

**A6**

# **Case Studies and Recommendations**



To: City of Sacramento
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Date: October 4, 2024
Re: Sacramento Active Transportation Plan – Case Studies

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## Introduction

The *Streets for People: Sacramento Active Transportation Plan* (the *Streets for People* plan) focuses on improving conditions for people walking, biking, and rolling in the city of Sacramento. This citywide plan is geared toward addressing active transportation needs with a focused approach on three areas of high need and historical disinvestment: Fruitridge/Broadway, North Sacramento, and South Sacramento.

The project team selected six case study areas for an analysis of common pedestrian and bicycle infrastructure challenges that exist in Sacramento today. These case study areas (shown in **Table 1**) were selected based on feedback from the Community Planning Team to be representative of the active transportation issues in the focus plan areas of Fruitridge/Broadway (FB), North Sacramento (NS), and South Sacramento (SS). The project team completed active transportation audits (referred to as *walking workshops* throughout this memo) for each case study area to document issues and opportunities for people walking, biking, and rolling specific to these locations.

This memo provides a summary of the walking workshops completed, documents observed issues and provides a set of potential improvements to enhance the walking, biking, and rolling experience for these audited areas. The issues are categorized into common themes, with characteristics that may be present in other parts of the city. The recommended improvements were developed to serve as replicable improvements, which may be applied in various parts of the city to address known barriers and enhance the transportation network for people walking, biking, and rolling in Sacramento. Each theme is defined below.

### Themes:

- **Major Barriers/Major Roadways** – Highlights how these roadways act as major barriers to active transportation within and between neighborhoods.
- **Schools and Neighborhoods** – Focuses on active transportation networks immediately surrounding schools within neighborhoods and identifies strategies to enhance connectivity to schools within and between neighborhoods.
- **Neighborhood Main Streets** – Includes roadways that provide access to commercial destinations and run through neighborhoods, acting as local main streets within the neighborhood. These roadways have unique challenges of providing access to their destinations while promoting safety through the residential portions of the corridor.
- **Connections to Parks/Recreation** – Focuses on areas with barriers, typically wider roadways, that hinder residents' access to nearby parks and recreation destinations.
- **Connections to Transit** – Focuses on areas with barriers, typically major roadways, that hinder residents' access to transit stops or create unwelcoming environments for transit users.
- **Connections to Trails** – Focuses on areas with barriers, typically major roadways, that hinder residents' access to local and regional trails that serve as key connections to other parts of the city.

**Table 1** connects the themes listed above with each focus plan area. Focus plan areas are mapped in **Figure 1**.

Table 1. Case Study Areas

	CASE STUDY AREAS	1. Robla Elementary School	2. Charles Robertson Park	3. Hiram W. Johnson High School	4. Will C. Wood Middle School	5. Steve Jones Park	6. Irene B. West Elementary School
	FOCUS PLAN AREA	NS	NS	FB	FB	SS	SS
THEMES	Major Barriers/Major Roadways		X	X		X	X
	Schools and Neighborhoods	X	X	X	X	X	X
	Neighborhood Main Streets				X		
	Connections to Parks/Recreation	X				X	
	Connections to Transit		X	X	X		
	Connections to Trails	X				X	

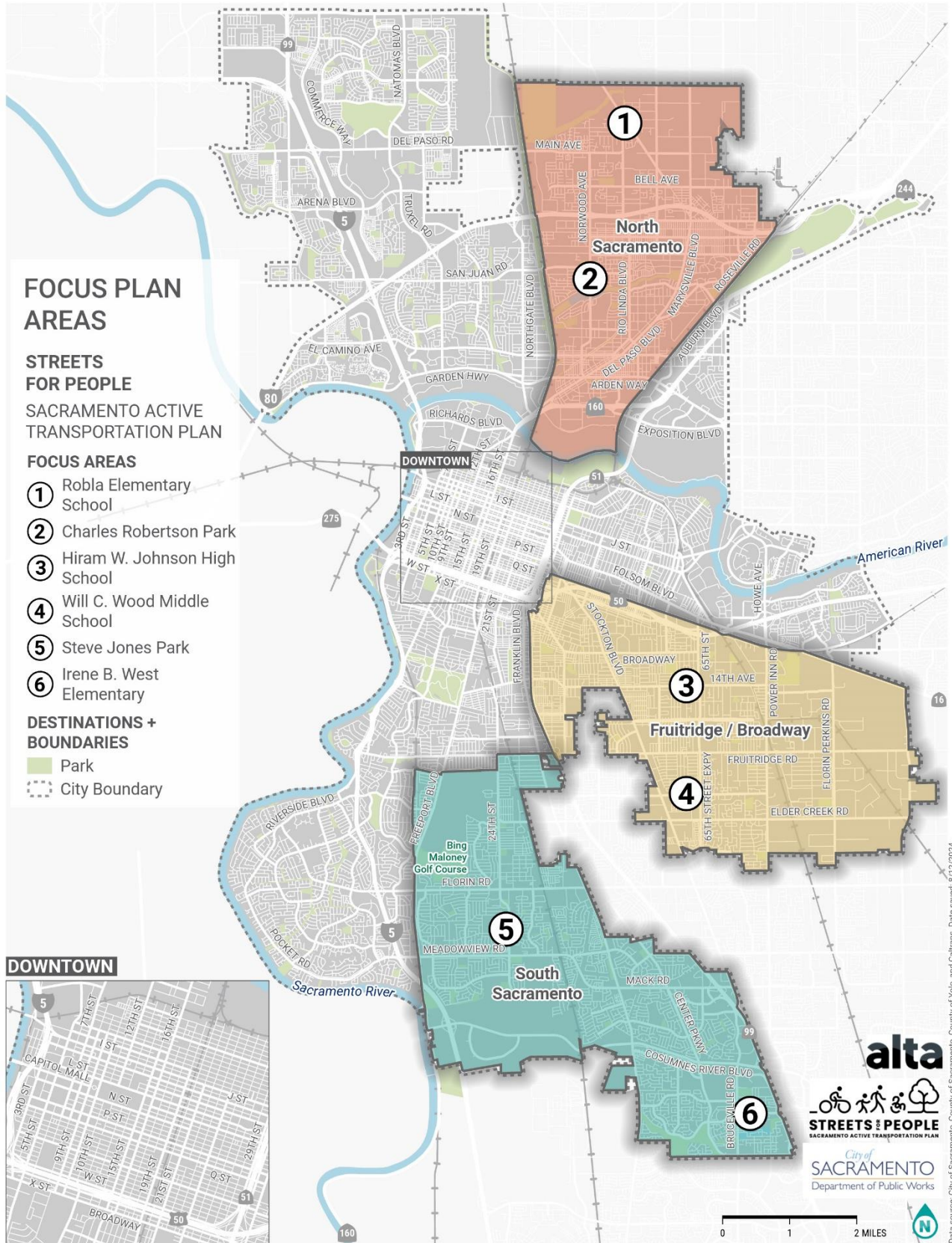


Figure 1. Case Study Areas

## Fieldwork Approach

The project team conducted walking workshops (Figure 2) in collaboration with Community Planning Team members and local community representatives. They also held listening sessions with community members to identify areas with significant mobility-related concerns relative to a community-serving destination, such as a school, community center, or grocery store. After identifying the most frequently cited locations, the project team used quantitative data, including crash rates, injury severity, and existing active transportation infrastructure, to determine a route approximately one mile from a central meeting point. This route enabled documentation of the lived experiences of community members, their interpretation of the street design and infrastructure characteristics, as well as observations of driver behavior and traffic conditions. This information was then used to confirm and complement existing large-scale quantitative traffic safety data to ensure any improvements from the project are supported by and in service to the surrounding community.



Figure 2. Walking Workshop Participants along Lemon Hill Avenue

One walking workshop was conducted in each case study area, each lasting two hours. Walking workshops were held during various times of day (i.e., morning, afternoon, and evening) to accommodate participant schedules. Participants identified and assessed existing issues and challenges for walking and biking. Participants documented specific issue areas using printed materials (Figure 3) and by taking photos. Participants also shared their everyday experiences moving about the case study areas. Each walking workshop was led by City of Sacramento staff and supported by Civic Thread staff with two culturally relevant interpreters. Language support was based on the surrounding demographics informed by census, public library, and local school attendance data. In total, 30 community members participated and shared their concerns, observations, and local expertise of the area.

To promote equitable access to participation, outreach materials were provided in culturally relevant languages (i.e., English, Spanish, Hmong, Chinese and Vietnamese) and interpretation was provided on the day of the walking workshop. Walking workshop maps containing QR codes linking to the citywide interactive feedback map were distributed to neighbors who frequently traveled in the area but could not join the walking workshops.

A summary of walking workshop locations, dates hosted, and number of attendees is included in Table 2 below.

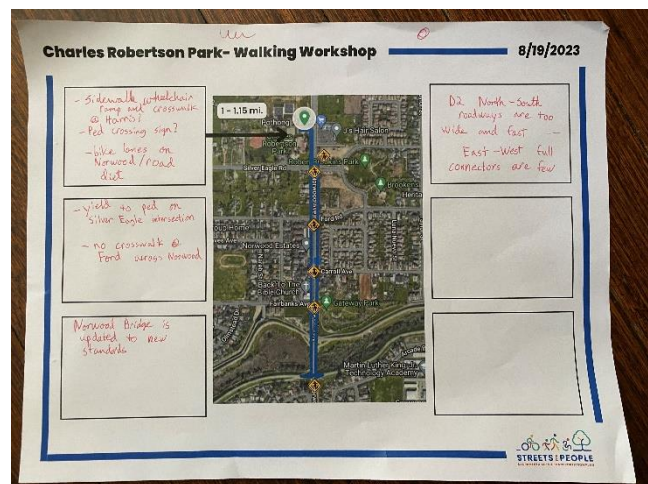


Figure 3. Participant Materials – Charles Robertson Park Walking Workshop

Table 2. Walking Workshop Locations (by Date)

Meeting Location	Date	Languages	Attendees
<b>Steve Jones Park</b> 2331 Casa Linda Dr., Sacramento, CA 95822 Focus Plan Area: South Sacramento	August 18, 2023	Chinese, Spanish	8
<b>Charles Robertson Park</b> 3525 Norwood Ave., Sacramento, CA 95838 Focus Plan Area: North Sacramento	August 19, 2023	Hmong, Spanish	8
<b>Robla Elementary School</b> 5248 Rose St., Sacramento, CA 95838 Focus Plan Area: North Sacramento	August 30, 2023	Hmong, Spanish	1
<b>Will C. Wood Middle School</b> 6201 Lemon Hill Ave., Sacramento, CA 95824 Focus Plan Area: Fruitridge/Broadway	September 12, 2023	Spanish, Vietnamese	7
<b>Irene B. West Elementary School</b> 8625 Serio Way, Elk Grove, CA 95758 Focus Plan Area: South Sacramento	September 14, 2023	Chinese, Vietnamese	2
<b>Hiram W. Johnson High School</b> 6879 14th Ave., Sacramento, CA 95820 Focus Plan Area: Fruitridge/Broadway	September 20, 2023	Hmong, Spanish	4

## Overall Findings Across Case Studies

Participants identified specific safety concerns within each case study area, and some positive attributes were documented. General concerns and comments about safety and conditions through all locations are summarized below:

- Crossings felt unsafe, too infrequent, or far apart, and the pedestrian phase time was too short to accommodate slow-walking residents.
- Sidewalks felt narrow and difficult to use comfortably, frequently cracked or in poor condition, or blocked by utility poles or boxes.
- Lack of general shading along sidewalks and at bus stops.
- Perceived speeding along major roadways.
- Improper and dangerous driver behavior. People driving were also documented engaging in dangerous behavior, such as not looking during turns and veering into bike lanes. There was also visible evidence of tire marks from donuts or burnouts at intersections.
- Bike facilities, where present, felt narrow and were in disrepair or included debris.
- Neighborhood streets and shared-use paths lack pedestrian-scale lighting.
- Rolled curbs allow drivers to park on the sidewalk blocking the pathway for people walking.

The potential improvements provided in this memo are for planning purposes only. Feasibility determination, final design, accessibility, funding, and implementation of any potential improvements will need to be undertaken in future feasibility studies and addressed at the individual project level.



## Case Studies

The project team categorized the comments received from community members during the walking workshops into four general topics:

- Active transportation infrastructure
- Amenities for people walking
- Driver behavior
- Intersections

The sections that follow present the generalized findings for each topic along with specific issues documented in each case study area.

### Robla Elementary School

**Themes:** *Schools and Neighborhoods, Connections to Parks/Recreation, Connections to Trails*

**Focus Plan Area:** *North Sacramento*

This section describes the Robla Elementary School case study area, which exemplifies the themes of *Schools and Neighborhoods, Connections to Parks/Recreation, and Connections to Trails*. The Sacramento Northern Bike Trail runs through the area, and there are many nearby parks. However, Rio Linda Boulevard and Marysville Boulevard cut off access for people walking, biking, and rolling to these local parks and trails. The potential improvements for this case study area aim to enhance connections across the roadways to reconnect residents to local parks and trails. These improvements can inform efforts to improve access for people walking, biking, and rolling to local parks, trails, and schools in areas throughout Sacramento with similar challenges.

#### Overview

The Robla Elementary School case study area is in North Sacramento at the intersection of Marysville Boulevard and Rio Linda Boulevard (**Figure 5**). The case study area is suburban, primarily surrounded by single-family homes. Rio Linda Boulevard connects Old Sacramento to the northern city limits while Marysville Boulevard connects the case study area to I-80. Consequently, they are primary corridors for residents driving to and from the Robla neighborhood. Further south, these corridors widen to four-lane roadways. Although both corridors have posted speed limits of 25 miles per hour (mph) near Robla Elementary School, walking workshop participants documented perceived speeding and high traffic volumes along these corridors as primary concerns. Coupled with the lack of walking and biking facilities in the case study area, these corridors are barriers for residents accessing the Sacramento Northern Bike Trail and nearby parks. Furthermore, the intersection of Rio Linda Boulevard and Marysville Boulevard is difficult for residents walking, biking, or rolling to Robla Elementary School.



Figure 4. Missing Sidewalks along Marysville Boulevard

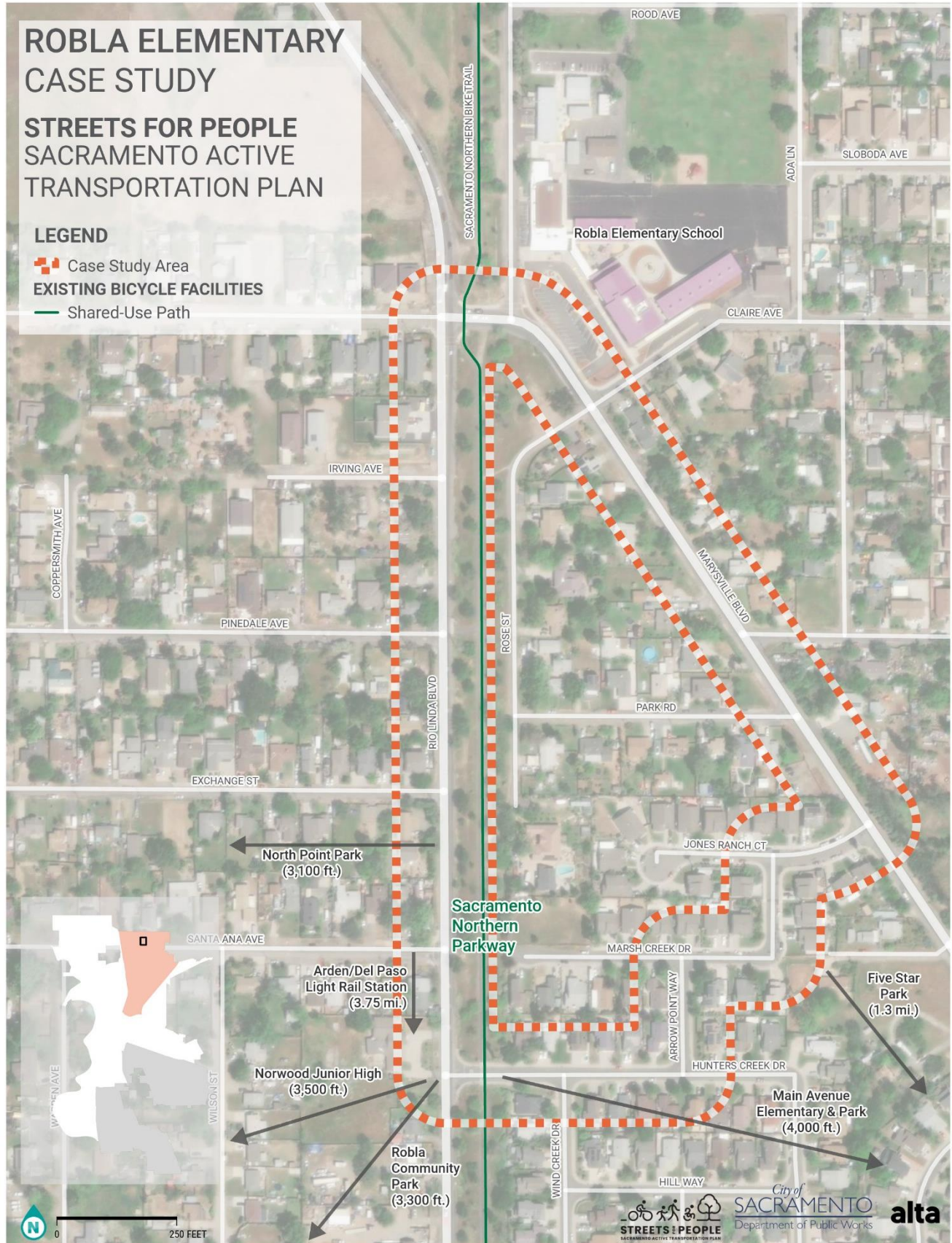


Figure 5. Robla Elementary School Case Study Area – Overview

The Sacramento Northern Bike Trail, a shared-use facility that runs north-south along the eastern side of Rio Linda Boulevard, extends four miles through the Noralto neighborhood and into downtown. There are two parks on the west side of the case study area (North Point Park and Robla Community Park) and two on the east side (Main Avenue Park and Five Star Park). Additionally, Norwood Junior High School is 2,500 feet southwest of the case study area and Main Avenue Elementary School is 4,500 feet to the southeast. Furthermore, Robla Elementary School, which serves over 300 students ages 5 to 11 and their families from the surrounding communities, is located at the intersection of Rio Linda Boulevard and Marysville Boulevard. Unfortunately, the absence of walking and biking facilities creates a lack of connectivity between residents and the school, as well as local trails and parks. Participants highlighted feeling unsafe crossing the street, missing sidewalks, perceived speeding, and missing east-west bike connections as the primary factors for inadequate connections to these destinations.

While the case study area is suburban, there are many destinations within walking and biking distance for residents. Within a half mile of the case study area, there are three churches and two grocery stores. Additionally, there is a Food 4 Less grocery store two miles north on the Sacramento Northern Bike Trail. The northeast side of the case study area is undeveloped open space extending to the northern city limits. There are bus stops along Rio Linda Boulevard for Sacramento Regional Transit District (SacRT) route 19, which provides connection to the Arden/Del Paso light rail station.

### Summary of Issues

The issues documented in the Robla Elementary School case study exemplify inadequate connections to local trails, parks, and schools. As noted, participants cited the lack of sidewalks near Robla Elementary School, perceived high speeds, vehicle traffic, and unsafe crossings on Rio Linda Boulevard and Marysville Boulevard as their primary concerns. The issues affecting connectivity in the case study area are separated into four categories: active transportation infrastructure, amenities for people walking, driver behavior, and intersections. These issues are documented in the following subsections and in **Figure 7**.



*Figure 6. Walking Workshop Participants Waiting to Cross Marysville Boulevard at Unmarked Crosswalk Location*

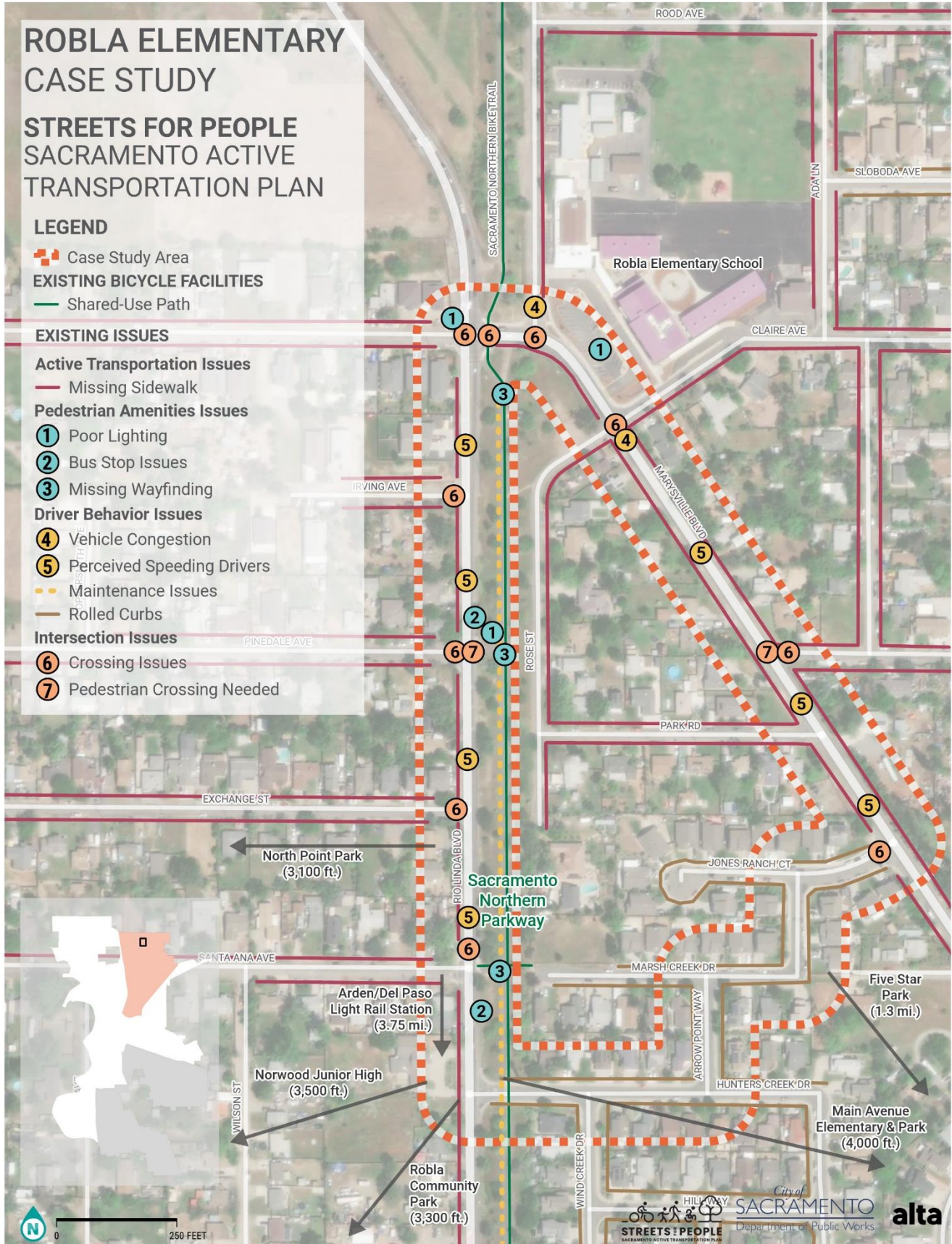


Figure 7. Robla Elementary School Case Study Area – Documented Issues

### *Active Transportation Infrastructure*

The case study area includes the North Sacramento Bike Trail, which extends four miles through the Noralto neighborhood and into downtown. There are bike lanes along Main Avenue (south of the case study area), which provide east-west connections from the North Sacramento Bike Trail to neighborhoods west of the case study area. However, there are no east-west bike facilities north of Main Avenue. Additionally, Rio Linda Boulevard, Marysville Boulevard, Claire Avenue, Irving Avenue, Pinedale Avenue, and Exchange Avenue all have sidewalk gaps or are missing sidewalks entirely. The lack of east-west facilities for people walking and biking hinders access to the Sacramento Northern Bike Trail. Additionally, a lack of marked crosswalks on Rio Linda Boulevard contributes to a reduced connectivity with this key trail; the nearest crossing opportunities in the case study area (Main Avenue and Marysville Boulevard) are located approximately a half mile apart. Moreover, the missing east-west connections hinder access across the case study area, creating a lack of connectivity between residents and the parks on either side.



*Figure 8. Missing Sidewalk along Marysville Road*

During the walking workshop, participants documented poor walking conditions where sidewalks were missing. They conveyed feeling unsafe walking alongside vehicular traffic with no designated space for walking or buffer separating them from traffic (see **Figure 8**). Along Rio Linda Boulevard and Marysville Boulevard, the missing sidewalks make it difficult for people to walk to the nearest safe crossing. Additionally, the missing sidewalks on Claire Avenue and Pinedale Avenue, which provide local east-west access through the case study area, hinder access to the Sacramento Northern Bike Trail, Robla Elementary School, and nearby parks. Furthermore, on local east-west roadways with existing sidewalks, rolled curbs allow cars to park on the sidewalk, which reduces the effective sidewalk width. This perpetuates the lack of comfortable east-west walking facilities and the lack of connectivity between residents, the trail, parks, and school. Finally, participants documented uneven pavement and overgrown vegetation along the North Sacramento Bike Trail (**Figure 9**).

### *Amenities for People Walking*

The lack of facilities for people walking in the case study area makes it difficult for residents to reach the Sacramento Northern Bike Trail, Robla Elementary School, and nearby parks by foot. As noted above, participants felt uncomfortable walking along Rio Linda Boulevard and Marysville Boulevard due to missing sidewalks and the proximity to motor vehicles. Participants also noticed a lack of lighting fixtures along these corridors, which makes it hard for drivers to see people walking during dark hours. Given the presence of students, this limited visibility is particularly dangerous at the intersections near Robla Elementary School. Additionally, participants cited a need for additional street trees and shade structures,

particularly around bus stops. The absence of these amenities forces people waiting for the bus to stand directly under the sun, a significant challenge in the warmer summer days. Crossing opportunities are limited on both Rio Linda Boulevard and Marysville Boulevard. In the case study area, marked crossings on these streets were identified as occurring every half mile on Rio Linda Boulevard (from Main Avenue to Marysville Boulevard) and occurring every two-thirds of a mile on Marysville Boulevard (from Main Avenue to Rio Linda Boulevard). The existing crossings felt unsafe to participants and too far apart to provide sufficient connections to the bus stops and the North Sacramento Bike Trail. Lastly, there are no wayfinding signs along the North Sacramento Bike Trail to orient users to local destinations or connecting bike facilities.



Figure 9. Maintenance Issues along North Sacramento Bike Trail

#### *Driver Behavior*

The design of Rio Linda Boulevard and Marysville Boulevard allows drivers to travel along both two-lane corridors for more than half a mile before reaching a stop sign or signalized intersection. Such long, uninterrupted roadways may encourage fast travel speeds in addition to the travel lanes, which are approximately 12 feet wide on both corridors. As a result, perceived speeding along these corridors is a major concern for neighbors even though there are posted speed limit signs of 25 mph near Robla Elementary School. These conditions make it challenging for residents to walk, bike, or roll across Rio Linda Boulevard and Marysville Boulevard and act as a barrier between residents and the Sacramento Northern Bike Trail, Robla Elementary School, and nearby parks. Additionally, the traffic congestion generated during the Robla Elementary School pick-up and drop-off procedures during arrival and dismissal times was noted as a safety issue for students walking and biking to school. The east-west crossing at the Rose Street and Marysville Boulevard intersection was highlighted as a problem location for students. During pick-up and drop-off times, vehicles turning left off Rose Street often cause a backup at the stop sign while they wait for a window to enter Marysville Boulevard.

### Intersections

Access to the Sacramento Northern Bike Trail is limited due to infrequent and unmarked crossing locations across Rio Linda Boulevard (spaced a half mile apart). Two existing designated crossing locations along Rio Linda Boulevard (Santa Ana Avenue and Pinedale Avenue) include overhead flashing lights. However, these locations do not have marked crosswalks and do not provide pedestrian-activated beacons (**Figure 10**). These conditions do not clearly indicate to drivers the presence of people crossing. Consequently, drivers may not yield to people waiting to cross. Moreover, the lack of lighting fixtures further reduces pedestrian visibility at night.



Figure 10. Overhead Beacon across Rio Linda Boulevard at Santa Ana Avenue

The absence of lighting fixtures was a prevalent issue near Robla Elementary School, particularly at the Rio Linda Boulevard and Marysville Boulevard intersection. Participants noted that short pedestrian phases and relatively long crossing distances (approximately 58 feet) make crossing the eastern leg of Marysville Boulevard—where the Sacramento Northern Bike Trail crosses Marysville Boulevard—difficult. Furthermore, the vehicle backup at Rose Street during school arrival and dismissal times makes it difficult for children to travel through the intersection. Limited sight lines on the Sacramento Northern Bike Trail and on the southbound Rio Linda Boulevard further hinder access to Robla Elementary School.

Along Marysville Boulevard, marked crossings are also limited to the intersections with Main Avenue and Rio Linda Boulevard. Because these crossings are just over a half mile (3,100 feet) apart, people may opt for crossing at unmarked locations, particularly residents along Pinedale Avenue and Claire Avenue (east of Marysville Boulevard) who are walking, biking, or rolling to the Sacramento Northern Bike Trail and to Robla Elementary School. Additionally, the side street approaches to Rio Linda Boulevard and Marysville Boulevard do not have marked crosswalks: Rose Street, Park Road, Jones Ranch Court, Hunters Creek Drive, and Exchange Street. The intermittent crosswalks make it difficult for people to walk along these corridors to reach bus stops and marked east-west crossing opportunities. Furthermore, residents who are walking, biking, or rolling have difficulty crossing the case study area to reach North Point Park, Robla Community Park, and Main Avenue Park.

## Potential Improvements

Potential improvements for the Robla Elementary School case study area aim to bridge east-west connections to the Sacramento Northern Bike Trail to support active travel to Robla Elementary School and local parks. These improvements can be used to enhance corridor connections to other trails, parks, and schools throughout Sacramento that experience similar challenges. The improvements are summarized in **Table 3** and **Figure 12**. Details on recommended improvements are provided in the following subsections.

### *Active Transportation Infrastructure*

**New and Improved Sidewalks:** The City could consider installing new sidewalks along Rio Linda Boulevard, Marysville Boulevard, Claire Avenue, Irving Avenue, Pinedale Avenue, Santa Ana Avenue, and Exchange Street. New sidewalks can enhance connections to the Sacramento Northern Bike Trail and Robla Elementary School and improve the overall walking experience in the case study area. For example, continuous sidewalks along Santa Ana Avenue and Claire Avenue could establish a designated space for residents to walk to the trail and the school. Additionally, existing sidewalks with rolled curbs could be hardened to prevent vehicles from parking on the sidewalks and obstructing the walking path. The hardened curbs could complete the sidewalk network and facilitate walking or rolling through the case study area.

**Traffic Calming Infrastructure and Separated Bicycle Facilities:** Implementing traffic calming infrastructure on local roads and separated bicycle facilities on major roadways can also support students who bike to school or residents who bike to the Sacramento Northern Bike Trail. To this end, the City could consider installing traffic calming elements along Claire Avenue (speed humps and curb extensions) and Santa Ana Avenue (curb extensions). Traffic calming features will reduce travel speeds and promote these routes as bicycle-friendly neighborhood connections. Additionally, the city should consider installing buffered bike lanes along Marysville Boulevard from Robla Elementary School to Bell Avenue and creating a bike boulevard on Claire Avenue. These facilities can provide new connections to Robla Elementary School, Main Avenue Park, and the Sacramento Northern Bike Trail. Separated bike lanes are also recommended along Main Avenue (west of Rio Linda Boulevard) to enhance the connection between North Point Park and the Sacramento Northern Bike Trail. Finally, in line with the citywide recommended network, the City could consider the implementation of shared-use facilities along Rio Linda Creek and Ascot Avenue along the northern city limits to integrate the case study area into the citywide bike network.

### *Amenities for People Walking*

**Wayfinding Signage and New Sidewalks:** Signage indicating the proximity of destinations via walking or biking can help integrate trails and parks into the neighborhood. To this end, the City could consider installing wayfinding signs along the recommended bike facilities and the Sacramento Northern Bike Trail to orient users with estimated travel times to local destinations (e.g. schools, trails, churches, etc.). As previously recommended, new sidewalks along Marysville Boulevard, Claire Avenue, Irving Avenue, Pinedale Avenue, Santa Ana Avenue, and Exchange Avenue would improve the walking experience along case study area corridors. Similarly, the recommended sidewalks on Rio Linda Boulevard can provide designated space for people walking and improving perceptions of safety for people walking along the corridor. These improvements could strengthen the walking corridors leading to the Sacramento Northern Bike Trail, Robla Elementary School, North Point Park, Main Avenue Park, and Robla Community School.



**Crossing Facilities and Pedestrian-Scale Lighting:** New crossing facilities are also recommended to improve access for people walking across the case study area. Particular attention could be paid to the following intersections:

- Rio Linda Boulevard and Bell Avenue (high-visibility crosswalks and tightening of curb radii)
- Rio Linda Boulevard and Claire Avenue (high-visibility crosswalks)
- Rio Linda Boulevard and Main Avenue (high-visibility crosswalks)
- Rio Linda Boulevard and Pinedale Avenue (high-visibility crosswalks with rectangular rapid flashing beacon [RRFB])
- Rio Linda Boulevard and Santa Avenue (high-visibility crosswalks with RRFB)

The City could also consider installing pedestrian-scale lighting around Robla Elementary School (e.g., Marysville Boulevard and Rio Linda Boulevard intersection) to enhance nighttime pedestrian visibility and improve perceptions of safety. These improvements can improve crossing safety along Rio Linda Boulevard and Marysville Boulevard and enhance access to the Sacramento Northern Bike Trail and existing bus stops.

**Transit Amenities:** The City should work with SacRT to install bus shelters to provide transit users with shade while waiting for the bus (**Figure 11**). Bus shelters could also have wayfinding signs, bus network maps, and pedestrian-scale lighting. If bus shelters are not feasible, the City could plant more trees for shade around bus stops and wayfinding signage. Reducing the exposure to the hot summer sun can support transit users by making their waiting experience more pleasant. The City can apply these improvements to bus stops throughout the City to improve the local transit experience.



*Figure 11. Existing Bus Stop for Route 19 at Main Avenue and Rio Linda Boulevard, Which Lacks Amenities*

#### *Driver Behavior*

**School Zone:** The City could implement a school zone to reduce speed limits near Robla Elementary School on Marysville Boulevard and Rio Linda Boulevard, including installing school speed limit signs along these streets. Reducing travel speeds could make it safer for students to cross Rio Linda Boulevard and Marysville Boulevard as they travel to school.

**School Safety Assessment and Improvements:** Specific to the Robla Elementary School pick-up and drop-off procedures, the City could consider conducting a school safety assessment to identify infrastructure, policy, and program interventions to improve student safety, such as rerouting parent pick-up and drop-off traffic around the school via Rose Street, Rood Avenue, Ada Lane, and Claire Avenue. For a more immediate intervention, the City could install advanced stop bars at the Rose Street approach to Marysville Boulevard. In the long term, the City may consider installing a raised crosswalk on this approach to prioritize pedestrians traveling through this intersection, reduce vehicle speeds, and reduce the frequency of drivers obstructing the crosswalk directly leading to the school.



Figure 12. Robla Elementary School Case Study Area – Potential Improvements

*Intersections*

**Leading Pedestrian Interval and Traffic Analysis:** In addition to the crossing improvements identified previously, the City could study the implementation of a leading pedestrian interval (LPI) for all crossing phases at the Rio Linda Boulevard and Marysville Boulevard intersection. Furthermore, the City could conduct a traffic analysis to determine if restricting the left turn from Rose Street onto Marysville Boulevard or rerouting school pick-up and drop-off traffic through an alternative route is feasible. Restricting the left turn may help clear the crosswalk of vehicles, making it safer for students to cross. These improvements can connect Robla Elementary School with the surrounding neighborhoods, making it safer for students and their families to walk, bike, and roll to school.

*Table 3. Robla Elementary School Case Study – General Issues and Potential Improvements by Category*

Category	General Issues	Potential Improvements
Active Transportation Infrastructure	Missing sidewalks	<ul style="list-style-type: none"> <li>• Close sidewalk gaps</li> </ul>
	Missing bike connections	<ul style="list-style-type: none"> <li>• Buffered bike lanes</li> <li>• Bike boulevards with traffic calming</li> </ul>
Amenities for People Walking	No pedestrian-scale lighting	<ul style="list-style-type: none"> <li>• Pedestrian-scale lighting</li> </ul>
	Rolled curbs/missing sidewalks	<ul style="list-style-type: none"> <li>• Close sidewalk gaps</li> <li>• Install vertical curb and gutter</li> </ul>
	No wayfinding signs	<ul style="list-style-type: none"> <li>• New wayfinding signs</li> </ul>
	No shade at bus stops	<ul style="list-style-type: none"> <li>• New bus stop shelters or street trees</li> </ul>
	No shade trees	<ul style="list-style-type: none"> <li>• New street trees wherever possible</li> </ul>
Driver Behavior	Perceived speeding	<ul style="list-style-type: none"> <li>• Separated bike lanes</li> <li>• School Zone</li> <li>• Speed limit signs</li> </ul>
	Vehicle congestion during school drop-off	<ul style="list-style-type: none"> <li>• School safety assessment</li> <li>• Study alternative route for pick-up/drop-off traffic</li> </ul>
	Crosswalk encroachment	<ul style="list-style-type: none"> <li>• Advanced stop bars</li> <li>• Raised crosswalk</li> </ul>
Intersections	Missing crosswalks	<ul style="list-style-type: none"> <li>• Install new high-visibility crosswalk with RRFB</li> </ul>
	Unsafe crossings	<ul style="list-style-type: none"> <li>• Upgrade standard crosswalks to high visibility</li> <li>• LPI</li> </ul>

## Charles Robertson Park

**Themes:** *Major Barriers/Major Roadways, Schools and Neighborhoods, Connections to Transit*

**Focus Plan Area:** *North Sacramento*

This section describes how Norwood Avenue serves as a major barrier in the Charles Robertson Park case study area. This case study evaluates the issues associated with the themes of *Connections to Transit, Schools and Neighborhoods, and Major Barriers/Major Roadways*. The section also provides potential improvements to address the issues associated with each theme. These improvements can be applied to other areas in Sacramento that experience similar challenges.

### Overview

The Charles Robertson Park case study area runs along Norwood Avenue in North Sacramento from Arcade Creek to Charles Robertson Park. The surrounding neighborhood comprises both single- and multi-family housing and offers various amenities. The surrounding communities include Norwood I-80, Oak Knoll, Johnson Heights, West Del Paso Heights, Strawberry Manor, and Richardson Village (see **Figure 13**). This case study exemplifies how major roadways create barriers for people walking, biking, and rolling between local schools, transit connections, and other amenities.

Norwood Avenue is a major north-south roadway and acts as a barrier between residents and local schools, parks, churches, grocery stores, and a community center within the case study area. Norwood Avenue is an arterial with a posted speed limit of 35 mph and a variable right-of-way: two lanes from Leitch Avenue to Fairbanks Avenue and five lanes from Fairbanks Avenue to I-80. The corridor is the primary connection between the Noralto neighborhood and I-80. Consequentially, concerns about perceived speeding and high traffic volumes make traveling along and crossing Norwood Avenue feel unsafe for residents walking, biking, or rolling to nearby destinations.

Notable locations on the west side of Norwood Avenue include Charles Robertson Park and Community Center, Strawberry Manor Park, Morey Avenue Preschool, Fairbanks Elementary, and four churches. On the east side, there is Pothong Market, Robert Brookings Park, Gateway Park, Del Paso Heights Elementary School, Martin Luther King Jr. Technology Academy, and three churches. Walter S. Ueda Parkway runs east-west along the southern end of the case study area. Additionally, SacRT serves the area with bus stops along Norwood Avenue (route 19) and Silver Eagle Road (route 86) providing connections to the SacRT blue line (light rail) at the Arden/Del Paso station. Within a mile of Charles Robertson Park, there are a total of eight transit stops:

- Norwood Avenue and Hayes Avenue
- Silver Eagle Road and Norwood Avenue
- Silver Eagle Road and Mabel Street
- Norwood Avenue and Kesner Avenue
- Norwood Avenue and Lindsay Avenue
- Grand Avenue and Taylor Street
- Norwood Avenue and Carroll Avenue

Participants in the walking workshop felt unsafe crossing and walking along Norwood Avenue due to its narrow and discontinuous sidewalks, and perceived speeding drivers. Additionally, participants perceived biking along Norwood Avenue as uncomfortable due to perceived speeding drivers and a discontinuous bike lane. These roadway conditions create an unwelcoming and uncomfortable environment for residents to walk, bike, and roll to nearby destinations.

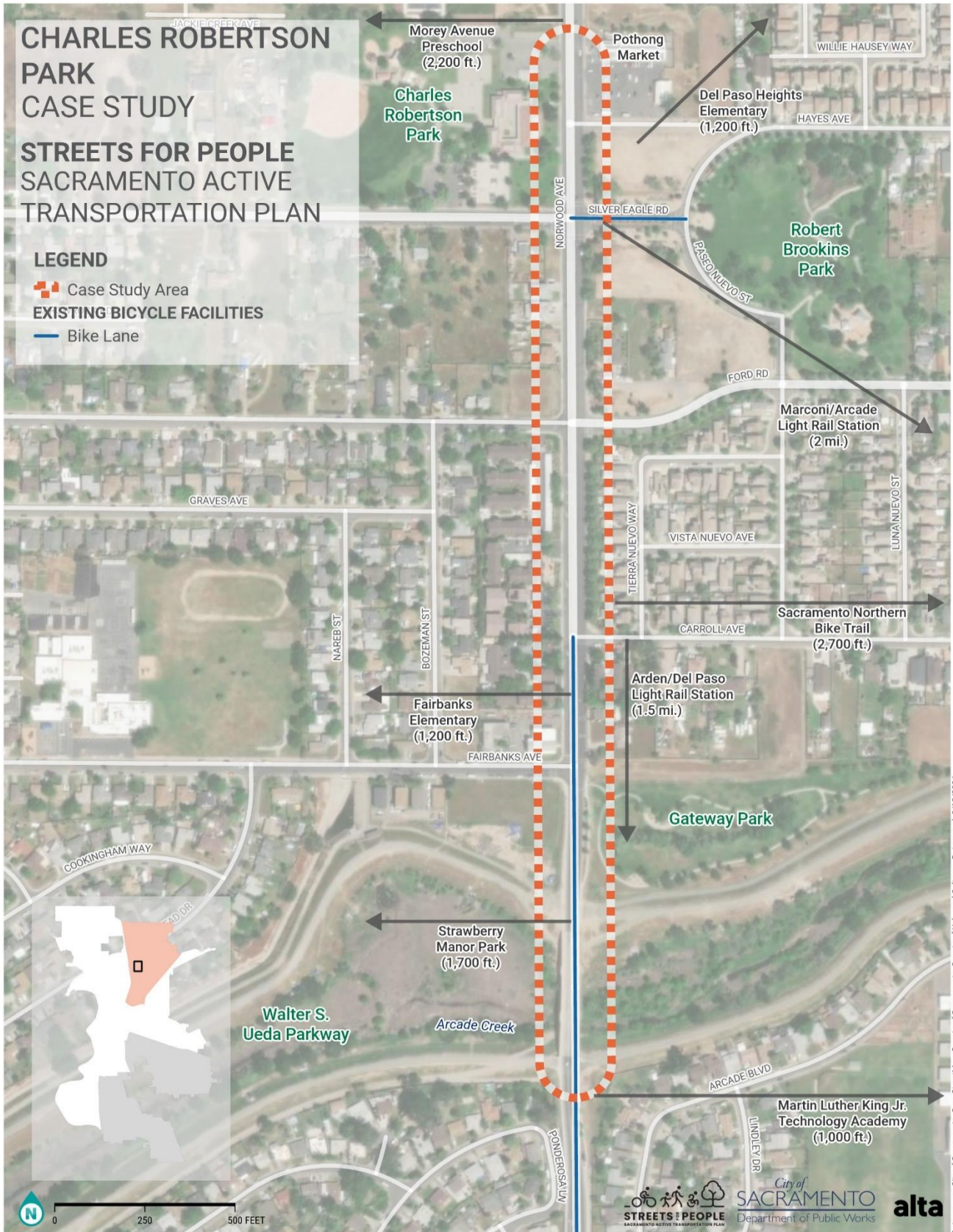


Figure 13. Charles Park Case Study Area – Overview

## Summary of Issues

Within the case study area, Norwood Avenue serves as a major barrier for people walking, biking, and rolling to the various destinations and transit stops on either side of the corridor. The most common concerns cited along the five-lane arterial included deficient sidewalks, lack of bike facilities and connectivity, infrequent crossing opportunities, and perceived fast travel speeds. Issues are highlighted in **Figure 14** through **Figure 16** with a map documenting all issues in **Figure 17**.

### *Active Transportation Infrastructure*

Walking workshop participants documented uncomfortable walking conditions along Norwood Avenue, citing narrow sidewalks as a major issue. Effective sidewalk widths along Norwood Avenue ranged from 3.5 to 6 feet, and portions of the sidewalk were in poor condition. Furthermore, the location of utility poles obstructed the walking path, making portions of the sidewalk too narrow for people requiring mobility devices. Overgrown vegetation was also documented along segments of the sidewalk. In comparison, the effective roadway width is 60 feet with two travel lanes and one turn lane. As walking workshop participants noted, the disparity between the narrow, obstructed sidewalks and the five-lane roadway creates uncomfortable walking conditions, particularly for people walking next to each other or passing. Additionally, portions of local roadways, including Silver Eagle Road and Hayes Avenue, have incomplete sidewalk networks (i.e., no sidewalk on either side of the street). This condition makes it difficult for people to comfortably walk along Norwood Avenue and adjacent streets and is particularly challenging for children, older adults, and people using mobility devices accessing schools, parks, transit, and churches.

The existing bike lane on Norwood Avenue extends north from the Noralto neighborhood and ends at Carroll Avenue. This abrupt end forces people on bikes to share a lane with faster motor vehicles, which can be discouraging and uncomfortable for most people. While travel lane widths north of Fairbanks Avenue range from 11 to 14 feet (**Figure 14**), the corridor does not include bike lanes, making the biking experience feel uncomfortable and unsafe. The existing bike lane markings over the bridge at Arcade Creek were also documented as fading and difficult to see, creating a perceived gap in the bike lanes. Moreover, while the portion of the corridor south of Fairbanks Avenue includes bike lanes, these tend to be 5 feet, including the gutter pan, which includes parallel drainage grates (**Figure 15**) that can be a hazard for slender bicycle tires and effectively narrows the available pathway for people biking along the corridor.



*Figure 14. Wide Right of way on Norwood Avenue*

These conditions make this segment of Norwood Avenue a barrier in the bike network for residents biking across Arcade Creek heading to and from the Arden/Del Paso light rail station and Martin Luther King Jr. Technology Academy. Participants also conveyed a need for better access between Norwood Avenue and the trail on Arcade Creek.



Figure 15. Parallel Drainage Grate along Norwood Avenue Bike Lane

The only east-west bike facility in the case study area is an isolated bike lane on Silver Eagle Road that extends one block from Norwood Avenue to Hayes Avenue. This short bike lane forces people on bikes to share a lane with motor vehicles after

crossing Norwood Avenue, a particularly stressful maneuver for seniors and children who may be biking or rolling to Charles Robertson Park or the Skate Park. This bike lane is isolated from the bike network and does little to connect Charles Robertson Park to Robert Brookins Park since it continues just 200 feet past Norwood Avenue. Furthermore, despite the Sacramento Northern Bike Trail being a quarter mile east of Norwood Avenue, the only designated connection is a bike route on Morrison Avenue. The discontinuous bike lanes and lack of connections to the nearby trails make it difficult for residents to bike along and across Norwood Avenue to reach local destinations within and across the case study area.

#### *Amenities for People Walking*

Participants regarded the pedestrian environment within the case study area as uncomfortable and unwelcoming. The lack of on-street parking on Norwood Avenue and the narrow sidewalks without a buffer force people to walk uncomfortably close to moving traffic. The corridor has little to no shade available through most of the case study area. Participants noted the lack of shade and bus stop amenities as a specific concern for transit users. Additionally, they identified the offset locations of existing bus stops relevant to marked crossing locations, which may lead to people crossing Norwood Avenue outside marked crosswalks. Participants identified the absence of wayfinding signs to direct people between the Arcade Creek Trail, Sacramento Northern Bike Trail, Charles Robertson Park, and other destinations as a concern. The narrow sidewalks, proximity to high-speed traffic, and lack of shade create uncomfortable conditions for people walking or waiting for the bus along Norwood Avenue.

#### *Driver Behavior*

During the walking workshop, participants felt unsafe walking along Norwood Avenue due to perceived speeding and heavy traffic. No posted speed limit signs were documented in the case study area along the five-lane road segment; however, speed limit signs (35 mph) are present further north outside the case study area. The five-lane section of Norwood Avenue has travel lanes ranging from 11 to 14 feet wide, which can result in drivers reaching higher speeds between the traffic lights. The observed driving behavior and inadequate sidewalks and bike lanes exacerbated the stressful experience of walking and biking along Norwood Avenue. The perceived high-speed of traffic was identified as the primary reason why participants considered Norwood Avenue a major barrier for biking and walking.

### Intersections

Participants documented feeling unsafe crossing Norwood Avenue due to perceived high vehicle speeds. They cited the corridor as a significant barrier for active travel between the various destinations on either side of the corridor. Participants named infrequent street crossings, long crossing distances, and short pedestrian phases at signals as some of their main crossing issues. The comments described marked mid-block and intersection crossings as too infrequent to provide direct access between neighborhood amenities and bus stops, which may lead to people crossing at unmarked locations.



Figure 16. Unmarked Crossing between Pothonng Market and Charles Robertson Park (View from Park)

Within the case study area are two signalized intersections a quarter mile apart: one at Fairbanks Avenue and the other at Silver Eagle Road. However, the crossings at these intersections do not line up with existing bus stops. Consequently, people must walk an additional 100 to 200 feet from the bus stop to use the marked crosswalks at these signalized intersections. Additionally, participants expressed difficulty walking between Pothonng Market and Charles Robertson Park due to limited crossing opportunities (**Figure 16**). Participants were concerned that this condition may encourage people to cross Norwood Avenue outside marked crosswalks and result in a greater risk of severe injury. Participants noted these conditions may encourage local residents to drive—rather than bike or walk—to local destinations due to safety concerns, particularly when transporting children.

At intersections where marked crossings were present, Fairbanks Avenue and Silver Eagle Road, participants noted several deficiencies including short pedestrian crossing times, lack of auditory features for the visually impaired, and long crossing distances. These were particularly concerning for walking workshop participants due to the proximity of Fairbanks Elementary School and Gateway Park to the Fairbanks Avenue intersection and of Charles Robertson Park and Robert Brookings Park to the Silver Eagle Road intersection. Therefore, these intersections do not provide safe enough connections across Norwood Avenue. Participants also identified perceived large curb radii and unmarked crosswalks at intersections along Norwood Avenue as factors that may encourage high speeds for turning vehicles and limit the crossing opportunities. Walking workshop participants identified these conditions at the following intersections:

- Fairbanks Avenue/Norwood Avenue
- Carrol Avenue/Norwood Avenue
- Ford Road/Norwood Avenue





Figure 17. Charles Robertson Park – Documented Issues

## Potential Improvements

The case study area's potential improvements address the uncomfortable conditions for walking, biking, and rolling along and across Norwood Avenue to encourage more active transportation use and address safety concerns. These improvements aim to enhance connections to local destinations and transit. The improvements are summarized in **Table 4** and **Figure 18**. The potential improvements detailed in the following subsections can be applied to other major roadways in Sacramento with similar characteristics.

### *Active Transportation Infrastructure*

**Consider reapportioning roadway space on Norwood Avenue:** To improve safety for people walking and biking along Norwood Avenue, the City could study traffic operations on the corridor to assess the feasibility of a road diet. Based on the results of this study, the City could reapportion some of the available right-of-way for sidewalk widening, adding a sidewalk buffer, or implementing enhanced bicycle facilities (buffered bike lanes or separated bike lanes) along Norwood Avenue from Fairbanks Avenue past I-80. This may also require narrowing existing travel lanes to 11 feet, where they currently extend beyond that width. With wider sidewalks along Norwood Avenue, residents may feel more comfortable walking to the bus stops, schools, parks, and other destinations along and adjacent to the corridor. The separated bike facilities on Norwood Avenue could provide greater connectivity between the case study area and the citywide bike network as well as enhance connections to the Arden/Del Paso light rail station and the Arcade Creek Trail.

**Extend bike lanes and add bike routes:** The City could extend the existing bike lane on Silver Eagle Road through Norwood Avenue to San Juan Road on the west. Additionally, the City may also enhance existing bike routes or add new bike routes with traffic calming elements such as speed humps, curb extensions, or chicanes along Carroll Avenue, Fairbanks Avenue, Ford Road, and Harris Avenue to provide additional neighborhood connectivity. These bike routes can provide connections to the regional Sacramento Northern Bike Trail and the proposed bikeway on Norwood Avenue.

**Add bike parking:** The City could add secure bicycle parking at Charles Robertson Park to accommodate visitors on bikes.

### *Amenities for People Walking*

**New Wayfinding Signage:** To improve the overall pedestrian experience, the City could install new wayfinding signs to provide directions and estimated travel times to key destinations (e.g., parks, schools, and churches). These signs can be placed at bus stops and major intersections throughout the case study area.

**Wider Sidewalks, Improved Sidewalks, and Sidewalk Buffers:** The City may also widen or add sidewalk buffers to improve the pedestrian experience. If a road diet is determined to be feasible between Fairbanks Avenue and I-80, the City could use some of the available right-of-way to plant new shade trees in a new sidewalk buffer to provide respite from the elements during the summer and winter months. Finally, to enhance pedestrian connections on minor adjacent roadways, the City could close sidewalk gaps and improve sidewalk conditions along Silver Eagle Road, Ford Road, and South Avenue.

**Transit Stop Improvements:** The City is also encouraged to coordinate with SacRT to install bus stop shelters for transit riders and consider locations for shade trees to improve transit passenger experience.

### *Driver Behavior*

**Reduce Lane Widths and Add Speed Limit Signs:** To reduce perceived travel speeds along Norwood Avenue, the City could reduce lane widths to a standard 11 feet and add speed limit signs and speed feedback signs to increase awareness about the posted speed limit. If operationally feasible, a road diet could reduce speeds and enhance safety to make Norwood Avenue more permeable, which could connect the east and west sides.

**Reduce Corner Radii:** Additionally, to reduce speeds for turning vehicles, which were perceived as high by walking workshop participants, the City could consider tightening curb radii at intersections.

### *Intersections*

To enhance permeability across Norwood Avenue and between neighborhood destinations, crossing improvements are recommended at the following intersections:

- Norwood Avenue and Fairbanks Avenue
- Norwood Avenue at Silver Eagle Road

**High-Visibility Crosswalks, Leading Pedestrian Intervals, and Pedestrian Beacons:** The City could upgrade existing crosswalks to high visibility and implement LPIs at these signalized intersections. These features can supplement the signalized intersections by enhancing the visibility of people crossing and allowing them to establish themselves in the crosswalk before drivers can proceed through the intersection. The City could consider adding a pedestrian hybrid beacon (PHB) with high-visibility crosswalks at the intersection of Ford Road and Norwood Avenue based on warrants and spacing requirements. This potential pedestrian beacon could provide a third safe crossing opportunity along a proposed bike route that links to the Sacramento Northern Bike Trail.

At the intersection of Norwood Avenue and Carroll Avenue, the City could implement high-visibility crosswalks with a pedestrian refuge and PHB to increase connectivity to Del Paso Park.

The City may also consider an RRFB where Arcade Creek Trail crosses Norwood Avenue to enhance connections to Gateway Park and enhance the Arcade Creek Trail. To reduce the speed of turning vehicles, the City could tighten curb radii at intersections. Additional installation of pedestrian-scale lighting is also recommended to improve the visibility of people crossing at intersections. These improvements can supplement the safe crossing opportunities across Norwood Avenue and give people walking alternatives to crossing at unmarked locations.

**Table 4** provides a summary of general issues and potential improvements by category. The potential improvements could be considered in other parts of the city that exhibit similar characteristics.

Table 4. Charles Robertson Park – General Issues and Potential Improvements by Category

Category	General Issues	Potential Improvements
Active Transportation Infrastructure	No bike facilities	<ul style="list-style-type: none"> <li>• Reduce lane widths</li> <li>• Consider a road diet</li> <li>• Implement buffered bike lanes/separated bike lanes</li> </ul>
	Missing sidewalks	<ul style="list-style-type: none"> <li>• Close sidewalk gaps</li> </ul>
	Narrow sidewalks	<ul style="list-style-type: none"> <li>• Reduce lane widths/widen sidewalks</li> </ul>
Amenities for People Walking	No shade available	<ul style="list-style-type: none"> <li>• Plant new shade trees</li> </ul>
	Utility poles block effective walking path	<ul style="list-style-type: none"> <li>• Work with utility company to relocate utility poles with roadway projects</li> <li>• Reduce lane width/widen sidewalks</li> </ul>
	Bus stops offset from marked crossing locations	<ul style="list-style-type: none"> <li>• Implement high-visibility crosswalks with PHB</li> </ul>
	Low/no separation between sidewalk and road	<ul style="list-style-type: none"> <li>• Add sidewalk buffer</li> <li>• Reduce lane width/widen sidewalks</li> </ul>
Driver Behavior	Perceived high-speed travel	<ul style="list-style-type: none"> <li>• Reduce lane width/widen sidewalks</li> <li>• Tighten curb radii at intersections</li> </ul>
	No posted speed limit	<ul style="list-style-type: none"> <li>• Add speed limit signs</li> <li>• Add speed feedback signs</li> </ul>
Intersections	No crosswalk connecting the trail	<ul style="list-style-type: none"> <li>• Study installation of new high-visibility crosswalks at mid-block locations</li> <li>• Study installation of RRFB</li> </ul>
	No crosswalks connecting neighborhood destinations and bus stops	<ul style="list-style-type: none"> <li>• Study installation of new high-visibility crosswalks with PHB at minor intersections</li> <li>• Study installation of PHB</li> </ul>
	Perceived speeding at intersections	<ul style="list-style-type: none"> <li>• Tighten curb radii at intersection</li> </ul>

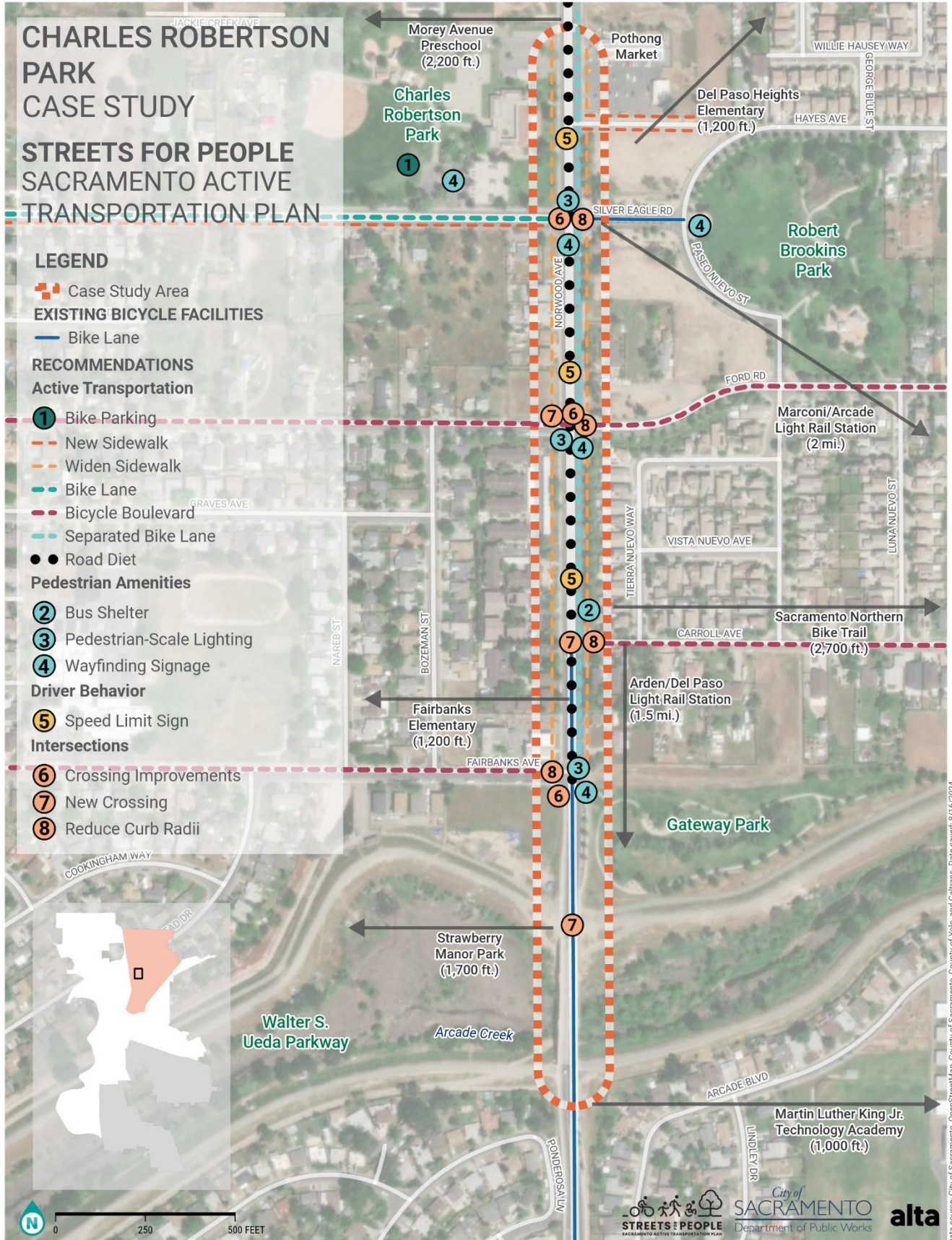


Figure 18. Charles Robertson Park – Potential Improvements

## Hiram W. Johnson High School

**Themes:** *Major Barriers/Major Roadways, Schools and Neighborhoods, Connections to Transit*

**Focus Plan Area:** *Fruitridge/Broadway*

This section describes the Hiram W. Johnson High School case study area, which exemplifies how *Major Roadways* can serve as *Major Barriers* between *Schools and Neighborhoods* and obstruct *Connections to Transit*. Within the case study area, the 65th Street Expressway and 14th Avenue corridors and related intersections create a lack of connectivity between residential neighborhoods, Hiram W. Johnson High School, and bus stops.

### Overview

Hiram W. Johnson High School serves over 1,500 students from the Ramona Village, Tahoe Park, Tahoe Park South, Tallac Village, Colonial Manor, and Colonial Village communities. To the west and south of the school are residential neighborhoods, and to the east and north are industrial and commercial land uses. Within a mile of Hiram W. Johnson High School, there are seven other schools (Tahoe Elementary School, Capitol Elementary School, Miami International Academy, Mark Twain Elementary School, West Campus High School, Earl Warren Elementary School, and New Joseph Bonnheim Community Charter School) and seven parks (Tahoe Park, Greenfair Park, Mae Fong Park, Tahoe Tallac Park, Colonial Playground, 21<sup>st</sup> Avenue Parkway, and Bean Jr. Memorial Park). Additionally, there are four churches, two grocery stores, and a shopping center.

Hiram W. Johnson High School is located on the northeast corners of 14th Avenue and 65th Street Expressway in the Fruitridge/Broadway focus plan area. It is important to note that the 65th Street Expressway transitions to 65th Street north of 14th Avenue; however, in the case study area, 65th Street is a separate residential street (**Figure 19**). Both 14th Avenue and 65th Street Expressway are arterial roadways connecting major highways, including US 50 (3,500 feet south) and Highway 99 (two and a half miles west on 14th Avenue). The posted speed limit on 14th Avenue is 30 mph, and the 65th Street Expressway has a posted speed of 45 mph in the case study area. Both roadways have relatively long segments without a signalized or stop-controlled intersection (1,500 feet and 2,600 feet, respectively). There are also no pedestrian beacons or crossing opportunities in these segments. As a result, walking workshop participants perceived vehicles to be speeding along both corridors and making quick right turns at intersections along the corridors. Participants also noted the long distances between existing crossing opportunities along both corridors and highlighted that the lack of opportunities requires students and transit riders to cross at the intersection of 14th Avenue and 65th Street Expressway. This major intersection has crossing distances as long as 95 feet and can feel uncomfortable to people walking and biking. This intersection was identified as a barrier for residents accessing Hiram W. Johnson High School and Family Education Center and the route 81 bus stop that connects to the University/65th Street light rail station.

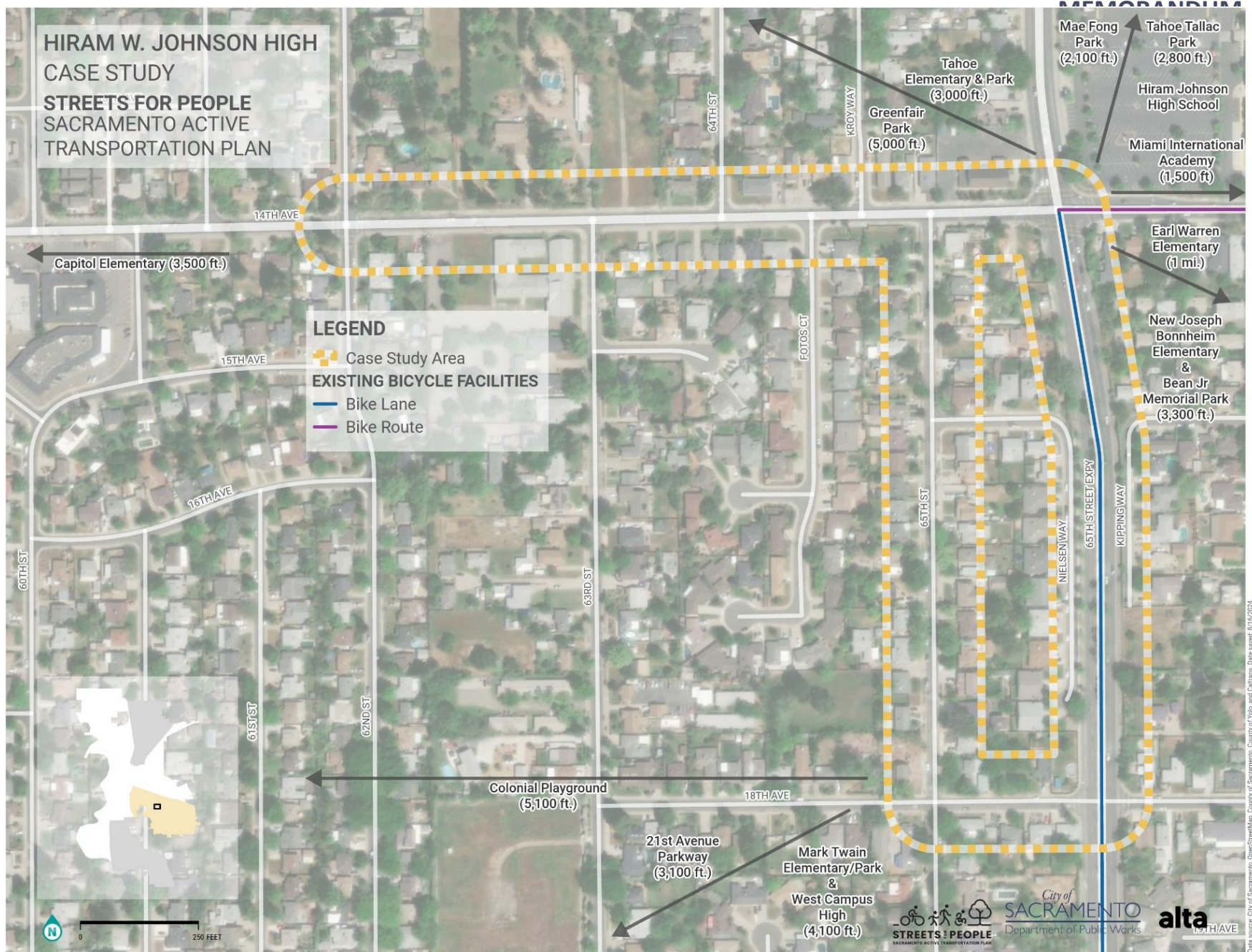


Figure 19. Hiram W. Johnson High School Case Study Area – Overview

## Summary of Issues

Participant comments primarily focused on the barriers 65th Street Expressway and 14th Avenue create between neighborhoods, schools, and transit. They documented narrow sidewalks and narrow bike lanes (see **Figure 20**) as major difficulties for people walking and biking. Participants highlighted the existing crossings at 14th Avenue and 65th Street Expressway as difficult for people walking and biking due to right-turning vehicles and long crossing distances. The participants' comments are separated into four categories (active transportation infrastructure, amenities for people walking, driver behavior, and intersections) and shown in **Figure 25**.



Figure 20. Bike Lane on 65th Street Expressway.

### Active Transportation Infrastructure

The walking and biking facilities in the case study area were perceived as unsafe by walking workshop participants, which reduces connectivity between neighborhoods, schools, and transit. Participants documented inadequate pedestrian facilities throughout the case study area in the form of rolled curbs, narrow sidewalks, and obstructions to the pedestrian right-of-way. Variable curbs (i.e., rolled vs. traditional) on 14th Avenue allowed vehicles to park on the sidewalks and obstruct the east-west walking path between Capitol Elementary School and Hiram W. Johnson High School and the route 212 bus stops (**Figure 21**). On the 65th Street Expressway, there are no sidewalks on the eastern side, which creates a gap in the walking network between Hiram W. Johnson High School and the route 81 bus stop. Moreover, the effective widths of the sidewalks along the 65th Street Expressway range from 5 to 6 feet, with minimal separation from the travel lanes, creating an uncomfortable walking experience. The narrow sidewalks along the 65th Street Expressway act as a gap in the walking network between neighborhoods, schools, and transit. Finally, along 18th Street, utility poles frequently obstruct the 4.5-foot sidewalk, creating choke points that reduce connectivity between residents and the route 81 bus stops at the 65th Street Expressway intersection.



Figure 21. Rolled Curbs on 14th Avenue

The current design of the 65th Street Expressway includes bike lanes that are highly uncomfortable for most people. The bike lanes extend south from 14th Avenue with a width of 5 feet and lack a buffer between people biking and 45 mph vehicle traffic. The lack of separation creates a high-stress facility for



people biking. There are currently few alternative north-south route options in the area, and the lack of sidewalks on the east side prevents people biking from using a more comfortable alternative on the 65th Street Expressway. Such conditions create a lack of north-south bike connectivity to Hiram W. High School and Family Education Center.

Furthermore, the bike lanes do not continue north of 14th Avenue, which is a gap in the bike network and prevents comfortable connections to the University/65th Street light rail station. Biking on 14th Avenue was also highlighted as a concern due to perceived speeding vehicles and the lack of bike facilities, forcing people on bikes to share the road with motorists. The 14th Avenue corridor provides the most direct east-west road connection to Hiram W. Johnson High School; however, the current roadway design lacks east-west bicycle connectivity in the case study area.

### *Amenities for People Walking*

As noted, the route 81 bus runs along the 65th Street Expressway and connects to the University/65th Street light rail line approximately three-quarters of a mile to the north. Additionally, the route 212 bus runs along 14th Avenue. However, there are few supportive amenities for users, including transit-dependent students. Sidewalk widths and the lack of bus shelters are insufficient for the many students who take the bus to and from school. On 14th Avenue and 65th Street Expressway, large crowds of students take up the entire sidewalk while waiting for the bus.

Participants observed some students sitting on the curb of the 65th Street Expressway as they waited for the bus. Additionally,



*Figure 22. Sidewalk Debris*

utility poles obstruct bus stop signage along 14th Avenue, making it difficult to see. These connections make for an unpleasant waiting experience for transit riders.

Participants also noticed a lack of lighting fixtures at the 14th Avenue and 62nd Street intersection, which may make it difficult for drivers to see people crossing during dark hours. This is a primary intersection along 62nd Street, which has sidewalks on both sides of the street and traffic calming elements, providing a more comfortable alternative to the 65th Street Expressway for people walking and biking. Moreover, participants also documented a lack of light fixtures and noted sidewalk debris along the 65th Street Expressway, which creates barriers in the walking network to Hiram W. Johnson High School (**Figure 22**).

### *Driver Behavior*

Participants perceived both high volumes of vehicles traveling through the area and vehicles traveling at a high rate of speed. Drivers can travel on 14th Avenue and 65th Street Expressway for 1,500 feet and 2,600 feet, respectively, without a required stop, which allows drivers to reach high speeds. This is exacerbated on the multi-lane 65th Street Expressway, which has a posted speed of 45 mph. Wide lane widths (12+ feet) on the 65th Street Expressway also contribute to higher speeds for people driving.

As a result, concerns about perceived speeding along 14th Avenue and 65th Street Expressway are prevalent in the community, particularly with regard to the safety of people on bikes. Moreover, participants documented drivers veering off into the bike lane along the 65th Street Expressway. These roadway conditions prioritize the movement of motor vehicles over people walking, biking, and rolling, which creates a lack of connectivity between neighborhoods, Hiram W. Johnson High School, Capitol Elementary School, and transit stops.

Participants also observed drivers encroaching on the crosswalk and making quick right turns at the intersection of 14th Avenue and 65th Street Expressway. Such behavior poses dangers to people walking and biking across the intersection and hinders access to the bus stops and high school. Similarly, **Figure 23** shows a driver encroaching the crosswalk at the intersection of 62nd Street and 14th Avenue, which poses a danger for people walking along 14th Avenue to Hiram W. Johnson High School or the route 81 bus stops. Furthermore, these instances pose great dangers for people biking along 62nd Street, which provides a more comfortable connection between the case study area and 21st Avenue Parkway to the south.



*Figure 23. Driver Turning Right and Encroaching on the Crosswalk at 62nd Street and 14th Avenue Intersection.*

### *Intersections*

The intersection of 65th Street Expressway and 14th Avenue is a multi-lane intersection that allows drivers to make quick right turns, creating dangerous crossings for people walking and biking. Participants noted that existing crossing times at this intersection did not give them sufficient time to get across the 65th Street Expressway, which has a crossing distance of approximately 95 feet. They documented the absence of pedestrian beacons, short crossing times, and long crossing distances as major issues. Additionally, they experienced conflicts with right-turning vehicles at both ends of the crosswalk while crossing the 65th Street Expressway. These conditions make the intersection a major barrier between neighborhoods, Hiram W. Johnson High School, and route 81 bus stops.

At the 14th Avenue and 62nd Street intersection, participants voiced concern over the lack of lighting fixtures, which may reduce the visibility of people crossing during dark hours. Although there are flashing red lights to accentuate the stop signs to drivers, there are no overhead streetlights illuminating the intersection. This is a particular concern during winter when the sun sets earlier. Moreover, there are no crosswalks at the side street approaches to 14th Avenue and 18th Avenue, and some pavement markings have faded (**Figure 24**). These conditions create a lack of connectivity between the Tahoe Park South neighborhood, Capitol Elementary School, Hiram W. Johnson High School, and the route 81 bus line.



*Figure 24. Faded Crosswalk at 18th Avenue and 65th Street Expressway.*



Figure 25. Hiram W. Johnson High School Case Study Area – Documented Issues

## Potential Improvements

The potential improvements for the case study area aim to enhance walking, biking, and rolling within the area, specifically addressing issues along 14th Avenue and 65th Street Expressway and at their intersection. The improvement goals are to reduce the barriers posed by the major roadways and enhance connections between neighborhoods, schools, and transit. The improvements are summarized in **Table 5** and **Figure 26**. The potential improvements could be considered to reduce the barriers between neighborhoods, schools, and transit created by other major roadways throughout the city.

### *Active Transportation Infrastructure*

**Separated Bike Lanes:** The City could upgrade the bike lanes along the 65th Street Expressway to separated bike lanes and either implement bike lanes along 14th Avenue or provide improvements on an alternative east/west route through traffic calming (e.g., curb extensions, speed humps, and chicanes). Implementing these facilities may require narrowing existing travel lanes to 11 feet and reapportioning roadway space. The City could also study traffic operation along the 65th Street Expressway to determine if implementing a road diet with separated bike lanes is feasible. If feasible, the separated bike lanes could continue north along 65th Street through the US 50 underpass. These bike facilities can provide a direct, low-stress, north-south bikeway between neighborhoods, Hiram W. Johnson High School, and the University/65th Street light rail station.

**Bicycle Boulevards:** To improve bike connections on local streets, the City could implement bicycle boulevards on 62nd Street, 11th Avenue, 8th Avenue, and 73rd Street. These facilities could include best-practice traffic calming interventions such as speed humps and curb extensions. The City could also conduct a traffic study at local intersections to determine if traffic diverters are feasible. These neighborhood bikeways can provide alternative routes to main streets like 14th Avenue and enhance connections to local schools.

**Reduce Sidewalk Obstructions and Enhance Sidewalks:** The City could work with utility companies to relocate existing utility poles during roadway projects to increase available sidewalk space throughout the case study area. The City could also create wider sidewalks on the east side of the 65th Street Expressway by constructing separated bike lanes. Finally, rolled curbs could be converted to vertical curbs on local roads wherever possible. These sidewalk improvements can enhance the walking connections between the Tahoe Park South neighborhood, Capitol Elementary School, Hiram W. Johnson High School, and the route 81 bus line.

### *Amenities for People Walking*

**Transit Amenities:** To support students who depend on public transit to get to school, the City could work with SacRT to install bus stop shelters with bus network maps or bus boarding islands where feasible. Additionally, SacRT could work with Hiram W. Johnson High School to coordinate bus route schedules with school start and release times. These improvements can create a more pleasant waiting experience for all transit riders in the case study area.

**Pedestrian Scale Lighting:** Additionally, the City could work to install or upgrade existing lighting to include pedestrian scale lighting along 65th Street Expressway and 14th Avenue to illuminate existing sidewalks and intersections. Additional lighting fixtures can make people walking and biking more visible to drivers along these corridors. This can significantly improve the connection between Capitol Elementary School, Hiram W. Johnson High School, and route 81. The City could also work to clear sidewalks of debris.

### *Driver Behavior*

**Speed Limit Signs and Reduce Lane Widths:** To reduce perceived speeding along the 65th Street Expressway and 14th Avenue, the City could add speed limit signs and pavement markings to increase awareness about speed limits. Travel lane width reductions (to 11 feet) are also recommended. As previously noted, if a road diet with separated bike lanes is feasible along the 65th Street Expressway, the City could widen the sidewalks and plant street trees, which could positively impact driver behavior by visually narrowing the roadway. These improvements can reduce vehicle speeds and improve crossing safety for residents getting to Hiram W. Johnson High School and transit stops.

**Traffic Calming and Reduce Corner Radii:** On local streets (18th Avenue and Redding Avenue), the City could work with neighbors to install traffic calming elements, including curb extensions, chicanes, and speed humps (18th Avenue) to reduce vehicle speeds. Finally, the City could tighten curb radii at intersections to reduce speeds for turning vehicles. These improvements can provide alternative, low-stress routes for residents to reach Hiram W. Johnson High School and route 81.

### *Intersections*

**Enhance Crossings:** The 65th Street Expressway and 14th Avenue intersection represents a difficult and uncomfortable crossing for students hoping to reach the bus stop. The City could upgrade existing crosswalks to high visibility, tighten existing curb radii, and implement median refuge islands across the 65th Street Expressway (in concert with a reduction of lanes). This would reduce crossing distances and conflicts with right-turning vehicles. Additionally, the City could conduct a traffic study to evaluate the feasibility of prohibiting right turns on red at major intersections. The City could implement LPIs for key signal phases.

**Protected Intersection:** Finally, to improve the safety of people on bikes, the City may also implement a protected intersection at this location. Together with the improvements above, these improvements can alleviate the stress that participants experience while crossing the intersection and complete the connection to Hiram W. Johnson High School and the route 81 bus line.

**Side-street Crosswalks and Pedestrian-Scale Lighting:** At intersections where side streets approach 14th Avenue and 18th Avenue, the City should consider installation of high visibility crosswalks and curb extensions to deter speeding right turns. At 14th Avenue and 62nd Street, the City may install pedestrian-scale lighting and repaint the crosswalks. These changes can make people crossing more visible to drivers, potentially reducing the risk of collisions and improving connections between the Tahoe Park South neighborhood, Capitol Elementary School, and Hiram W. Johnson High School.

Table 5 Hiram W. Johnson High School Case Study – General Issues and Potential Improvements by Category

Category	General Issues	Potential Improvements
Active Transportation Infrastructure	Parked vehicles on sidewalk/rolled curbs	<ul style="list-style-type: none"> <li>• Install vertical curb and gutter</li> </ul>
	Utility poles obstruct sidewalks	<ul style="list-style-type: none"> <li>• Work with utility company to relocate utility poles with roadway projects</li> </ul>
	Missing sidewalks	<ul style="list-style-type: none"> <li>• Install new sidewalks</li> </ul>
	Missing bike connections	<ul style="list-style-type: none"> <li>• Bike boulevard</li> <li>• Road diet</li> <li>• Separated bike lanes</li> </ul>
	Narrow bike lane/no separation from vehicles	<ul style="list-style-type: none"> <li>• Road diet</li> <li>• Reduce lane width</li> <li>• Separated bike lanes</li> </ul>
	Low/no separation between sidewalk and road	<ul style="list-style-type: none"> <li>• Reduce lane width</li> <li>• Widen sidewalks</li> <li>• Add planting buffer and shade trees</li> </ul>
Amenities for People Walking	Lack of bus stop amenities	<ul style="list-style-type: none"> <li>• Work with SacRT to install bus shelters or bus boarding islands</li> <li>• Coordinate bus schedule with school start/end times</li> </ul>
	Debris on the sidewalk	<ul style="list-style-type: none"> <li>• Work to maintain sidewalks clear of debris</li> </ul>
	Lack of pedestrian-scale lighting	<ul style="list-style-type: none"> <li>• Install new pedestrian-scale lighting</li> </ul>
Driver Behavior	Quick right turns	<ul style="list-style-type: none"> <li>• Construct curb extensions/reduce turning radii</li> </ul>
	Perceived speeding	<ul style="list-style-type: none"> <li>• Road diet</li> <li>• Reduce lane width</li> <li>• Speed limit signs</li> <li>• Lane reduction (to 11 feet wide)</li> </ul>
	Crosswalk encroachment	<ul style="list-style-type: none"> <li>• Install advanced stop bars</li> </ul>
Intersections	Long crossing distances	<ul style="list-style-type: none"> <li>• Install median refuge island (based on right-of-way availability)</li> <li>• Construct curb extensions</li> </ul>
	Short crossing times	<ul style="list-style-type: none"> <li>• Adjust signal timing to accommodate additional pedestrian crossing time</li> <li>• LPI</li> </ul>
	Inadequate protection for people on bikes	<ul style="list-style-type: none"> <li>• Protected intersection</li> </ul>
	Conflicts with right-turning vehicles	<ul style="list-style-type: none"> <li>• Consider no right on red at 65th Street Expressway and 14th Avenue</li> <li>• High-visibility crosswalks</li> </ul>

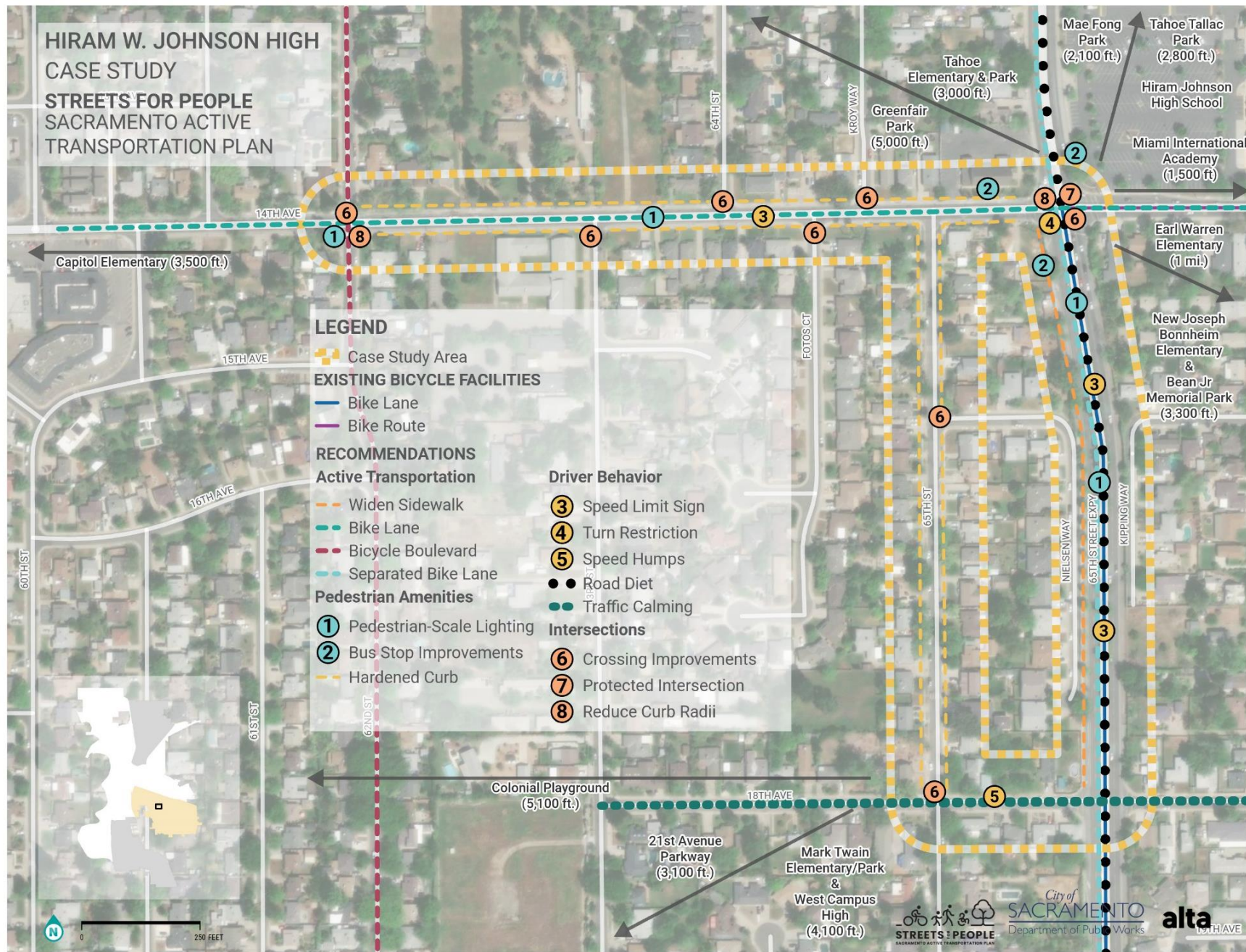


Figure 26. Hiram W. Johnson High School Case Study Area – Potential Improvements

## Will C. Wood Middle School

**Themes:** *Schools and Neighborhoods, Neighborhood Main Streets, Connections to Transit*

**Focus Plan Area:** *Fruitridge/Broadway*

The following section describes the Will C. Wood Middle School case study area. This case study exemplifies how *Neighborhood Main Streets* can create barriers to active travel between *Schools and Neighborhoods* and hinder *Connections to Transit* and *Connections to Trails*. The *Neighborhood Main Streets* within the case study area include Lemon Hill Avenue, Stockton Boulevard, and 65th Street Expressway, which bound Will C. Wood Middle School and obstruct *Connections to Transit* and *Connections to Trails*.

### Overview

The Will C. Wood Middle School case study area (**Figure 28**) is in the Fruitridge/Broadway focus plan area. The surrounding area is characterized by residential neighborhoods comprising single- and multi-family housing with patches of undeveloped land. Within a half-mile radius are two apartment complexes, one mobile home park, three schools, one park, two grocery stores, and five churches. The case study area runs along Lemon Hill Avenue from Stockton Boulevard to Will C. Wood Middle School and south on the 65<sup>th</sup> Street Expressway. The existing roadway conditions, intersection configurations, and driver behavior along and between these streets disconnect residents from Will C. Wood Middle School and the bus stops on Stockton Boulevard and 65th Street Expressway. Moreover, the pedestrian bridge over Morrison Creek is difficult to access due to the intermittent crossings and conditions on Elder Creek Road for students traveling from south of the roadway.



Figure 27. Existing Bike Lanes along Lemon Hill Avenue

Lemon Hill Avenue is a two-lane local street with on-street parking and bike lanes that provides access to Will C. Wood Middle School. However, vehicle congestion and perceived speeding make Lemon Hill Avenue a barrier between the school and residents south of the school. Particularly, students have difficulty getting from the Lemon Hill Apartments and the Travel Lodge Mobile Home Park to school. Walking workshop participants observed students walking between vehicles on Lemon Hill Avenue to cross outside marked crosswalks. School-related traffic congestion obstructed the bike lanes on Lemon Hill Avenue, which forced students to ride on the sidewalks. Additionally, participants noted that access to the Morrison Creek pedestrian bridge was hindered by existing encampments of people experiencing homelessness at the creek during the walking workshop, and crossing opportunities were limited on Elder Creek Road.



To the west, Stockton Boulevard is a five-lane north-south commercial corridor with a posted speed of 40 mph that includes bike lanes and connects to downtown Sacramento and US 50 to the north. Along the east side of Will C. Wood Middle School is the 65th Expressway, a four-lane roadway with bike lanes and a posted speed limit of 45 mph, which connects US 50 to the north. Participants expressed concern for people biking along both corridors due to perceived speeding and high traffic volumes. Moreover, they cited the lack of separation between drivers and people biking as a major safety concern, placing people on bikes uncomfortably close to high-speed traffic. Moreover, these major arterials isolate the Will C. Wood Middle from adjacent neighborhoods as participants felt unsafe crossing intersections on Lemon Hill Avenue (65th Street Expressway and Stockton Boulevard). These intersections also make it difficult for people to access the bus stops that provide light rail and downtown connections. The SacRT route 81 bus line runs along the 65th Street Expressway and connects to the University/65th Street light rail station. The SacRT route 51 bus line runs along Stockton Boulevard and connects to downtown. There are two alternative access points along the north side of the school; however, there are no on-street bikeways connecting to them. Although the case study area is well serviced by transit and many students live within walking distance to Will C. Wood Middle School, neighborhood main streets create a lack of connectivity between residents and these amenities. These streets also make it difficult for residents to walk, bike, or roll through the case study area and access other nearby schools (Camelia Basic Elementary School, Elder Creek Elementary School, and Clayton B. Wire Elementary School), churches, and grocery stores (Lemon Hill Farmers Market and Vinh Phat Supermarket).



Figure 28. Will C. Wood Middle School School Case Study Area – Overview

## Summary of Issues

The issues documented in the Will C. Wood Middle School case study area highlight the way *Neighborhood Main Streets* can act as barriers between residents and key destinations like schools and transit. The most common concerns cited included deficient, obstructed, or nonexistent sidewalks, vehicle congestion, and perceived fast vehicle speeds along 65th Street Expressway, Lemon Hill Avenue, and Stockton Boulevard. Documented issues can be found in **Figure 31**.

### Active Transportation Infrastructure

The walking workshop took place during the Will C. Wood Middle School afternoon release time. Participants walked along Lemon Hill Avenue and south on 65th Street Expressway and observed large numbers of students walking and biking from school, as well as vehicle congestion in front of the Will C. Wood Middle School. However, the available walking and biking facilities were inadequate to accommodate the spike in walking and biking volumes.

Participants observed students walking in the roadway due to insufficient sidewalk space along Lemon Hill Avenue.

Sidewalks range from 5 to 6 feet wide, and utility poles obstruct the sidewalk on the south side of Lemon Hill Avenue. Additionally, participants observed double-parked vehicles obstructing the bike lanes on Lemon Hill Avenue. With crowded sidewalks during school release periods and double-parked vehicles, biking along Lemon Hill Avenue is difficult. People biking are often forced to bike in the vehicle lane, where vehicles were perceived to be traveling above the posted speed limit. These conditions make it difficult for people to walk, bike, and roll along Lemon Hill Avenue, reducing connectivity between residents, Will C. Wood Middle School, and the bus stops on Stockton Boulevard and 65th Street Expressway. Lemon Hill Avenue also connects Will C. Wood Middle School to Elder Creek Elementary School and the Lemon Hill Farmers Market to the east; however, given the existing conditions, walking, biking, and rolling between these two sites is difficult.

Participants also documented missing sidewalks along 63rd Street, making connectivity between the pedestrian bridge over Morrison Creek and Will C. Wood Middle School difficult by forcing people to walk on the roadway. Additionally, **Figure 29** shows utility poles frequently obstruct the 4- to 6-foot sidewalks, which makes them too narrow for people using a wheelchair or other mobility device. However, many students walking north to the school use Stockton Boulevard or the 65th Street Expressway to avoid the homeless encampments near the pedestrian bridge over Morrison Creek.

There are no marked crossings on Elder Creek Road between Stockton Boulevard and 65th Street Expressway, which are approximately a half mile apart. The absence of mid-block crossing opportunities on Elder Creek Road reduces the accessibility of the pedestrian bridge over Morrison Creek, as people need to walk to the 65th Street Expressway to cross Elder Creek Road. This may encourage people to cross Elder Creek Road at unmarked locations to reach the pedestrian bridge cut-through. Consequently, students often walk on either Stockton Boulevard or 65th Street Expressway to reach the Will C. Wood Middle School.



Figure 29. Utility Pole Obstructing Sidewalk on 63rd Street

Community members expressed concern for students walking on the 65th Street Expressway because of perceived speeding and the missing sidewalks on the west side of the street. The discontinuous sidewalks force people to cross the 65th Street Expressway twice when walking along the corridor, a burden for students and transit users. The numerous driveways on Stockton Boulevard create a significant number of potential conflict points between people driving and walking, which made participants feel unsafe while walking along the corridor. These conflict points create an unwelcoming environment for people walking to



*Figure 30. Missing Sidewalk along 63rd Street*

the bus stops and stores along the corridor. Moreover, participants perceived vehicle speeds to be above the posted speed limit along these roadways and noted many people biking on the sidewalk. Stockton Boulevard and 65th Street Expressway have roadway widths of 64 feet with four travel lanes, posted speed limits of 35 to 40 mph, and many bus stops. While bike lanes on these major roadways are 5 feet wide, they do not include any buffer, providing a narrow, high-stress bicycle facility. The imbalance of roadway space allocated to motorized and non-motorized users creates a lack of connectivity for residents walking, biking, or rolling to Will C. Wood Middle School, bus stops, and the Morrison Creek pedestrian bridge.

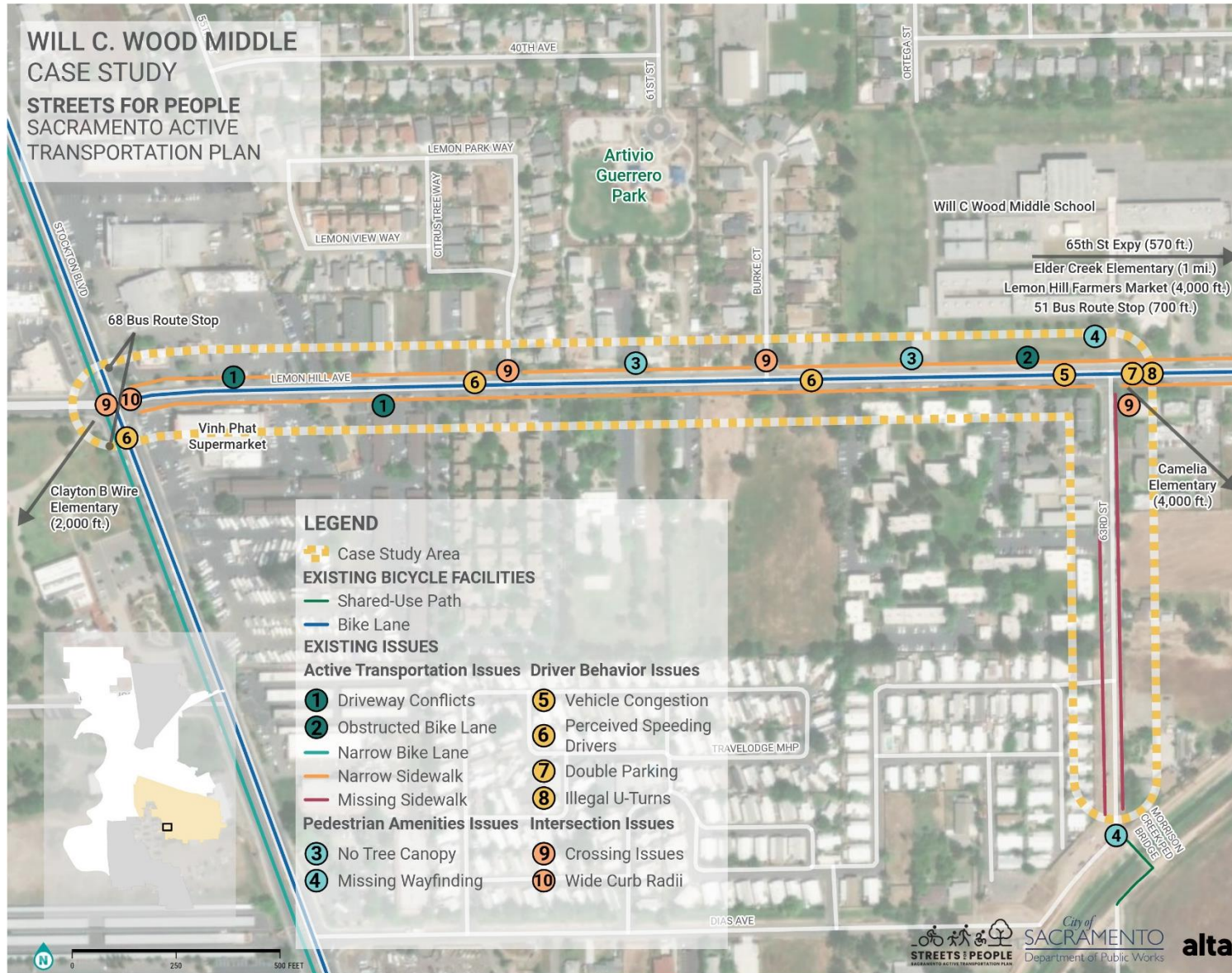


Figure 31. Will C. Wood Middle School Case Study Area – Documented Issues

### *Amenities for People Walking*

As noted, utility poles frequently obstructed the sidewalks on the south side of Lemon Hill Avenue, narrowing the pedestrian path and making it difficult for people using a wheelchair or mobility device to use the sidewalk. There are no street trees on the north side of Lemon Hill Avenue to provide students with shade during the hot summer days. Similarly, the bus stops on the 65th Street Expressway only consist of posts and signage, which give no respite from the hot summer sun. Additionally, the discontinuous sidewalk on the west side of the 65th Street Expressway requires people walking along the corridor to cross twice. Lastly, walking conditions connecting to the pedestrian bridge over Morrison Creek from 63rd Street are undesirable due to the lack of wayfinding and pedestrian-scale lighting, as well as an encampment at the end of the road. These conditions create a lack of connectivity for residents walking or rolling between Will C. Wood Middle School, the bus stops, or the pedestrian bridge over Morrison Creek.

### *Driver Behavior*

Concerns about student safety during pick-up procedures at Will C. Wood Middle School are prevalent. During school release time, drivers pick up students on Lemon Hill Avenue in front of the school, causing a vehicle backup at Lemon Hill Avenue and 63rd Street. Participants observed drivers double parking, making illegal U-turns, swerving into the bike lane to bypass speed humps, and quickly accelerating along Lemon Hill Avenue. **Figure 32** shows a driver encroaching on the marked crosswalk at the intersection of Lemon Hill Avenue and 63rd Street, which may force students to cross behind the vehicles. The documented issues along Lemon Hill Avenue pose significant challenges for people walking, biking, or rolling along or across the street, creating a lack of connectivity between residents and the destinations along Lemon Hill Avenue, including Will C. Wood Middle School, Elder Creek Elementary School, Vinh Phat Supermarket, and the Lemon Hill Farmers Market.



*Figure 32. Driver Encroaching the Crosswalk on the Southern Approach of intersection at 63rd Street and Lemon Hill Avenue*

On the 65th Street Expressway and Stockton Boulevard, drivers were perceived to be speeding, which contributed to the uncomfortable biking conditions. Moreover, the large corner radii at the intersections of Lemon Hill Avenue and Stockton Boulevard, as well as Lemon Hill Avenue and 65th Street Expressway, encourage higher speeds for right turns onto Lemon Hill Avenue. The documented driver behavior along these north-south corridors creates a lack of east-west connectivity for residents walking, biking, and rolling along Lemon Hill Avenue.

### Intersections

**Figure 33** shows many students crossing the Lemon Hill Avenue and 63rd Street intersection. Students were documented crossing during the red signal phase, crossing outside the marked crosswalks, and weaving between queued vehicles. Participants documented missing advanced stop bars and drivers encroaching the crosswalks at the intersection. These conditions create a lack of north-south connectivity across Lemon Hill Avenue between Will C. Wood Middle School and the pedestrian bridge over Morrison Creek. Along the stretch of Lemon Hill Avenue, there are no marked crosswalks at side street or driveway approaches. The absence of crosswalks reduces the visibility of people crossing and walking along Lemon Hill Avenue to drivers who are turning onto or crossing the street. Such conditions create a lack of east-west connectivity to Will C. Wood Middle School and the bus stops on Stockton Boulevard and 65th Street Expressway.



*Figure 33. Students Crossing Intersection at Lemon Hill Avenue and 63rd Street*

Community participants highlighted safety concerns about crossing Stockton Boulevard and the 65th Street Expressway. As noted, large curb radii allow drivers to make fast right turns onto Lemon Hill Avenue and provide little waiting room for people crossing. The documented short signal phases, long crossing distances, and missing truncated domes at both intersections exacerbate safety concerns. Participants also expressed concern over unsafe left turns through the intersections for people on bikes. Current conditions require people on bikes to cross one to two travel lanes to reach the left-turn lane. Consequently, people on bikes were observed waiting on the sidewalk to cross Stockton Boulevard and Lemon Hill Avenue. The existing intersection designs make it difficult for people to access the bus stops and reach Will C. Wood Middle School. Consequently, these intersections further perpetuate the lack of east-west connectivity to Will C. Wood Middle School and the bus stops.



*Figure 34. Large Curb Radii at Intersection of Stockton Boulevard and Lemon Hill Avenue*

## Potential Improvements

Potential improvements for the case study area aim to improve connections between Will C. Wood Middle School, the bus stops, and the Morrison Creek pedestrian bridge. The improvements address the impermeability of neighborhood main streets (Lemon Hill Avenue, Stockton Boulevard, and 65th Street Expressway) by enhancing crossing, reallocating roadway space to non-motorized travel modes, and encouraging safe driver behavior. Improvements are summarized in **Table 6** and **Figure 35**.

### *Active Transportation Infrastructure*

**Separated Bike Lanes:** To address the concerns about speeding and the lack of comfortable facilities along the 65th Street Expressway, the City could implement separated bike lanes between 14th Street and Morrison Creek. This would require studying traffic operations along the corridor to determine the feasibility of removing and narrowing travel lanes to make room for the proposed bike facility. The City could also close the sidewalk gaps and widen existing sidewalks.

**Shared-Use Path:** Additionally, the City could implement the potential improvements from the 2018 Bicycle Master Plan that call for a shared-use path along Stockton Boulevard and Morrison Creek. The City may need to evaluate the feasibility of a road diet on Stockton Boulevard to reapportion roadway space for a shared-use path. These improvements can enhance the north-south connections to Will C. Wood Middle School for people walking, biking, rolling, or taking transit.

**Bicycle Boulevard:** Furthermore, the City could upgrade the 2018 Bicycle Master Plan's identified bike route improvements along 63rd Street to a bicycle boulevard with best-practice traffic calming interventions.

**Close Sidewalk Gap & Leverage City Services:** Additionally, the City could complete the sidewalks on 63rd Street south of Lemon Hill Avenue. These improvements can activate connections to the pedestrian bridge over Morrison Creek and provide a low-stress route to Will C. Wood Middle School. To address concerns over the homeless encampment, the City's Transportation Department could work with other departments to provide encampment residents with social services.

### *Amenities for People Walking*

**Wayfinding Signage:** The City could install wayfinding along the recommended bike facilities surrounding the case study area to orient people walking to nearby destinations and facilities (e.g., Morrison Creek pedestrian bridge, parks, schools, and churches). These signs can connect residents and visitors to local amenities.

**Transit Amenities:** Additionally, the City could work with SacRT to install bus shelters with bus network maps along the 65th Street Expressway and Stockton Boulevard. Bus shelters can make the waiting experience more pleasant for transit users by reducing sun exposure. As noted, sidewalks could be constructed on both sides of the 65th Street Expressway and 63rd Street to enhance north-south connections.

**Reduce Sidewalk Obstructions:** Additionally, the City could work with the local utility company to remove obstructions on existing sidewalks along Lemon Hill Avenue, 63rd Street, and Stockton Boulevard to make it easier for students to walk or roll to Will C. Wood Middle School.



### *Driver Behavior*

**School Safety Assessment:** The City could conduct a school safety assessment at Will C. Wood Middle School to better understand the pick-up and drop-off procedures and identify a better system that can alleviate congestion along Lemon Hill Avenue. This strategy can reduce the occurrence of double-parked vehicles obstructing the bike lanes on Lemon Hill Avenue and make it safer for students to bike to and from school. The City can conduct school safety assessments throughout Sacramento to improve access for students and families walking, biking, and rolling to school.

**Reduce Lane Width and Speed Limit / Speed Feedback Signage:** Along Stockton Boulevard and the 65th Street Expressway, the City could install speed limit signage and speed feedback signs to increase awareness about speed limits and reinforce travel speeds to drivers, as well as narrowing travel lanes to 11 feet. Furthermore, if a road diet with separated bike lanes along the 65th Street Expressway is feasible, the visibly narrower roadway can reduce travel speeds. Similarly, the recommended shared-use path on Stockton Boulevard may require narrowing the roadway, which can reduce travel speeds. Reducing travel speeds along these arterials can improve the east-west connectivity to Will C. Wood Middle School and to bus stops. Road diets can be applied to other multi-lane roadways in Sacramento that create a lack of connectivity to schools, transit, and trails.

**High-Visibility Crosswalks, Advanced Stop Bars, and Intersection Clear Space:** At high pedestrian traffic intersections, including Lemon Hill Avenue and 63rd Street, Lemon Hill Avenue and 65th Street Expressway, and Lemon Hill Avenue and Stockton Boulevard, the City could install high-visibility crosswalks with advanced stop bars and red curbs to discourage drivers from blocking existing crosswalks. These improvements can establish safe walking, biking, and rolling gateways into the Will C. Wood Middle School and to bus stops. The City can apply these improvements to other signalized intersections that create a lack of connectivity between residents and neighborhood amenities.

### *Intersections*

**Enhance Pedestrian Crossing Experience:** The City could construct curb extensions on all approaches of the Lemon Hill Avenue and 63rd Street intersection to reduce the turning radii, discourage drivers from speeding through right turns, and decrease the length that a person must travel. The City could also work with the school district to station a crossing guard at the intersection to manage the large crowds of students and vehicles that congest the intersection. For a more immediate intervention, the existing crosswalks could be upgraded to high visibility with advanced stop bars at all approaches. Moreover, the City could use vertical delineators to install hardened center lines at all approaches. The hardened center lines can deter students from crossing between vehicles. Finally, where side streets approach Lemon Hill Avenue, the City could install high-visibility crosswalks with advanced stop bars and red curbs to daylight the intersections. These improvements can make it safer to walk or roll across and along Lemon Hill Avenue, and enhance connections between Will C. Wood Middle School, the Morrison Creek pedestrian bridge, and the bus stops. The City can apply these improvements to other neighborhood main streets that obstruct access for residents walking, biking, and rolling to schools, transit, or trails throughout Sacramento.

**Protected Intersections:** Should the previously recommended road diets on Stockton Boulevard and 65th Street Expressway be feasible, the City could consider supplementing them with protected intersections and pedestrian refuge islands. This way, people walking and biking will feel safer going through the intersection, and people biking will have an easier time making left turns.

**Pedestrian Beacons, Leading Pedestrian Intervals, and Curb Extensions:** Finally, at the intersections of Stockton Boulevard and 65th Street Expressway, where they approach Lemon Hill Avenue, the City could install pedestrian beacons with LPIs for all crossing phases, audible pedestrian push buttons, truncated domes on curb ramps, and curb extensions at all intersection corners. Establishing waiting spaces for people on bikes, elongating crossing times for people walking, and tightening corners can help people feel safer crossing these intersections. As a result, the intersections can serve as safe gateways for people walking, biking, and rolling to Will C. Wood Middle School, the Morrison Creek pedestrian bridge, and the bus stops. These intersection treatments can be used to enhance connections to schools, transit, and trails throughout Sacramento.

Table 6. Will C. Wood Middle School Case Study - General Issues and Potential Improvements by Category

Category	General Issues	Potential Improvements
Active Transportation Infrastructure	Obstructed sidewalks	<ul style="list-style-type: none"> <li>• Work with utility company to relocate utility poles with roadway projects</li> <li>• Widen sidewalk (wherever possible)</li> </ul>
	Missing sidewalks	<ul style="list-style-type: none"> <li>• New sidewalks</li> <li>• Road diet</li> </ul>
	Missing bike connections	<ul style="list-style-type: none"> <li>• Bike boulevard</li> <li>• Improved wayfinding</li> </ul>
	Unsafe bike facilities	<ul style="list-style-type: none"> <li>• Off-street shared-use path</li> <li>• Separated bike lanes</li> </ul>
Amenities for People Walking	Lack of shade at bus stops	<ul style="list-style-type: none"> <li>• New bus shelters</li> </ul>
	Lack of pedestrian-scale lighting	<ul style="list-style-type: none"> <li>• New pedestrian-scaled lighting</li> </ul>
Driver Behavior	Concerns around school drop-off/pick-up	<ul style="list-style-type: none"> <li>• School safety assessment</li> <li>• Crossing guard</li> <li>• High-visibility crosswalks</li> <li>• Advanced stop bars</li> <li>• Red curbs</li> </ul>
	Perceived speeding	<ul style="list-style-type: none"> <li>• Speed limit signs</li> <li>• Digital speed limit feedback signs</li> <li>• Road diet</li> <li>• Lane narrowing (to 11 feet)</li> </ul>
Intersections	Short crossing times	<ul style="list-style-type: none"> <li>• Pedestrian beacons</li> <li>• Leading Pedestrian Intervals (LPI)</li> </ul>
	Long crossing distances	<ul style="list-style-type: none"> <li>• Road diet</li> <li>• Curb extensions</li> <li>• Pedestrian refuge islands</li> </ul>
	Unsafe intersection crossing for people on bikes	<ul style="list-style-type: none"> <li>• Protected intersections</li> <li>• Bike box</li> </ul>
	Large curb radii	<ul style="list-style-type: none"> <li>• Curb extensions</li> </ul>



Figure 35. Will C. Wood Middle School Case Study Area – Potential Improvements

## Steve Jones Park

**Theme:** *Major Barriers/Major Roadways, Schools and Neighborhoods, Connections to Parks/Recreation*  
**Focus Plan Area:** *South Sacramento*

The following section describes the Steve Jones Park case study area (**Figure 37**) and how 24th Street serves as a major barrier to local schools and parks. Although this case study focuses on the theme of *Major Barriers/Major Roadways*, it is important to note that the Steve Jones Park case study area also represents other themes evaluated through the case studies, including *Schools and Neighborhoods* and *Connections to Parks/Recreation*.

### Overview

Located in South Sacramento, the Steve Jones Park case study area is at the heart of a community and features single- and multi-family housing, seven churches, five schools, commercial areas, and three additional neighborhood parks, all within a half-mile radius of Steve Jones Park. In the center of the neighborhood, 24th Street serves as a major barrier for people walking, biking, and rolling from their homes to local schools and parks, and between neighborhoods. Schools, including Rosa Parks Middle School, John Bidwell Elementary School, John D. Sloat Elementary School, Edward Kemble Elementary School, and César E. Chávez Intermediate Elementary School are located on either side of 24th Street, which impacts the ability of residents and students to walk, bike, or roll to school. Nearby parks include the 24th Street Bypass Park, Mark Hopkins Park, and Manuel E. Silva Park. The portion of 24th Street that runs along the eastern edge of Steve Jones Park has a posted speed limit of 35 mph with four travel lanes (11 to 12 feet wide), standard Class II bike lanes, and sidewalks (**Figure 36**). The north-south corridor provides access to wider arterial roadways, including Florin Road to the south and Fruitridge Road to the north. Walking workshop participants highlighted feeling unsafe walking along and crossing 24th Street due to perceived high traffic volumes and speeding.



Figure 36. 24th Street Corridor

To the north of Steve Jones Park, Gardendale Road/68th Avenue transects the case study area and provides east/west connections. This roadway is signed at 25 mph with two lanes and a combination of standard Class II bike lanes and signed bike routes. Other local roadways included in the case study area are Balfour Way, Matson Drive, Muirfield Way, and Casa Linda Drive. These corridors exhibited similar conditions with rolled curbs, 4- to 5-foot-wide attached sidewalks, and speed humps. These factors, in conjunction with the area's perceived lack of safe walking and biking facilities, contribute to a built environment that feels unwelcoming for people walking, biking, and rolling.

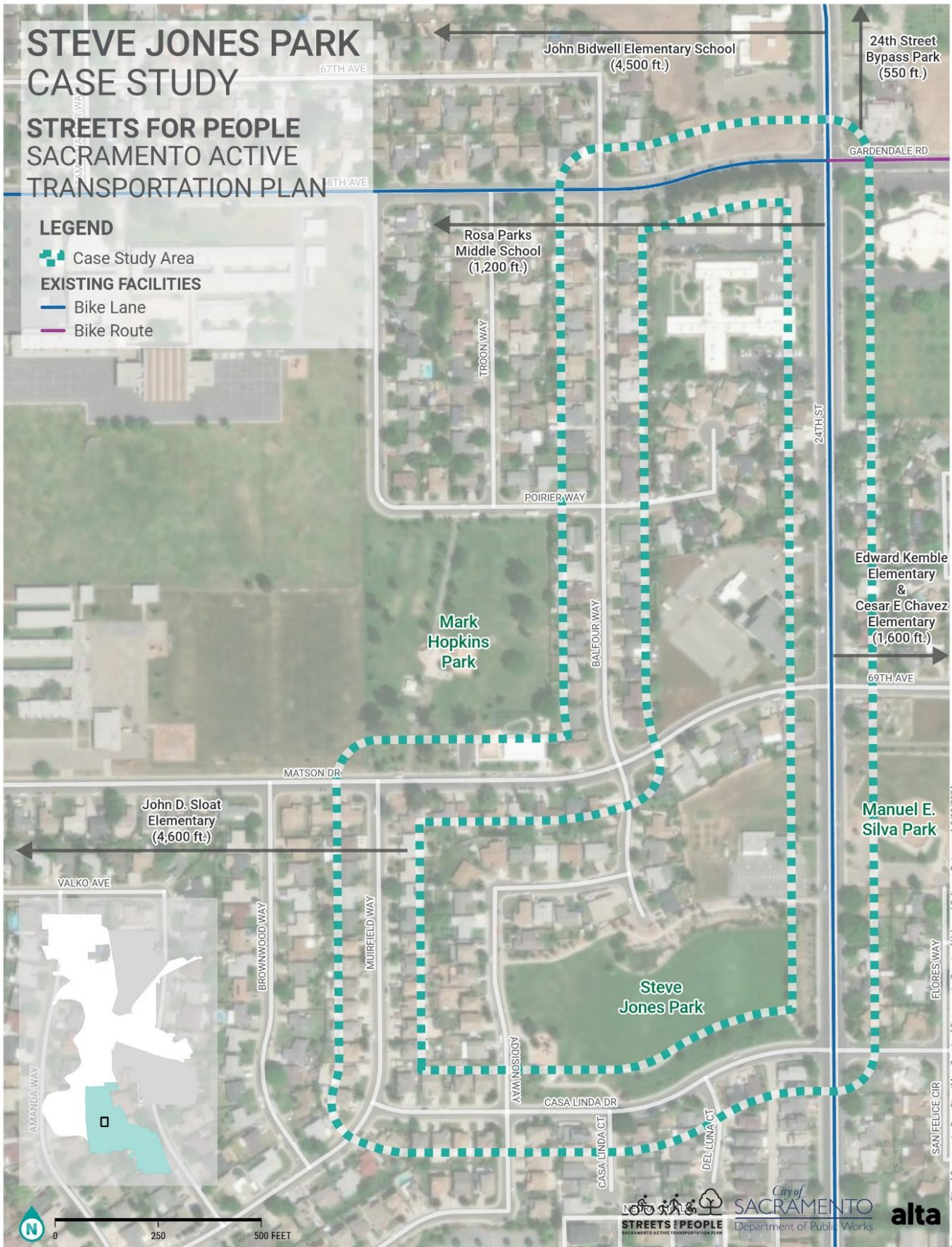


Figure 37. Steve Jones Park Case Study Area – Overview

## Summary of Issues

As noted, community comments regarded 24th Street as a major barrier for walking, biking, and rolling to local schools and parks due to perceived speeding vehicles, narrow sidewalks, and infrequent crossing opportunities. In line with the common concerns across all case study areas, sidewalk conditions, crosswalks, bike facilities, and perceived high travel speeds are the most prevalent active transportation issues in the Steve Jones Park case study area. Additional details on issues documented throughout the case study area are provided in the following subsections.

### *Active Transportation Infrastructure*

Participants conveyed safety concerns along 24th Street, regarding the corridor as a major barrier for walking, biking, and rolling to local schools and parks, as well as between neighborhoods.

The effective sidewalk widths along the corridor ranged from 4 to 6 feet with narrow to no separation (i.e., sidewalk buffer) from travel lanes. The lack of a buffer created a perceived uncomfortable experience for people walking along the corridor. Sidewalks along 24th Street have variable curbs (e.g., rolled vs. traditional), which allow vehicles to park on them, reducing the effective sidewalk width below 4 to 6 feet. Finally, sidewalks along 24th Street include various obstructions, such as utility poles and parked vehicles. **Figure 38** shows how existing utility poles obstruct the available space for people to walk on.



*Figure 38. Utility Pole Obstructing the Pedestrian Right-Of-Way along 24th Street*

Crossing opportunities are infrequent, with approximately 1,960 feet between marked crosswalks at 69th Avenue and Meadowview Road; there is no marked crosswalk on the southern approach at the Matson Drive and 69th Avenue intersection, which reduces crossing opportunities and prioritizes vehicle movements. Finally, perceived wide intersections along 24th Street may encourage fast-turning vehicles.

Bike lane widths include the gutter pan (**Figure 39**), which provides an undesirable experience and potential hazard at drain inlet locations. Additionally, residential trash receptacles were observed blocking the bike lane in various locations. Such conditions create unsafe conditions for people biking along 24th Street.

Observed deficiencies along other case study area corridors included:

- The existing bike lane on 68th Avenue ends at 24th Street and continues as a bike boulevard east of 24th Street along Gardendale Road. The discontinuous bike lane makes crossing 24th Street unsafe for people on bikes.
- Rolled curbs along Balfour Way, Matson Drive, Muirfield Way, and Casa Linda Drive allow vehicles to park on the sidewalk, further reducing the effective sidewalk width.
- Uncontrolled intersections can be difficult to navigate and encourage higher speeds for turning vehicles (at Casa Linda Drive and Muirfield Way, Casa Linda Drive and Casa Linda Court, and Casa Linda Drive and Del Luna Court).
- The absence of marked crosswalks at Addison Way and Casa Linda Drive reduces the visibility of people crossing to drivers.
- Participants perceived the curb radii to be large at intersections along 68th Avenue, which may encourage fast-turning vehicles.

#### *Amenities for People Walking*

Participants documented feeling unsafe walking along 24th Street due to the proximity to perceived high-speed traffic, the presence of rolled curbs, narrow sidewalks, and sidewalk obstructions (utility poles, trash receptacles and parked cars). Moreover, participants observed a lack of lighting elements to enhance the visibility of people walking at night and the absence of a tree canopy to provide respite for people walking during hot summer days. Similarly, existing bus stops only include posts and signage and do not provide shade structures or sitting amenities, which make waiting for the bus uncomfortable. Finally, there is a lack of wayfinding or signage denoting nearby destinations. Such conditions discourage people from walking along 24th Street and result in the corridor acting as a major barrier for people walking in the case study area.

#### *Driver Behavior*

Walking workshop participants reported dangerous driver behavior along 24th Street, with perceived speeding being a major concern and making it difficult for people walking, biking, or rolling to safely cross 24th Street and reach local destinations on the other side. Additionally, walking workshop participants noticed tire marks indicating burnouts and donuts at the intersection of 68th Avenue and Balfour Way (**Figure 40**).



*Figure 39. Rolled Curbs and Existing Bike Lane on 24th Street*



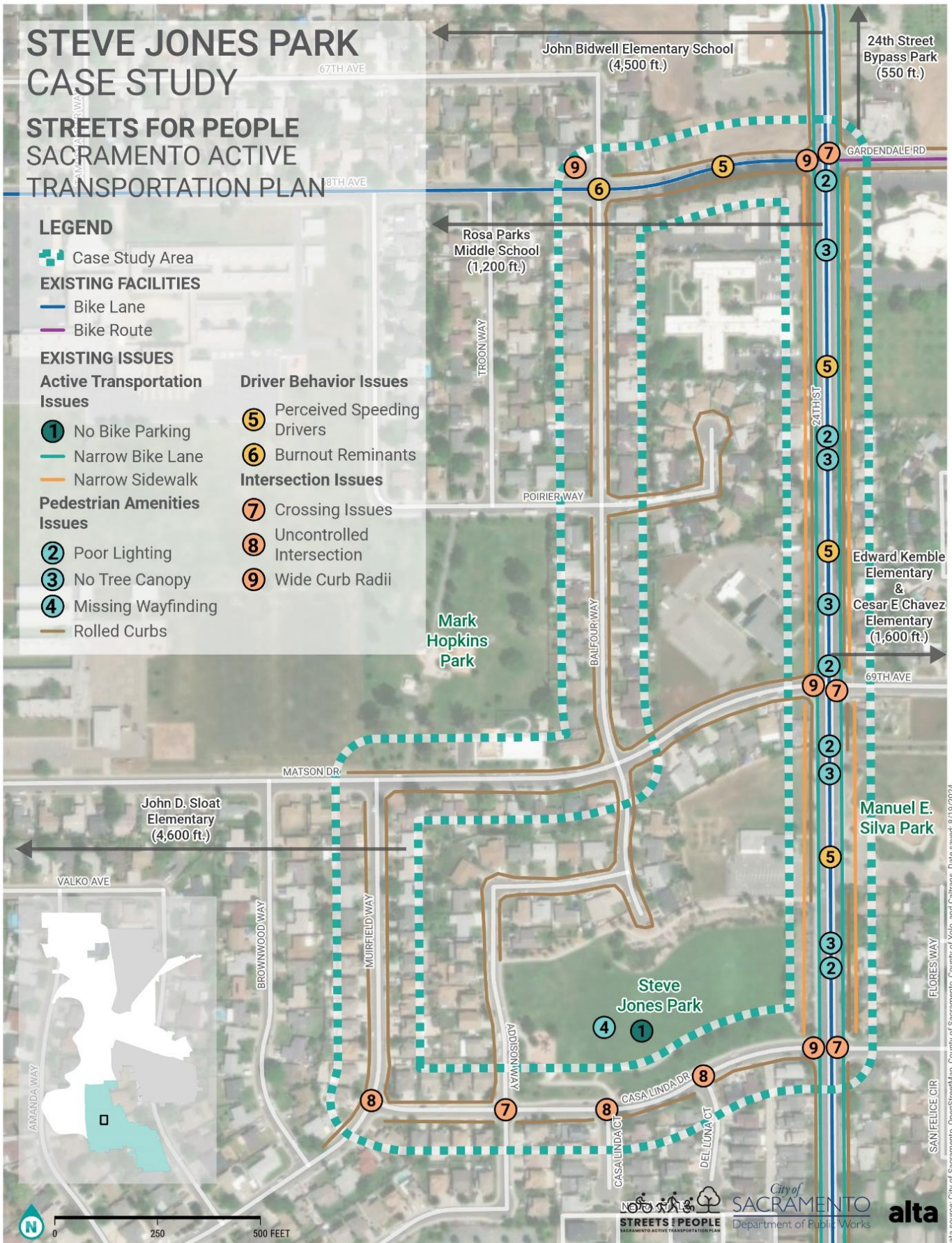
*Figure 40. Tire Marks at 68th Avenue and Balfour Way*

### *Intersections*

Participants noted having difficulty crossing 24th Street to access nearby sites, including Steve Jones Park, schools, and several churches, due to long crossing distances and infrequent crossing opportunities. Participants felt unsafe crossing the intersections of 24th Street and 68th Avenue and 24th Street and 69th Avenue due to faded crosswalks, lack of pedestrian lighting, and wide rolled curbs, which allow motor vehicles to park on the sidewalk. These characteristics reduce sight distances and limit pedestrian visibility at these intersections.

Additionally, uncontrolled intersections were documented at 24th Street and Casa Linda Drive, Casa Linda Drive and Muirfield Way, Casa Linda Drive and Casa Linda Court, and Casa Linda Drive and Del Luna Court. Finally, participants perceived the curb radii to be large and promoting higher speeds for turning vehicles at 24th Street and 69th Avenue, 24th Street and 68th Avenue, 24th Street and Casa Linda Drive, and Balfour Way and 68th Avenue. Participants noted that higher speeds for turning vehicles have the potential to increase the severity of crashes with people crossing. Overall, the existing intersection conditions along 24th Street is challenging for people walking or biking across this four-lane arterial.





Data source: City of Sacramento, OpenStreetMap, County of Yolo, and Caltrans. Date saved: 8/19/2024.

Figure 41. Steve Jones Park Case Study Area – Documented Issues

## Potential Improvements

The potential improvements for the case study area aim to address the crossing difficulties along 24th Street for people walking, biking, and rolling to local schools and parks, as well as increase connectivity between neighborhoods. The improvements are summarized in **Table 7** and **Figure 42**. Additional details on potential improvements are provided in the following subsections.

### *Active Transportation Infrastructure*

Comfortable sidewalks and bicycle facilities are key to improving the safety and connectivity to local destinations for people walking and biking. Such active transportation facilities can reduce the barriers that major roadways present to those who want to walk or bike to local schools and parks and between neighborhoods by enhancing separation between motorized and non-motorized travel modes.

**Reallocate Roadway Space and Modify Curbs:** To this end, the City could study traffic operations on 24th Street to determine if it is operationally feasible to reallocate roadway space to wider sidewalks and bicycle facilities while also reducing traffic lane widths to a maximum of 11 feet. The City could also work with utility companies to coordinate the relocation of utility poles out of the sidewalk during planned roadway reconstruction projects. In segments of 24th Street that have no on-street parking, there is no appropriate location for trash receptacles, as they would either block the bike lane or the sidewalk. The City could consider locations for these receptacles during future redesign projects. Additionally, the City may modify rolled curbs where present to be vertical curbs to reduce the prevalence of cars parking on sidewalks along 24th Street and other nearby corridors.

**Widen Bike Lanes, Traffic Calming, and Bike Boulevard:** To improve east-west bike connections, the City could widen the bike lanes on 68th Avenue to enhance connections to John Bidwell Elementary School and Rosa Parks Middle School. Furthermore, the City could apply additional traffic calming features along Matson Drive, such as curb extensions or chicanes to create a more robust bike boulevard connecting the case study area with John D. Sloat Elementary School. Reallocating roadway space to more comfortable sidewalks and bicycle facilities while removing obstructions within those facilities are strategies the City can use to improve roadways that are seen as major barriers to active travel across areas with similar issues and contexts in Sacramento. Moreover, implementing bicycle boulevards along residential streets can provide connections between schools and parks.

### *Amenities for People Walking*

**Wider Sidewalks and Wayfinding Signage:** To improve conditions for people walking and connecting to transit, the City may widen sidewalks connecting to transit and key destinations. Pedestrians will also benefit from wayfinding signage with directions and estimated travel times to key destinations (e.g., parks, schools, and community centers) from major intersections, transit stations, and community destinations like Steve Jones Park.

**Transit Amenities:** The City is encouraged to collaborate with SacRT to enhance bus stops, including installing bus stop shelters to improve the conditions for transit riders while they wait. A center median with street trees on 24th Street could be considered while reallocating roadway space to provide edge friction to reduce vehicle speeds. These strategies can be applied to other major roadways with similar conditions as 24th Street to improve conditions for people walking.

### *Driver Behavior*

**Reduce Lane Widths, Harden Center Lines, Turn Wedges and Medians:** To reduce perceived high travel speeds along 24th Street, the City could reduce travel lane widths to a maximum of 11 feet and install

hardened center lines and center medians with or without landscaping. The City may also consider adding turn wedges within the intersection to reduce the speed of turning vehicles and help reduce the space within an intersection, which could be used for unwanted behavior such as sideshows and burnouts. Finally, on local streets, the City could work with neighbors to install speed humps/tables to calm local traffic.

### *Intersections*

**Crossing Improvements:** To improve neighborhood connectivity, crossing improvements are recommended at major and local intersections, including at 24th Street and Casa Linda Drive, 24th Street and 69th Avenue, and 24th Street and Gardendale Road. Crossing improvements can include high-visibility crosswalks, reduced crossing distances with curb extensions, PHBs, and traffic signal enhancements. The City could also study the implementation of LPIs at 24th Street and 68th Avenue and 24th Street and 69th Avenue intersections. The City could also implement a PHB at the intersection of 24th Street and Casa Linda Drive. Additionally, the installation of pedestrian-scale lighting and curb radius reductions are recommended along these corridors. For both signalized and unsignalized intersections along other major roadways in Sacramento, tighter curb radii, curb extensions, pedestrian-scale lighting, and high-visibility crosswalks can be used to enhance pedestrian crossings by reducing motorist speeds and crossing distances while improving visibility for people walking. Pedestrian crossing beacons (RRFBs or PHBs) can be applied at unsignalized intersections to enhance safety for people crossing.

**Pedestrian-Scale Lighting and Intersection Controls:** For intersections on local roadways, the City could install new crosswalks and implement intersection controls such as stop or yield signs where intersections are currently uncontrolled (Casa Linda Drive and Muirfield Way, Casa Linda Drive and Casa Linda Court, and Casa Linda Drive and Del Luna Court). These improvements can be applied to other local roads surrounding popular destinations throughout Sacramento where uncontrolled intersections are prevalent.

**Table 7** provides a summary of general issues and potential improvements by category for other roadway corridors around the city experiencing similar issues.

Table 7. Steve Jones Park – General Issues and Potential Improvements by Category

CATEGORY	General Issues	Potential Improvements
Active Transportation Infrastructure	Narrow sidewalks	<ul style="list-style-type: none"> <li>• Widen sidewalks</li> </ul>
	Parked vehicles on sidewalks/rolled curbs	<ul style="list-style-type: none"> <li>• Replace with vertical curb and gutter</li> </ul>
	Poor sidewalk conditions	<ul style="list-style-type: none"> <li>• Reconstruct sidewalks</li> </ul>
	Low/no separation between sidewalk and road	<ul style="list-style-type: none"> <li>• Reduce lane width/widen sidewalks</li> </ul>
	Bike lane obstructions	<ul style="list-style-type: none"> <li>• Educational programs</li> </ul>
Amenities for People Walking	Lack of wayfinding signs	<ul style="list-style-type: none"> <li>• Install wayfinding to local destinations</li> </ul>
	Lack of bus stop amenities	<ul style="list-style-type: none"> <li>• Work with SacRT to install bus shelters</li> </ul>
	Lack of shade	<ul style="list-style-type: none"> <li>• Expand tree canopy</li> </ul>
Driver Behavior	Perceived high-speed travel	<ul style="list-style-type: none"> <li>• Reduce lane width/widen sidewalks</li> <li>• Tighten curb radii at intersections</li> <li>• Construct raised medians</li> </ul>
	Marks from drivers doing donuts and burnouts	<ul style="list-style-type: none"> <li>• Hardened centerlines and turn wedges</li> </ul>
Intersections	Low/no pedestrian-scale lighting	<ul style="list-style-type: none"> <li>• Install pedestrian-scale lighting</li> </ul>
	Faded crosswalks	<ul style="list-style-type: none"> <li>• Upgrade crosswalks to high visibility</li> </ul>
	Uncontrolled intersections	<ul style="list-style-type: none"> <li>• Study installation of new marked crosswalks</li> <li>• Study installation of new stop signs at uncontrolled intersections</li> </ul>
		<ul style="list-style-type: none"> <li>• Study installation of RRFB, pedestrian crossing beacon, or LPIs</li> </ul>

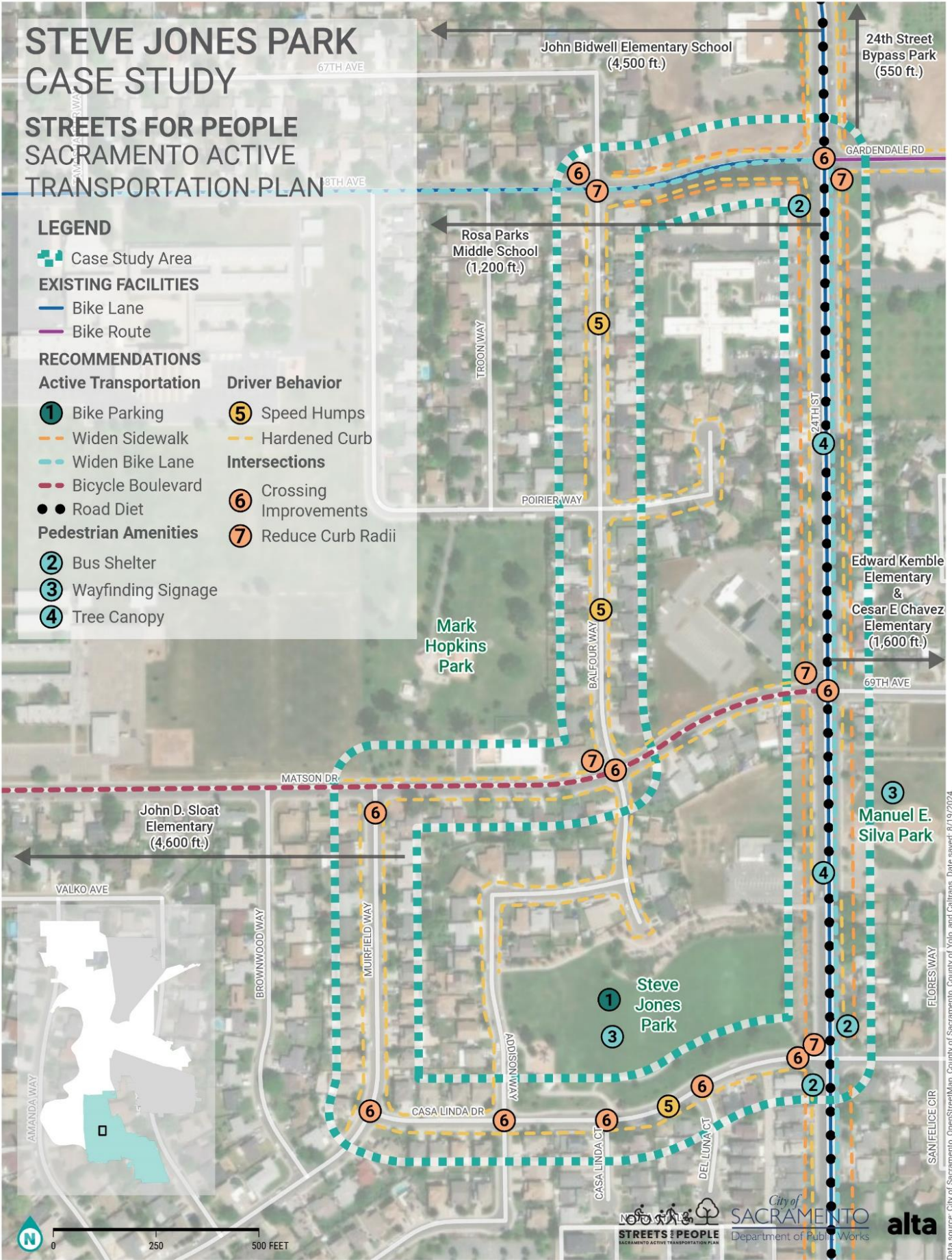


Figure 42. Steve Jones Park Case Study – Potential Improvements

Data source: City of Sacramento, OpenStreetMap, County of Yolo, and Gallitans. Date saved: 8/19/2024.

## Irene B. West Elementary School

**Theme:** *Schools and Neighborhoods, Major Barriers/Major Roadways*

**Focus Plan Area:** *South Sacramento*

This section describes the Irene B. West Elementary School case study area and how *Major Roadways* can create *Major Barriers* for students and their families walking, biking, and rolling between *Schools and Neighborhoods*. In the case study area, Bruceville Road creates a lack of east-west connectivity to Irene B. West Elementary School.

### Overview

Located in South Sacramento, the Irene B. West Elementary School case study area (**Figure 43**) extends along the Jacinto Creek Trail and Damaschas Drive between Bruceville Road and the elementary school. Irene B. West Elementary School serves over 900 students ages 5 to 11 and their families from the Shasta neighborhood and surrounding communities. The Jacinto Creek Trail provides an off-street, east-west route for students and their families to reach Irene B. West Elementary School. However, Bruceville Road serves as a major barrier for people walking, biking, and rolling along the path.

Bruceville Road is a major north-south corridor extending from the southern city limits to Highway 99. The roadway has four travel lanes and a posted speed limit of 40 mph. Walking workshop participants voiced concern for path users crossing Bruceville Road due to perceived speeding. The roadway also has bike lanes, which participants cited as unsafe due to the lack of separation from vehicles. Consequently, the case study area lacks north-south bike connections to adjacent neighborhoods. Furthermore, Bruceville Road serves as a major barrier for students and their families walking, biking, and rolling to Barbara Comstock Morse Elementary School and Valley Hi-North Laguna Library.

The surrounding area is suburban with a mix of multi- and single-family units with various nearby amenities. However, Highway 99 runs north-south along the east side of Irene B. West Elementary School and completely cuts off access between the neighborhoods on either side. Additionally, Sheldon Road, a six-lane arterial with bike lanes, runs east-west 1,700 feet south of Irene B. West Elementary School and serves as a major barrier for families south of the roadway. Together, Bruceville Road, Sheldon Road, and Highway 99 create a lack of connectivity between the case study area neighborhoods and schools. Within a mile of the elementary school are three commercial areas, four schools (Barbara Comstock Morse Elementary School; Monterey Trail High School; Edward Harris, Jr. Middle School; and Roy Herburger Elementary School), a swim center, four churches, five parks (Shasta Community Park, False Park, North Laguna Creek Park, Jacinto Creek Park, and Pinkerton Park), and the Valley Hi-North Laguna Library. The SacRT bus routes 110, 114, and 116 run along Bruceville Road and provide access to the SacRT blue line (light rail) at the Consumnes River College station.

### Summary of Issues

Participant comments highlighted Bruceville Road as a major barrier for students and their families walking along the Jacinto Creek Trail to reach Irene B. West Elementary School. They cited perceived speeding and unsafe crossings as factors that diminished connectivity with the trail. Additionally, participants noted unsafe driver behavior during the Irene B. West Elementary School pick-up procedure, which creates unsafe walking, biking, and rolling conditions for students.

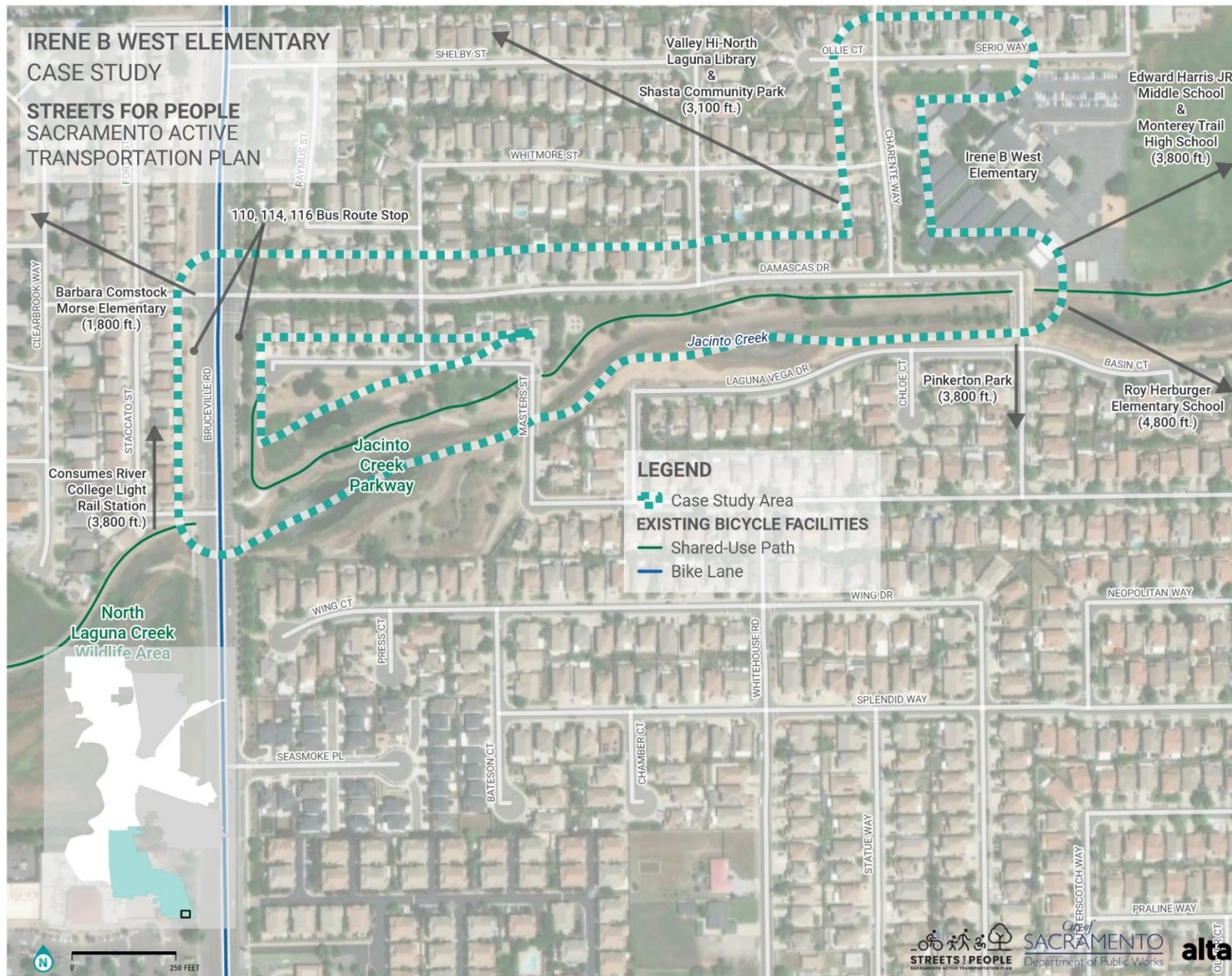


Figure 43. Irene B. West Elementary School Case Study Area – Overview

### *Active Transportation Infrastructure*

The shared-use path along Jacinto Creek (**Figure 44**) extends from Irene B. West Elementary School across Bruceville Road to Center Parkway. Across Center Parkway, the Jacinto Creek Trail connects with another existing shared-use path along Laguna Creek. This path extends west to Franklin Boulevard, connecting to the existing bike lanes on Jacinto Avenue. While this path network provides an expansive east-west connection to Irene B. West Elementary School, major roadways diminish the path's connectivity. Specifically, participants highlighted the path's crossing at Bruceville Road, a five-lane roadway with a 40 mph speed limit, as a major barrier for path users.



*Figure 44. Shared-Use Trail Along Jacinto Creek*

Furthermore, participants identified missing and narrow sidewalks and rolled curbs along most roadways leading to the elementary school, which can limit the available walking routes to school as people may need to navigate around cars parked on the sidewalk or missing sidewalk segments. This is particularly challenging for people with disabilities who may depend on mobility devices to get around. Furthermore, these conditions create a lack of connectivity between Irene B. West Elementary School and Valley Hi-North Laguna Library.

While the Jacinto Creek Trail provides a mostly low-stress east-west bike connection, there are few north-south bike connections to Irene B. West Elementary School. Participants considered the bike lanes on Bruceville Road to be unsafe due to a lack of separation from vehicles on the 40 mph roadway. Furthermore, existing bus stops along the corridor create conflicts between people biking and buses waiting for passengers to enter and exit at bus stops. Consequently, Bruceville Road is often not seen as a viable choice for students and families biking in the case study area.

Jocelyn Way connects Irene B. West Elementary School to southern residents across Sheldon Road with an existing bike lane that provides a more comfortable walking and biking environment with posted speed limits of 25 mph, two travel lanes, a hardened median, and no on-street parking. This corridor does not include traffic calming elements, which may help maintain low vehicle speeds. Participants perceived vehicle speeds on this roadway as too high to be supportive of students and their families biking to school.



### *Amenities for People Walking*

Sidewalk conditions throughout much of the case study area were acceptable with some minor instances of uneven surfaces. However, walking workshop participants documented rolled curbs on every local street in the case study area, which enabled motorists to park on the sidewalk. Such instances may force people to walk onto the roadway when cars obstruct the sidewalk path. This reduces the viable walking routes residents have to Irene B. West Elementary School.

During the walking workshop, the school parking lot was heavily congested with vehicles driving through the pick-up loop. Participants were concerned that the 5-foot-wide sidewalk on the eastern edge of the parking lot, which students walk along to reach their vehicles or exit the school (**Figure 45**), would not provide sufficient width to accommodate the high volumes of people walking. They suggested that the sidewalk could provide more space for the number of students and more separation from moving vehicles.



*Figure 45. Small Waiting Area for Students in School Parking Lot*

Along the Jacinto Creek shared-use path, participants documented uneven pavement conditions, overgrown vegetation, and the absence of lighting fixtures. These conditions reduce the path's accessibility and level of comfort, especially during the winter months. Additionally, no wayfinding signage was found at path access points to direct users, which contributes to the lack of connectivity between neighborhoods and schools via off-street trails.

### *Driver Behavior*

The Irene B. West Elementary School parking lot on Serio Way serves as a pick-up loop, causing vehicle traffic to spill over onto the residential street. **Figure 46** shows vehicle congestion extending onto Serio Way. Serio Way provides a direct north-south school connection with vertical curbs and sidewalks. Unfortunately, the traffic congestion creates challenging walking conditions for students heading north.

To avoid the traffic, some caregivers parked on residential streets and were seen walking between vehicles to pick up their students. This exacerbates the challenges students face when walking and biking from school, as they must be aware of drivers pulling in and out of the curb. Additionally, participants documented instances where caregivers did not follow the traffic circulation patterns in the school parking lot, posing a danger to people walking nearby.



*Figure 46. Traffic Congestion at School Parking Entrance*

Along the west side of the school on Charente Way, some drivers were perceived to be speeding and did not stop for people waiting to cross the uncontrolled crosswalk at Whitmore Street, which leads to the school's western entrance. Such instances may be difficult for children to navigate on their own. On Bruceville Road, participants perceived vehicle speeds as high and observed drivers failing to stop for people waiting to cross at the PHB at Staccato Street, which serves as the connection between the eastern and western portions of the Jacinto Creek Trail. These conditions create a major barrier along the Jacinto Creek Trail.



Figure 47. PHB Across Bruceville Road

### *Intersections*

The walking workshop participants voiced concern about the safety of people walking or biking across Bruceville Road at Staccato Street. As noted earlier, Bruceville Road is a five-lane road with a posted speed limit of 40 mph and a center median that serves as a pedestrian refuge. The crossing includes standard crosswalk markings and a PHB (**Figure 47**). However, participants observed drivers failing to stop when the PHB lights were flashing. Additionally, participants perceived crossing distances as long and crossing times as short for people to get across Bruceville Road. Furthermore, for people walking who were unable to cross the full length of the street at this crossing, no push button to activate the PHB was found at the pedestrian refuge island along Bruceville Road. Consequently, this intersection disrupts the low-stress path along Jacinto Creek and creates a lack of east-west connectivity to Irene B. West Elementary School.

Just north at Damas Drive and Bruceville Road, participants also perceived crossing times to be short and crossing distances to be long and noted that these factors were significant issues for getting across the intersection comfortably. Additionally, participants highlighted the conflict points between the location of the bus stop and the bike lane at this intersection, as buses that stop need to cross the bike lane to pick up or drop off passengers. Finally, people on bikes making left turns from Bruceville Road must cross three travel lanes to make the left turn. With posted speed limits of 40 mph, this maneuver can be difficult for most people biking. As a result, this intersection creates a gap in the walking and biking network between Irene B. West Elementary School and Barbara Comstock Morse Elementary School.

Within residential streets, there is an uncontrolled crosswalk across Charente Way at Whitmore Street. This crossing provides direct access to the western entrance to Irene B. West Elementary School. The absence of a traffic control feature leads to drivers not stopping for people waiting to cross.



Figure 48. Crossing Guard at Serio Way

Along Serio Way, a crossing guard was stationed at the school parking lot entrance to help caregivers and their students cross Serio Way (**Figure 48**). However, there is no marked crosswalk at this location. Further west, on Charente Way and Serio Way, drivers failed to make complete stops and often encroached on the marked crosswalk. These conditions create challenging crossings for students needing to go north across Serio Way, which hinders connections between Irene B. West Elementary School and Valley Hi-North Laguna Library.



Figure 49. Irene B. West Elementary School Case Study Area – Documented Issues

## Potential Improvements

Potential improvements for the case study area aim to address safety concerns at the existing crossing across Bruceville Road to improve the low-stress connection provided by the Jacinto Creek Trail. The improvements are summarized in **Table 8** and **Figure 50**. The improvements can be applied to other major roadway intersections that serve as barriers between neighborhoods and schools throughout Sacramento.

### *Active Transportation Infrastructure*

**Reduce Sidewalk Obstructions, High-Visibility Crosswalks, and Sidewalk Widening:** To use active travel to get to school, students need comfortable sidewalks and bicycle facilities near the school. To that end, the City could reconstruct rolled curbs on local streets to be vertical wherever feasible to prevent drivers from parking on the sidewalk. This can broaden the viable walking routes to Irene B. West Elementary School by reducing the need for people to walk into the roadway to bypass vehicles obstructing the sidewalk. Additionally, the City could upgrade existing crosswalks connecting to the Jacinto Creek Trail to high-visibility crosswalks to improve east-west connectivity and create a continuous low-stress corridor along the Jacinto Creek Trail. Furthermore, the sidewalks connecting Jacinto Creek Trail to the school along Damaschas Road and Charente Way could be widened to provide additional space for high volumes of people walking. Wider sidewalks can activate the signalized intersection at Bruceville Road and Damaschas Drive, as well as improve connections between Irene B. West Elementary School and Barbara Comstock Morse Elementary School.

**Upgrade Bike Lanes:** To improve north-south bike connections to the school and case study area, the City could upgrade the bike lanes on Bruceville Road to separated bike lanes. To accomplish this, the City could first study road operations on Bruceville Road to determine if a road diet is feasible. Should a road diet be feasible, the proposed separated bike lanes could create a low-stress north-south bike connection that students and their families can use to bike to nearby schools and the Valley Hi-North Laguna Library. To further north-south bike connections, the City could upgrade the bike lanes along Jocelyn Way to buffered or separated bike lanes to connect residents across Sheldon Road to Irene B. West Elementary School.

### *Amenities for People Walking*

**Address Overgrowth and Add Pedestrian-Scale Lighting:** To improve the comfort of people walking or biking on the shared-use path along Jacinto Creek, the City could work with its parks and recreation partners to repave the path, trim back overgrown vegetation, and install pedestrian-scale lighting.

**Wayfinding Signage:** The City could also install wayfinding signs to, from, and along the Jacinto Creek Path to provide directions and estimated travel times to key destinations (e.g., parks, schools, and trails). Wayfinding signs can establish connections to schools and other local destinations by orienting people to low-stress routes.

**Reduce Sidewalk Obstructions:** As noted earlier, rolled curbs could be reconstructed as vertical curbs to prevent vehicles from parking on the sidewalks and offer people walking a better sense of safety. These improvements could give students living near Irene B. West Elementary School more viable walking routes to school.

**School Safety Enhancements:** The City could also work with the school and school district to widen the sidewalks along the outer edge of the parking lot. The City could conduct a thorough school safety assessment to determine if it is possible to narrow the school parking lot exit onto Serio Way.

### *Driver Behavior*

**Speed Limit Signs and Reduce Lane Widths:** One of the primary concerns during the walking workshop was perceived speeding and drivers failing to yield to people crossing on Bruceville Road. To increase awareness about speed limits and people crossing, the City could add speed limit signs along the corridor and reduce the lane widths from 12 feet to 11 feet. Additionally, if a road diet on Bruceville Road is feasible, the City could consider a separated bike lane, which may also reduce travel speeds and further reduce the crossing distance.

**High-Visibility Crosswalks and Pedestrian Signal:** At the Jacinto Creek Trail crossing, the City could upgrade the existing conventional crosswalks to high-visibility crosswalks and upgrade the existing PHB to a full pedestrian signal to increase driver yielding compliance. These improvements can complete the gap in the low-stress network along Jacinto Creek Trail and enhance east-west connections to Irene B. West Elementary School.

**Traffic Calming and School Area Crossing Enhancements:** To address driver behavior related to the school pick-up procedure, the City could work with Irene B. West Elementary School and neighbors to install traffic calming elements, such as speed humps or raised crosswalks, along Serio Way and Charente Way and within the school parking lot. Specifically, the City could install a raised crosswalk and high-visibility crosswalks at the intersection of Charente Way and Whitmore Street to improve driver awareness of the high volumes of people crossing and enhance northwest connections to Irene B. West Elementary School. As noted earlier, a school safety assessment is recommended at Irene B. West Elementary School to identify a holistic package of infrastructure, policy, and program improvements.

### *Intersections*

**High-Visibility Crosswalks, Curb Extensions, and Median Push-Button:** As noted, the City could upgrade the existing crosswalks at Bruceville Road and Staccato Street to high-visibility crosswalks to improve the visibility of people crossing. Additionally, if a road diet is feasible on Bruceville Road, the crossing distance may be shortened, and curb extensions may be installed to increase pedestrian visibility. The City could also install a pedestrian push button in the center median and vertical bollards for people who do not make it across during the allotted crossing time. These crossing improvements can reduce the stress experienced by people walking, biking, or rolling across the intersection.

**Reduce Crossing Distances and Conflict Points:** Should the road diet on Bruceville Road be deemed feasible, the City may be able to significantly reduce the crossing distance at Damas Drive. This measure, along with installing a median refuge island and audible pedestrian signals, can further improve the overall safety of the area and bridge the gap between Irene B. West Elementary School and Barbara Comstock Morse Elementary School. Moreover, the feasibility study for the road diet presents an opportunity for the City to consider additional safety measures, such as a bus boarding island and a protected intersection, to facilitate safer turns for people biking at this intersection. Reducing conflict points between buses and people on bikes through bus stop extensions, floating bus stops, or bus pull-outs can improve the north-south bike connection between Valley Hi-North Laguna Library, Barbara Comstock Morse Elementary School, and Irene B. West Elementary School.

**School Area Improvements:** Given the current challenges with compliance at the all-way stop signs on Serio Way and Charente Way, the City could install a raised intersection. In the interim, all crosswalk locations at this intersection could be upgraded to high visibility with advanced stop bars. Additionally, curb extensions at all intersection corners are advised to discourage right-turning vehicles from encroaching on the crosswalk, thereby enhancing pedestrian safety. Improving safety at this intersection can close a critical gap in the walking and biking network between Irene B. West Elementary School and Valley Hi-North Laguna Library.

**Raised Crosswalk and Curb Extensions:** It is also recommended that a raised crosswalk be installed across Charente Way at Whitmore Street with curb extensions at the eastern end of the crosswalk. For a more immediate intervention, the City could install an in-street pedestrian crossing sign at the crosswalk across Charente Way. Together, these improvements can activate the western entrance to Irene B. West Elementary School.

Table 8. Irene B. West Elementary School Case Study - General Issues and Potential Improvements by Category

Category	General Issues	Potential Improvements
Active Transportation Infrastructure	Poor pavement conditions on shared-use path	<ul style="list-style-type: none"> <li>• Repave Jacinto Creek Trail</li> </ul>
	Rolled curb sidewalks	<ul style="list-style-type: none"> <li>• Install vertical curb and gutter</li> </ul>
	Uncomfortable bike lanes	<ul style="list-style-type: none"> <li>• Road diet</li> <li>• Buffered or separated bike lanes</li> </ul>
Amenities for People Walking	Lack of shade	<ul style="list-style-type: none"> <li>• Plant street trees (where appropriate)</li> </ul>
	Lack of lighting	<ul style="list-style-type: none"> <li>• Install pedestrian-scale lighting</li> </ul>
	Lack of wayfinding signage	<ul style="list-style-type: none"> <li>• Install wayfinding signage</li> </ul>
Driver Behavior	School drop-off/pick-up concerns	<ul style="list-style-type: none"> <li>• School safety assessment</li> <li>• Raised crosswalk and curb extensions</li> </ul>
	Perceived speeding	<ul style="list-style-type: none"> <li>• Speed limit signs</li> <li>• Road diet</li> <li>• Lane width reduction</li> </ul>
	Failure to stop for people crossing	<ul style="list-style-type: none"> <li>• Road diet</li> <li>• Additional “pedestrian crossing ahead” signage</li> <li>• Upgrade PHB to pedestrian signal</li> <li>• Raised intersection (where appropriate)</li> <li>• High-visibility crosswalk</li> <li>• In-street pedestrian crossing sign</li> </ul>
	Encroaching on the sidewalks	<ul style="list-style-type: none"> <li>• Curb extensions</li> <li>• Advanced stop bars</li> </ul>
	Short crossing times	<ul style="list-style-type: none"> <li>• Additional pedestrian signal time</li> <li>• Curb extensions</li> </ul>
Intersections	Long crossing distances	<ul style="list-style-type: none"> <li>• Road diet</li> <li>• Curb extensions</li> <li>• High-visibility crosswalks</li> </ul>
	Conflicts with vehicles and bikes	<ul style="list-style-type: none"> <li>• Protected intersection</li> <li>• Floating bus stop/bus stop extension/bus pull-out</li> </ul>



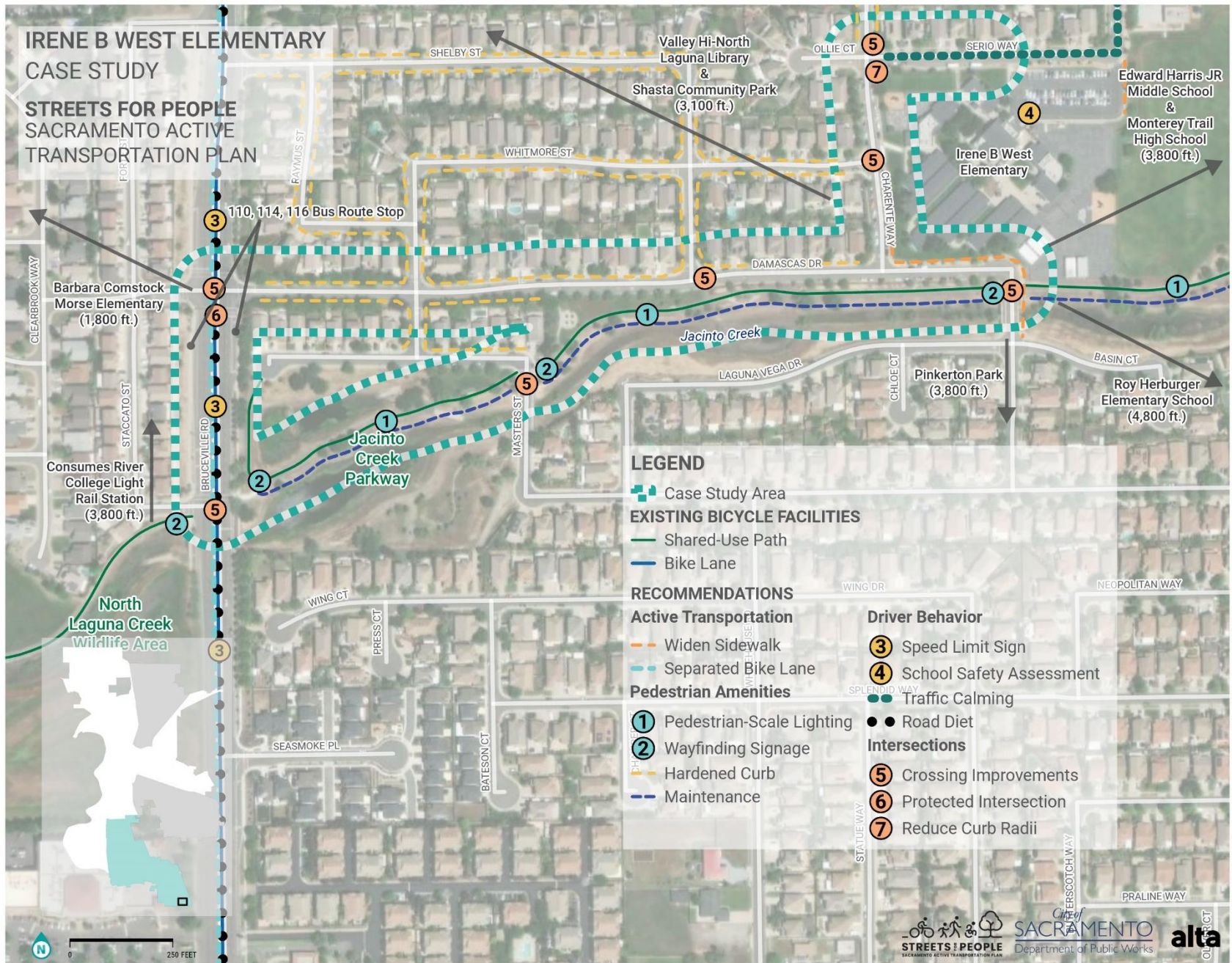


Figure 50. Irene B. West Elementary School Case Study Area – Potential Improvements