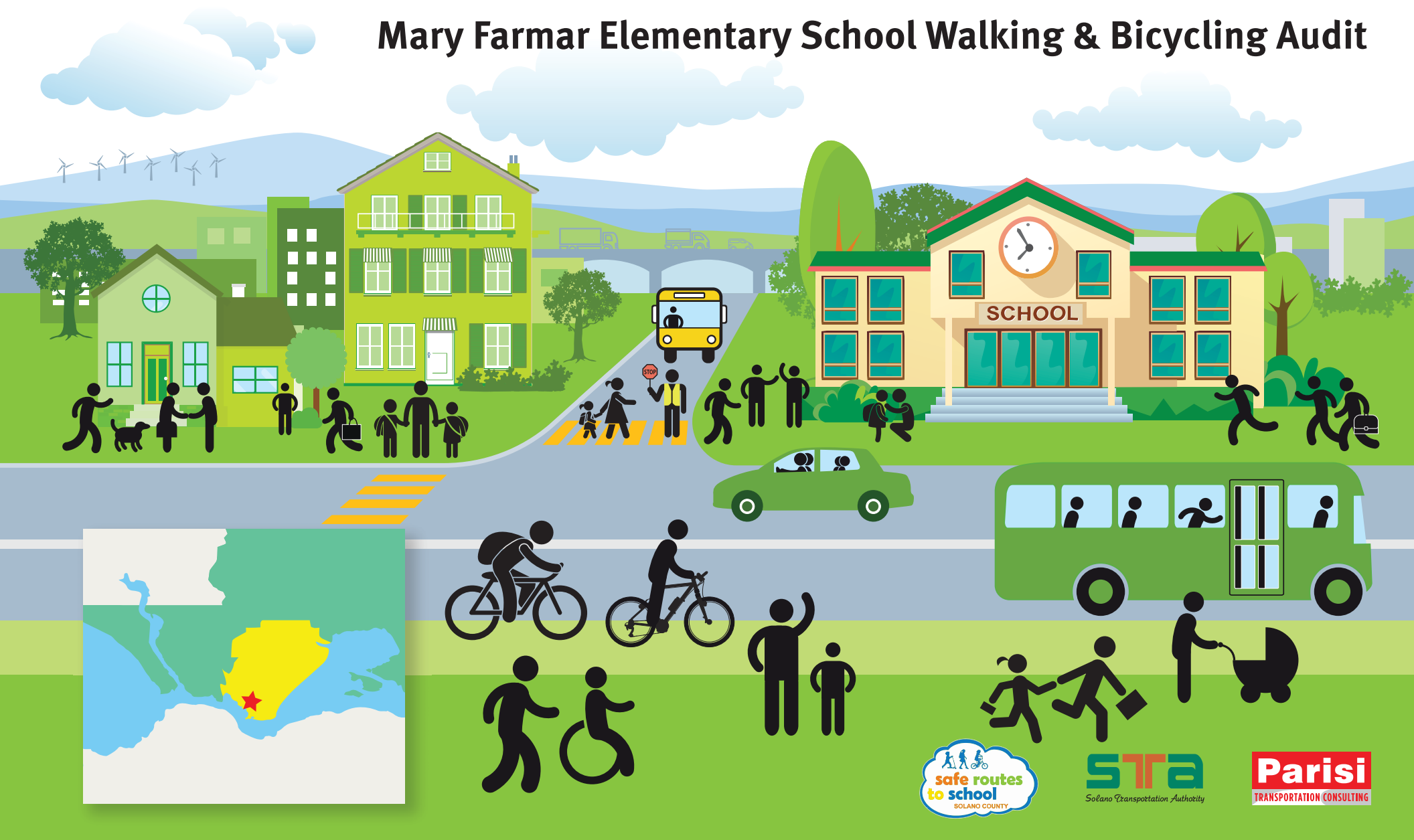


APRIL 2019

BENICIA UNIFIED SCHOOL DISTRICT

# Mary Farmer Elementary School Walking & Bicycling Audit



## Mary Farmar Elementary School Walking and Bicycling Audit

### School Information



Mary Farmar Elementary School (Mary Farmar) is an elementary school within the Benicia Unified School District.

#### School Profile

Address: 901 Military West, Benicia, CA 94510

Grades: K – 5th

Number of Students: 500

### Access

Pedestrian and bicycle access to and from Mary Farmar is provided via the school entrances along Military West and Drolette Way.

A multi-use overpass pathway allows students to cross Military West from the residential neighborhood west of Military West onto the Mary Farmar campus. However, there is no connecting paved multi-use path leading from the bridge into the interior of the campus. Students are required to walk along the multi-use pathway running parallel to Military West on to the main driveway and walk into the campus via the sidewalk leading to the interior of the campus. However, many students walk across the school grounds via the grassy fields to access the interior of the campus.

Benicia Primary vehicular access to and from the campus is provided via Military West, a major arterial roadway generally running in the northwest-southeast direction. Access to the interior of the campus is provided via a 600-foot long access roadway located about 700 feet north of the Military West and Drolette Way intersection. Drolette Way is a local street that provides additional access to Mary Farmar. There is a secondary vehicular access point along Drolette Way

approximately 500 feet north of Military West. The school is located just south of Benicia High School, a public school that is also accessed via Military West. Drolette serves as a connection between Military West and the residential neighborhood surrounding Mary Farmar.

There are three primary drop-off and pick-up locations used to access the school.

→ **Mary Farmar driveway along Military West.** The 600-foot long driveway provides access to a drop-off and pick-up driveway and on-campus parking lot in the interior of the campus. During the morning drop-off period, students are driven to the interior of the campus where they are let out of their vehicles. During the afternoon pick-up period, parents drive on to the campus and wait in their cars for their children to be let out of school.

→ **Military West pedestrian overpass via W 9th Street.** Families living in the neighborhood west of Military West use the pedestrian overpass as a connection to the campus. Motorists drive on to W 9th Street and drop-off or pick-up their children at the western terminus of the overpass. Students then use the overpass to access the main campus.

→ **Gated pedestrian and bicyclist access along Drolette Way.** This entrance is open before and after school for drop-off and pick-up activities. During the morning drop-off period, parents park their vehicles along Drolette Way and either walk their children or watch as they walk on to campus. After school, parents park vehicles along both sides of Drolette Way as they wait for their children to come out of school.



### Safe Routes to School (SR2S) Program Participation

The SR2S program, launched by Solano Transportation Authority (STA) in 2008, encourages students to walk and bike to school and supports these activities with educational events throughout the year.

School Year	Program Activity	Encouragement					Education		Evaluation	
		Bike to School Day	Walk to School Day	Poster Contest	Walk or Wheel Day	Walking School Bus	Bike Helmet Education/ Distribution	Bike Rodeo	Safety Assembly	Fall Travel Tally Surveys
2009-10										
2010-11										
2011-12										
2012-13										
2013-14			•							
2014-15		•	•	•						
2015-16		•	•	•		•				
2016-17		•	•	•		•				•
2017-18		•	•					•	•	•
2018-19			•			•				•

## Safe Routes to School Survey

As part of the Solano Transportation Authority's SR2S program student hand tally surveys are conducted regularly to understand the various travel modes students use to get to and from school. The travel surveys are a useful tool in measuring whether SR2S program goals are being met and identifying program resources that can be used to support walking, bicycling, taking transit and carpooling as means of transportation to school. Surveys are generally conducted twice a year, once in the fall and once in the spring. The surveys are done over a three-day period (Tuesday, Wednesday, and Thursday). During each survey students are asked how they traveled to school that morning, and how they plan to travel back home after school.

Results from the most recent survey conducted during the 2016 to 2017 school year are shown below.

### → 87 percent of students are driven to/from school.

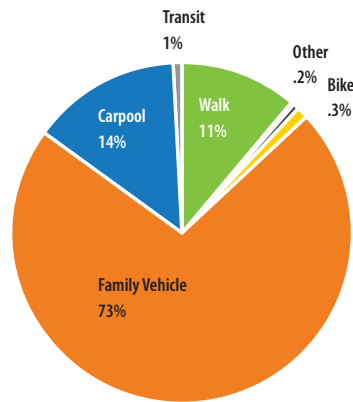
Seventy-four (74) percent of students travel in vehicles carrying one student, referred to as "family vehicle" trips. Fourteen (14) percent of students travel to school by carpool. Generally, there are about 440 students who are driven to school.

### → About 12 percent of students travel to/from school in an "active" way.

On average 11 percent of students reported traveling either to or from school by walking. Less than one-half percent of students travel by bicycling or "other" rolling means (e.g., scooter, skateboard etc.)

### → Approximately 28 percent of students travel to/from school using a sustainable mode of travel.

In addition to the 12 percent of students walking, bicycling, and rolling to school, and 14 percent of students who carpool, one percent of student ride public transit and one percent take the school bus. These are the travel modes promoted by the SR2S program.



Source: Benicia Unified School District, N=500 students  
Note: Percentages have been rounded and may not add up to 100%.

## Walking and Bicycling Audit

A walking and bicycling audit was held on Wednesday, May 18, 2018. In attendance were Mary Farmar's principal and two staff members, two Benicia Police Department officers, nine parents and representatives from the Solano Transportation Authority's SR2S program. The walk audit was led by Parisi Transportation Consulting Traffic Engineers with assistance from Alta Planning + Design staff.

Audit participants made observations during the morning drop-off period as students arrived for class. Observations included driver, bicyclist, and pedestrian travel behavior as students arrived at school. A follow-up visit was conducted by Parisi staff to review afternoon after-school conditions around the school area.

### INFRASTRUCTURE OBSERVATIONS

- There are gaps in the sidewalks within the neighborhood west of Military (see photo 11).
- Sidewalks around the school feature cracked and uneven paving and may present tripping hazards (see photo 10).
- The pedestrian overpass bridge across Military West appears to be deteriorating in condition. The pathways leading up to it on either end of the bridge feature cracked sidewalks that present tripping hazards. The supporting fence along the bridge appears to be dilapidated and is perceived as unsafe by parents (see photo 9).
- There is no connecting path between the overpass bridge and the interior of Mary Farmar. Students are forced to walk along the multi-use pathway parallel to Military West to access the school driveway. The path is also not connected to the sidewalk along Military West, this forces pedestrians to travel around the school to get to the arterial roadway.

### BEHAVIORAL OBSERVATIONS

- Audit attendees reported that drop-off and pick-up activity at the school entrance along Drolette Way was of most concern due to reasons stated below.
- Vehicles were observed illegally parking in the bus loading zone, identified by signage and a red curb. This hindered bus access for the school bus forcing it to park partially within the right of way (see photos 5 and 6).
- Vehicles parked along Drolette Way are often left unattended as parents walk their students to and from the school grounds. This causes traffic congestion, particularly in the southbound direction along Drolette Way, with vehicular queues spilling back onto nearby intersections (see photo 7).
- During the peak rush periods, on-street parking is often at capacity and vehicles double park along Drolette Way to access the school entrance. This hinders traffic flow and increases pedestrian safety hazards as students and parents walk in between cars along the street (see photos 2, 3 and 8).
- Drivers appear to ignore posted signage and make illegal U-turns along Drolette Way after stopping by the school entrance. This behavior increases safety hazards for pedestrians crossing Drolette Way and increases congestion for vehicles traveling along the street.
- Walk audit participants reported that during peak pick-up and drop-off times, vehicle queues at the school driveway spill back onto Military West. Drivers then park in bicycle lanes along Military West, limiting accessibility for bicyclists and pedestrians.
- Motorists going northbound on Military West appear to drive at high speeds where two lanes merge in to one. The merge is very close to the Drolette Way and Military West intersection and the fast driver speeds and close lane merge poses a safety hazards for pedestrians crossing or walking close to the intersection (see photo 12).



## Observations



Walk audit participants discuss safety concerns around the school.



Vehicles double-parked along Drolette Way during the morning drop-off period.



Vehicles double-parked along Drolette Way during the afternoon pick-up period.



Vehicles maneuvering around double-parked vehicles along Drolette Way.



Vehicle parked along red curb in bus loading zone.



Yellow school bus is forced to park on curb and impede pedestrian access.



Parents conduct pick-ups along Drolette Way.



Student loading into double-parked car along Drolette Way.



Parents and students use pedestrian overpass to cross Military West.



Multi-use pathway that parallels to Military West features cracked sidewalk, overgrown landscaping, and deteriorating fence.



Lack of sidewalks along West L Street.



Lane merge along Military West Street.

## Safe Routes to School Improvement Recommendations

An important element of the SR2S program is providing infrastructure improvements that support and encourage safe walking and bicycling to and from school. This Walk Audit Report includes a series of recommendations for transportation infrastructure improvements around Mary Farmar Elementary. These recommendations are based on observations made during the walking and bicycling audit, a post-audit engineering review, and a review of concerns raised by walk audit participants. The recommendations have been classified based on ease of implementation:

- **Short-term improvements** are lower cost improvements that can typically be implemented within a year.
- **Mid-term improvements** are improvements that may require additional planning efforts and funding and can typically be implemented within a three-year range.
- **Longer-range improvements** are substantial infrastructure improvements that would require additional funding and planning and can typically be implemented in a three to five-plus year range.

These improvements are summarized in the figure on the next page.

### PLANNED SAFE ROUTES TO SCHOOL IMPROVEMENTS

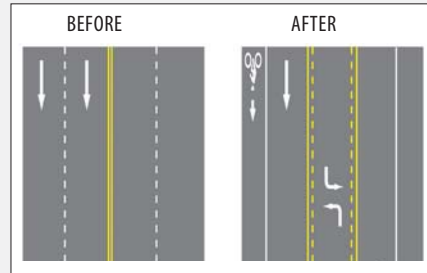
The City of Benicia has a series of safety improvements planned for implementation around Mary Farmar. The improvements were recommended as part of the 2018 Solano Travel Safety Plan. Within the vicinity of Military West at Drolette Way, the City plans to:

- Modify the speed limit;
- Install traffic calming measures;
- Implement automated speed enforcement cameras;
- Install curb extensions; and,
- Provide various school route improvements including a high visibility yellow crosswalk and ADA-compliant curb ramps.

### TOOLBOX OF POTENTIAL IMPROVEMENTS



*High-visibility school crosswalks make it easier for motorists to see crossing pedestrians.*



*Road diets calm traffic provide space for bicyclists, and can provide pedestrian refuges.*



*Stop bars set back from crosswalk provide additional buffer between vehicular traffic and pedestrians.*



*Replace obsolete or inappropriate school area signs to keep school traffic control up to date.*



*Red curb paint designates areas where parking is prohibited.*



*Curb ramps provide access to disabled pedestrians and parents walking with strollers.*



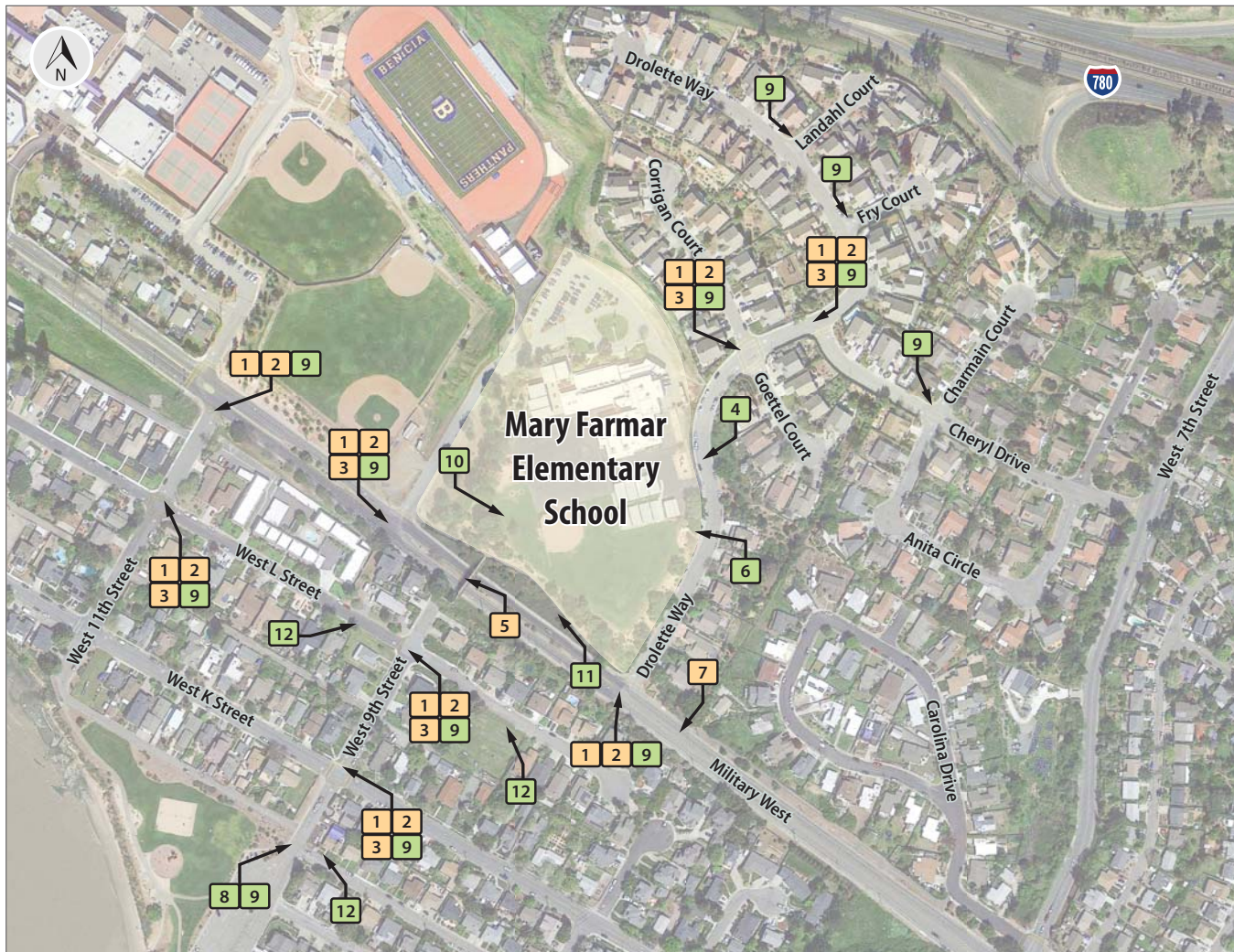
*Curb extensions shorten pedestrian crossing distance and enhance visibility.*



*Rectangular Rapid Flash Beacons (RRFB) increase yield compliance at uncontrolled crossings.*



## Potential Safe Routes to School Improvements at Mary Farmer Elementary School, Benicia



### LEGEND

#### Short-term Improvements

- 1** Install yellow high-visibility crosswalk markings
- 2** Install stop bars 10' back from crosswalk
- 3** Install 25' of red zone striping on both sides of crosswalk
- 4** Install double yellow lines to help reduce illegal U-turns
- 5** Provide regular landscaping maintenance along the pedestrian bridge
- 6** Provide regular enforcement to discourage red zone parking
- 7** Shift westbound lane merge area upstream east to reduce speeding and number of lanes at crosswalk

#### Long-term Improvements

- 8** Install ADA-compliant curb ramps
- 9** Upgrade curb ramps to meet ADA compliance
- 10** Install all-weather multi-use pathway to connect pedestrian overpass to interior of the school
- 11** Replace multi-use path (Long -Term: Replace pathway with ADA-compliant route)
- 12** Fill existing sidewalk gaps