking installation needs to be readily visible and self-explanatory.

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**
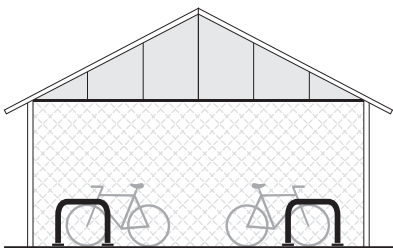
LONG-TERM PARKING

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.
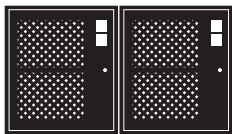
BIKE LOCKERS

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.
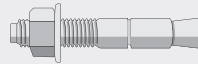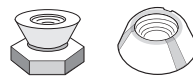
FASTENERS

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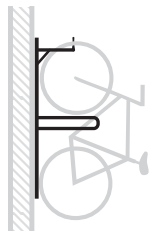
Typically used for high-density indoor parking. Not accessible to all users or all bikes, but can be used in combination with on-ground parking to increase overall parking density. Creates safety concerns not inherent to on-ground parking.

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

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.
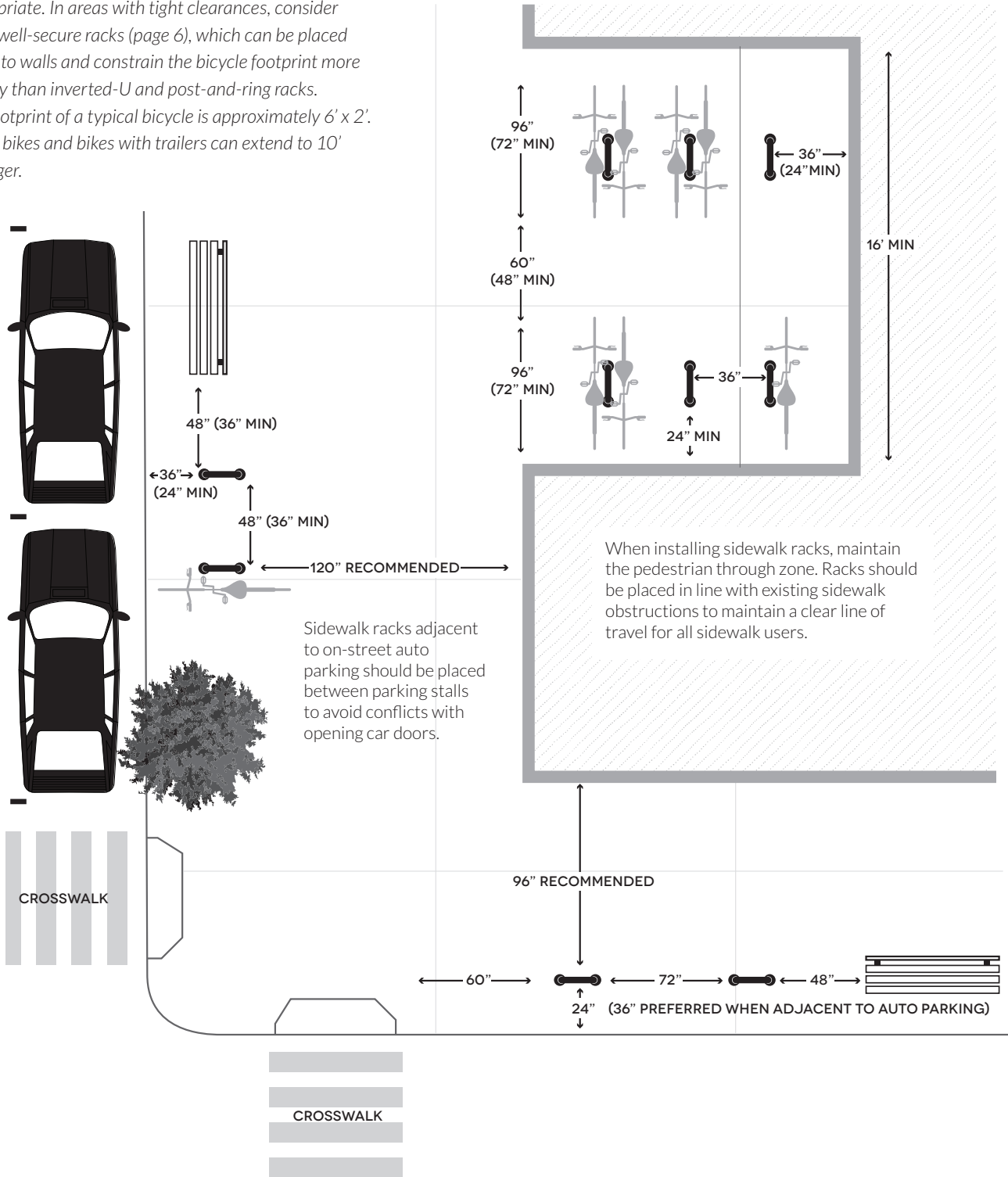
RACK MATERIALS & COATINGS

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.

96"
(72" MIN)

60"
(48" MIN)

96"
(72" MIN)

36"
(24"MIN)

36"

24" MIN

16' MIN

48" (36" MIN)

36"→
(24" MIN)

48" (36" MIN)

←120" RECOMMENDED→

Sidewalk racks adjacent to on-street auto parking should be placed between parking stalls to avoid conflicts with opening car doors.

When installing sidewalk racks, maintain the pedestrian through zone. Racks should be placed in line with existing sidewalk obstructions to maintain a clear line of travel for all sidewalk users.

CROSSWALK

96" RECOMMENDED

←60"→ ←72"→ ←48"→

24" (36" PREFERRED WHEN ADJACENT TO AUTO PARKING)

CROSSWALK

APPENDIX E

Recommendation Cost Range Estimates

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):

- <u>Engage parents in advocating for implementing the recommendations</u>. 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.

    o <u>Action Steps</u>:

        ▪ Hold up to seven safety summits at various school sites

        ▪ Form SRTS advisory committee

- <u>Provide education and encouragement programming</u> 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.

    o <u>Action Steps</u>:

        ▪ 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

- <u>Conduct community-based safety education programming</u> 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.

- o <u>Action Steps:</u>
    - ▪ <u>Conduct up to nine bilingual Family Biking Workshops</u>
    - ▪ <u>Conduct up to six community events and rides</u>

- <u>Secure future funding for the Safe Routes to School Partnership (SRTS).</u> 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.

    - o <u>Action Steps:</u>
        - ▪ Apply for competitive and discretionary grant funding
        - ▪ Seek funding support from jurisdictions
        - ▪ Seek funding support from community health
        - ▪ Provide annual program reports to stakeholders