North Sacramento Walk Audit Report

Assessing Access to the Sacramento Northern Trail

September 2019

SACRAMENTO COUNTY PUBLIC HEALTH
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WALKSACRAMENTO

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INTRODUCTION

PROJECT BACKGROUND

The Sacramento County Obesity Prevention Program has identified two key interventions for reducing chronic health risk and impacts in Sacramento County: physical exercise and a healthy diet. As part of this program, the County has been working with several community partners on strategies to increase physical activity and healthy food intake through encouragement programs such as Walk with Friends, nutrition education and healthy food preparation trainings, and provision of services to reduce financial barriers.

In 2018, the County partnered with WALKSacramento to identify strategies that focus on improving pedestrian and bicycle access to healthy destinations, specifically to parks and healthy retail sites. Improving pedestrian and bicycle access along routes to these everyday destinations not only encourages greater end use of parks and healthy foods, but also has additional physical activity benefits from using active transportation instead of driving.

The Safe Routes to Parks and Healthy Retail Project focuses on developing a toolbox of resources for the County Health Department, local jurisdictions, parks districts, community partners, and other decision-makers, implementers, and advocates to understand policy, design, and program strategies for improving access to healthy destinations in order to improve health outcomes in communities.

PROJECT GOALS AND STRATEGIES

Traditionally, access to park and healthy retail sites has been viewed in terms of proximity, or the number of homes located within half a mile of a park or healthy food store. While proximity is an important factor, there are other conditions that impact access. For example, many communities in Sacramento County are located within half a mile of a healthy destination, however residents may not be able to directly access the nearest park or healthy food store due to soundwalls, high-speed streets, unsafe crossings, nonexistent sidewalks or bike facilities, and other barriers that make walking and biking unsafe, inconvenient, or uncomfortable. Social factors such as presence of crime, affordability, or programs that do not meet community needs also limit access and discourage active travel.

In light of the various barriers to park and healthy retail access, a Safe Routes to Parks and Healthy Retail approach should aim to accomplish the following objectives[1]:

- Accessible via multiple modes of transportation for people of all ages and abilities
- Conveniently located within approximately one half mile (10 minute walk) from where people live
- Safe from traffic and personal danger
- Comfortable and appealing places to walk or bicycle
- End at spaces that are well-maintained and programmed

[1] Source: Safe Routes National Partnership. https://www.saferoutespartnership.org/healthy-communities/saferoutestoparks

PROJECT CONTEXT

In August, 2019, WALKSacramento conducted a walk audit to identify existing conditions and barriers to pedestrian and bicycle access to parks and healthy retail in North Sacramento. The walk audit focused on a one-mile segment of the Sacramento Northern Trail between Grand Avenue and Arcade Creek and assessed opportunities to improve access to the trail and between the trail and other key community destinations.

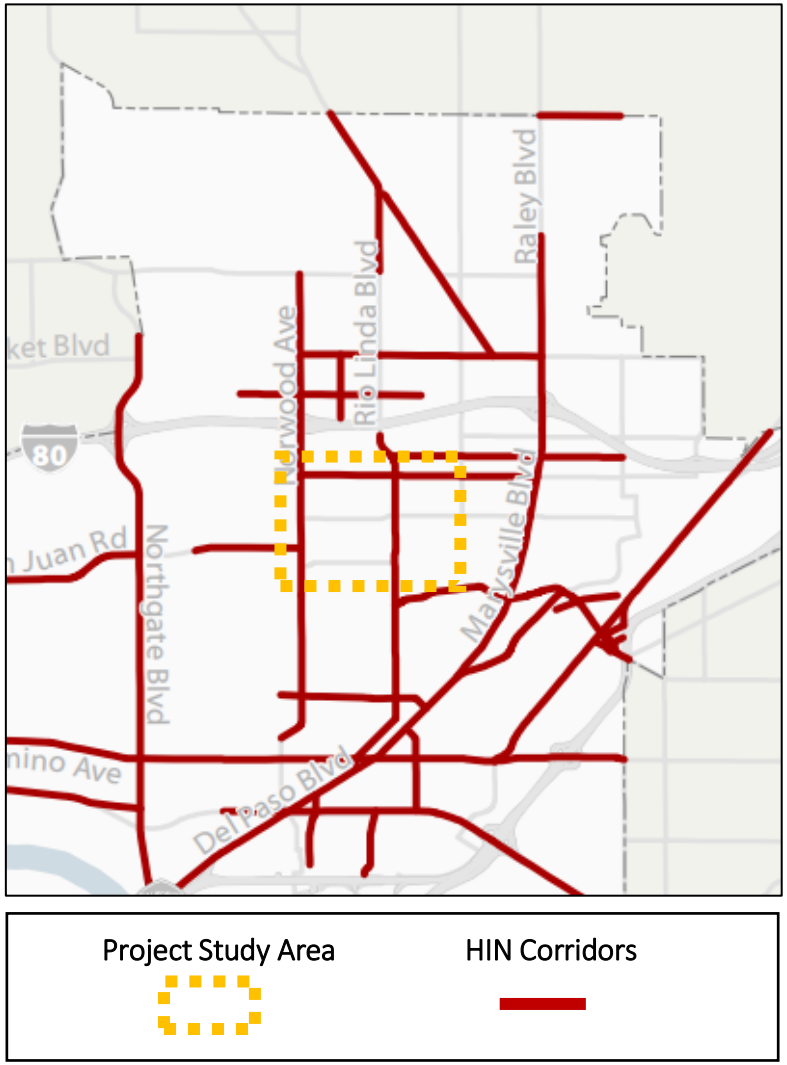
In addition to the area immediately adjacent to the trail segment, WALKSacramento also assessed general connectivity throughout the community within half a mile of the trail, focusing on the area between Grand Avenue in the north to Arcade Creek in the south and Norwood Avenue in the west to Dry Creek Road in the east. This area is adjacent to and includes portions of the Del Paso Heights, Hagginwood, Richardson Village, and Noralto neighborhoods.

The trail itself functions as a park destination and also provides an opportunity to serve as a low-stress, north-south active transportation route to other community destinations, especially considering that nearby north-south streets such as Rio Linda Boulevard and Norwood Avenue have high traffic speeds and volumes with a high rate of pedestrian and bicycle injuries and fatalities.

Rio Linda Boulevard and Norwood Avenue are among several other streets within the North Sacramento community that are located on the City of Sacramento's Vision Zero High Injury Network (HIN), which identifies corridors with the highest level of fatal and serious crashes for pedestrians, bicyclists, and motorists. Additional corridors on the HIN in the North Sacramento community include Grand Avenue, Marysville Boulevard, Del Paso Boulevard, and Silver Eagle Road.

In order to encourage active travel to healthy destinations and thereby improve community health outcomes, this report focuses on strategies that aim to improve connectivity to the trail, encourage use of the trail as a pedestrian and bicycle route to destinations, and enhance safety for people walking and biking in the community.

City of Sacramento HIN in North Sacramento



HOW TO USE THIS REPORT

This Walk Audit Report is intended to guide policy, infrastructure, and programming solutions to facilitate greater use of active travel modes to healthy destinations in North Sacramento. This report is organized based on the structure of the Safe Routes to Parks and Healthy Retail Toolbox, focusing on an existing conditions analysis and identification of needs, followed by specific recommendations for policy, design, and program strategies. The recommendations are informed by strategies outlined from the policy, design, and program resources in the Toolbox.

Please note that this report is not a standard, specification, regulation, or official engineering study and should not be used for establishing civil liability. This report highlights needs and potential solutions within this community. The implementation of any strategy contained within this report should be made on the basis of an official engineering study at each location. Instead, this report should be used to further plan improvements and respond to identified needs within this community.

Local Agency Staff

Local agency staff, including health departments, transportation departments, and park districts, can use this report to identify policy, design, and programmatic strategies for improving health outcomes through the built environment. This report includes key data and community-identified priorities that can inform current or future planning efforts and help local agencies pursue funding for active transportation infrastructure projects.

Community Partners

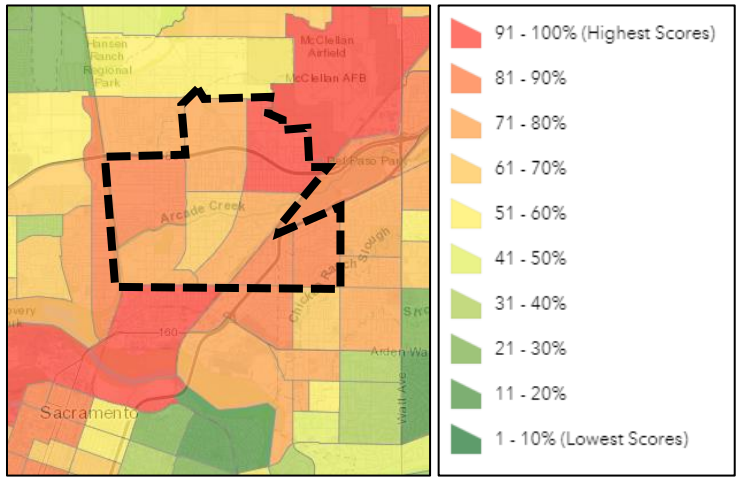
Community partners can use this report to advocate for policy and built environment change in the community. This report also includes programming recommendations that community partners may be able to support or implement in partnership with local agencies and the community.

EXISTING CONDITIONS

HEALTH AND ENVIRONMENT CONDITIONS

The North Sacramento priority census tracts are located in communities that have high social, economic, and environmental vulnerabilities as defined by CalEnviroScreen 3.0 (65-95%)[2]. CalEnviroScreen 3.0 identifies communities most affected by pollution and where residents are vulnerable to adverse environmental impacts. Additionally, the North Sacramento priority census tracts have relatively low healthy community conditions as defined by the Healthy Places Index, which compares communities across California based on a variety of socioeconomic and environmental indicators. Specific health outcomes in the North Sacramento priority census tracts include high rates of asthma diagnoses (11.31%), high asthma-related emergency department visits (115.4 per 10,000 ER visits), and high rates of diabetes (13.33%) and heart disease diagnoses (6.74%). Additionally, obesity rates tend to be higher in the North Sacramento census tracts (33.81%) compared to Sacramento County (26.01%)[3].

CalEnviroScreen 3.0 Results



POPULATION AND SOCIOECONOMIC DEMOGRAPHICS

The North Sacramento priority census tracts have higher proportions of children and youth under 18, people with disabilities, and people with limited English proficiency than Sacramento County as a whole. Additionally, these communities also have a greater proportion of people of color than the Countywide average, with approximately 40% of the population identifying as Hispanic or Latino and over 15% identifying as Black or African American.[4]

[2] CalEnviroScreen 3.0, California Office of Environmental Health Hazard Assessment, 2018. Available from https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30. Accessed September 2019.

[3] Healthy Places Index. Available from http://healthyplacesindex.org/. Accessed September 2019.

[4] US Census Bureau, American Community Survey, 2012-16. Accessed via Community Commons. Accessed September 2019.

The Median Household Income in the North Sacramento priority census tracts is $29,154, compared to the County average of $67,305. Overall, there are higher rates of poverty, unemployment, and greater housing cost burdens. Homeownership rates are also relatively low, with 39.06% of households owning their homes compared to the Sacramento County average of 56.9%. 17.24% of households do not have a motor vehicle, compared to 7.47% in the County.[5]

Households with lower incomes are less likely to own cars and are thus more reliant on public transit and active transportation to access healthy and affordable foods, jobs, and other services. However, communities with a higher proportion of low-income households also tend to be more auto-oriented and less conducive to walking and biking, further restricting the ability of individuals to be physically active and access health services and opportunities.

[5] US Census Bureau, American Community Survey, 2012-16. Accessed via Community Commons. Accessed September 2019.

BUILT ENVIRONMENT CONDITIONS

LAND USES AND DESTINATIONS

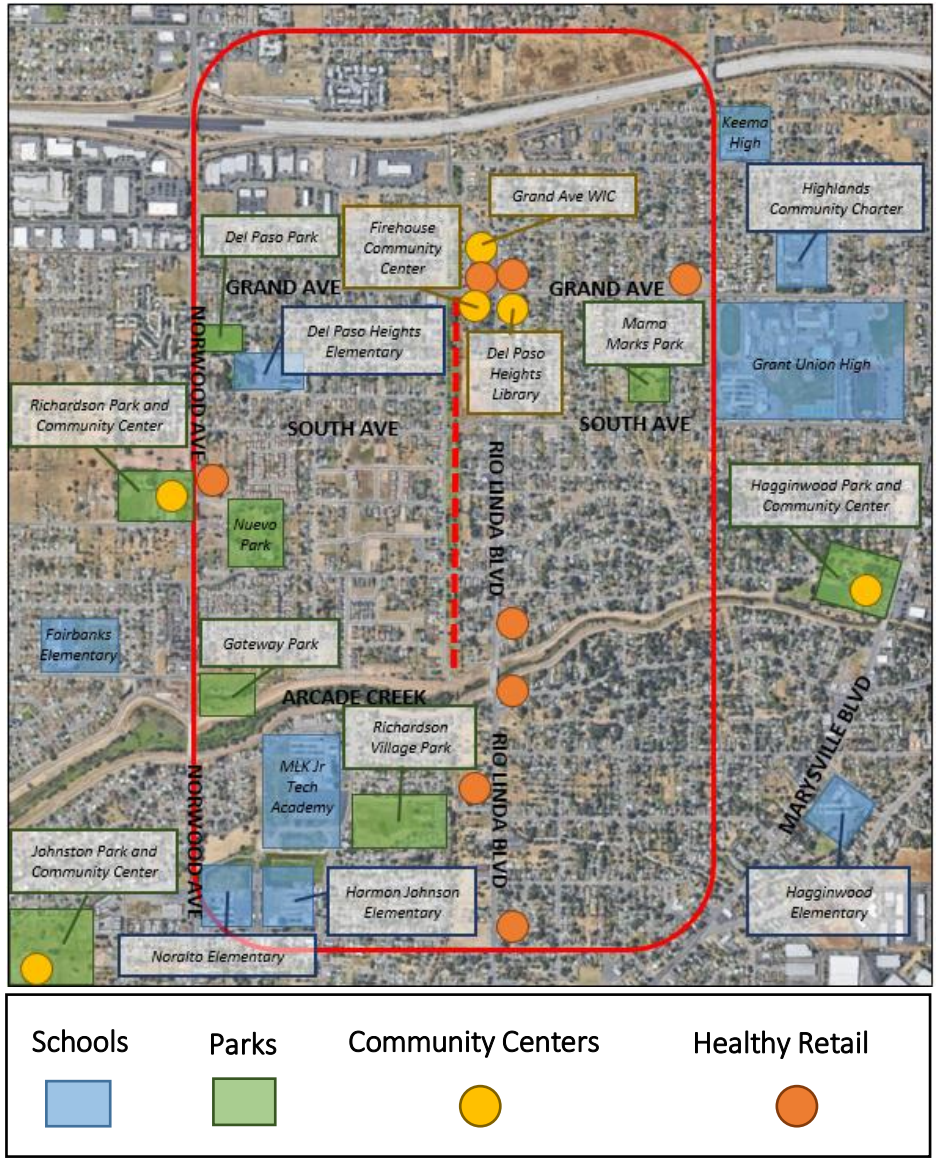
Land uses around the trail segment are primarily single family residential, with commercial retail located along Norwood Avenue, Rio Linda Boulevard, Marysville Boulevard, and Del Paso Boulevard. There is a high proportion of large vacant parcels throughout the community, particularly along Norwood Avenue and south of South Avenue.

Within half a mile of the trail segment, there are three elementary schools and one middle school. Additionally, Grant Union High School is located within three-quarters of a mile from the trail. The high school's attendance boundary extends from the American River Parkway in the south to the I-80 freeway in the north, meaning that the Sacramento Northern Trail has potential to serve as a low-stress route for students that would encourage active travel to school.

There are several parks located within half a mile of the trail segment, including Del Paso Park, Nuevo Park, Gateway Park, Richardson Village Park, and Mana Marks Park. Three large community parks with community centers are located within three-quarters of a mile from the trail as well, including Robertson Park, Hagginwood Park, and Johnston Park.

Directly adjacent to the trail along Grand Avenue are the Del Paso Heights Library, Firehouse Community Center, Grand Avenue WIC center, a senior housing complex, faith centers, and a few SNAP-Ed retail stores. Several other SNAP-Ed retail stores are located along Rio Linda Boulevard, which runs parallel to the trail at a distance of approximately 400 feet. The proximity of community destinations along the trail indicates an opportunity for greater connectivity between the trail to these destinations in order to make walking and biking safer, more comfortable, and more convenient.

Key Community Destinations Within ½ Mile



PEDESTRIAN FACILITIES

Sidewalks and Amenities

Sidewalks along routes to the trail and within the surrounding community tend to be narrow, at approximately five feet wide. Narrow sidewalks combined with a lack of buffer from vehicle travel lanes, particularly along busy streets such as Rio Linda Boulevard, create an unsafe and uncomfortable pedestrian experience. While sidewalks are generally in good condition, litter and obstacles such as utility poles often block already narrow sidewalks and may force pedestrians into the street. Within the community and along the trail segment, there is generally a lack of pedestrian-scale lighting and little to no tree-shading.

There are sidewalk gaps at key areas along routes to the trail, such as Grand Avenue at the trail block where pedestrians may need to access a nearby bus stop, the WIC center, the adjacent senior housing complex, various community centers, or even the trail itself. Additionally, sidewalk gaps along Ford Road between the trail and Nuevo Park discourage pedestrian access to these destinations despite being located half a mile away.

Sidewalk gap between the trail, a transit stop, and several community destinations adjacent to the trail.

Crossings

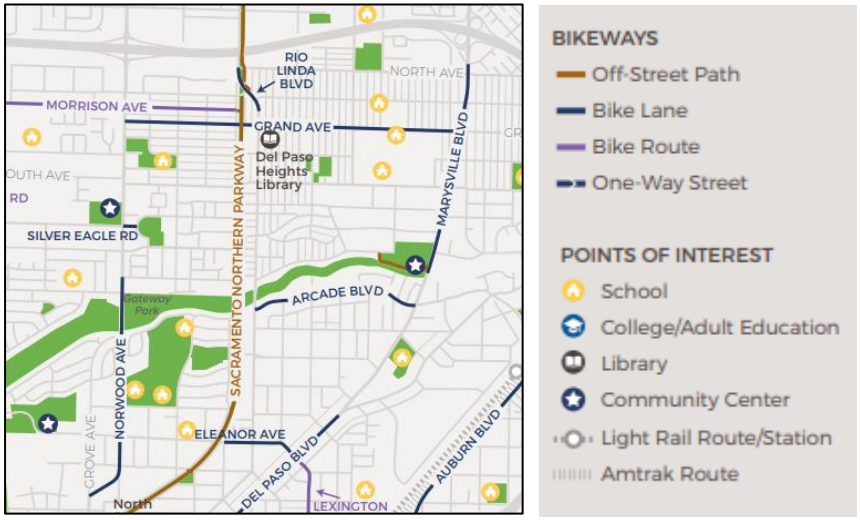
High visibility crosswalks are delineated at trail crossings, however there are no additional stop controls to ensure that vehicles yield to pedestrians and bicyclists. Marked crosswalks across Grand Avenue are limited. In the one-mile stretch of Grand Avenue between Norwood Avenue and Dry Creek Road there are only five marked crosswalks, three of which are stop-controlled by traffic signals. Similarly, on Rio Linda Boulevard between Grand Avenue and Arcade Creek there are only three marked crosswalks, one of which is at a traffic signal at Grand Avenue and one of which is at an all-way stop on South Avenue. Many bus stop locations along both streets lack direct pedestrian crossings.

Faded condition of crosswalks along Rio Linda Boulevard.

BICYCLE FACILITIES

The Sacramento Northern Trail serves as a Class I separated bike path that provides north-south bike access through the community. However, additional bike facilities along streets within the community are limited. Grand Avenue has Class II bike lanes on both sides of the street between Norwood Avenue and Marysville Boulevard. The bike lanes have no additional buffering from vehicle traffic. Aside from Grand Avenue, there are no bike facilities on other streets connecting to the trail segment.

Bike facilities along routes to Nuevo Park and Robertson Park are limited as well, with the Class II bike lanes on Norwood Avenue ending at Carroll Avenue, approximately a quarter mile away from both parks. North of Carroll Avenue, Norwood Avenue becomes a wide, five lane street including a center turn lane. Bikes must share the road with fast-moving traffic as well as buses in order to access either park.



City of Sacramento bike route map. Connectivity between the trail and community destinations is limited.

TRANSIT FACILITIES

There are three Sacramento Regional Transit bus routes that provide service within half a mile of the trail segment: 15, 19, and 86. Route 15 travels along Grand Avenue and Rio Linda Boulevard, with headways of approximately 30 minutes. Route 19 travels along Norwood Avenue with headways of approximately 60 minutes. Route 86 travels along Grand Avenue with headways of approximately 30 minutes. Bus stops vary in terms of comfort provided to riders, with a majority of bus stops lacking shelters, seating, lighting, or trash receptacles. Bus stops often do not have direct pedestrian crossings nearby, which contributes to an unsafe environment for pedestrians attempting to reach their bus stop across high speed and high volume streets.

Example of a typical bus stop in the community with minimal amenities and limited safe crossing opportunities.

TRAVEL LANES AND AUTOMOBILE NETWORK

In addition to pedestrian and bicycle facilities, the automobile street network is a factor in whether routes are safe and comfortable for people walking and biking. Speed is directly correlated to street width and number of travel lanes, with higher speeds observed on wide, multi-lane streets. In many cases, the types of pedestrian and bicycle facilities available on a street are not adequate given traffic speeds and volumes.

There are five key streets in the study area that provide connections to the Sacramento Northern Trail, parks, schools, and other community destinations. Three of the five streets are located on the City of Sacramento's High Injury Network, which identifies corridors with the highest levels of fatal and serious crashes for pedestrians, bicyclists, and motorists: Rio Linda Boulevard, Norwood Avenue, and Grand Avenue.

North – South Streets

Rio Linda Boulevard

The segment of Rio Linda Boulevard between Grand Avenue and Arcade Creek has four travel lanes with a posted speed limit of 40 miles per hour. The distance between stop controls along the segment varies from 1,300 to 1,500 feet. Land uses along the corridor are primarily residential, with some neighborhood-serving commercial. The wide streetscape combined with relatively few stop controls or traffic calming features throughout the corridor creates a high speed environment that makes walking and biking unsafe and uncomfortable.

Example of the typical streetscape along Rio Linda Boulevard.

Norwood Avenue

The segment of Norwood Avenue between Grand Avenue and Arcade Creek has four travel lanes plus a center turn lane. This segment has a posted speed limit of 35 miles per hour. The distance between stop controls along the segment varies from 700-1,500 feet. There is a high proportion of vacant parcels along the corridor, with low-density residential and some neighborhood-serving commercial uses. There are three parks directly adjacent to the street. The wide streetscape combined with relatively few stop controls or traffic calming features throughout the corridor creates a high speed environment that makes walking and biking unsafe and uncomfortable.

Example of the typical streetscape along Norwood Avenue.

East – West Streets

Grand Avenue

The segment of Grand Avenue between Norwood Avenue and Dry Creek Road has two travel lanes with bike lanes and street parking on both sides of the street. The posted speed limit is 30 miles per hour. There are only two stop-controlled intersections along the corridor at Norwood Avenue and Dry Creek Road. All other marked crosswalks rely on drivers to yield to pedestrians. Land uses along the corridor are primarily residential, with some neighborhood-serving commercial uses. While the narrow streetscape and residential look and feel of Grand Avenue make it seem like an ideal community route, lack of traffic calming, limited safe crossing opportunities, and pedestrian infrastructure gaps can create a challenge for people walking and biking across or along the corridor.

Example of the typical streetscape along Grand Avenue.

Limited safe crossings across Grand Avenue, especially near transit stops, discourage active travel.

Location of WIC Grand Avenue adjacent to the trail. Sidewalk gaps discourage access to this healthy destination.

South Avenue

The segment of South Avenue between Norwood Avenue and Dry Creek Road has two wide travel lanes. The posted speed limit is 30 miles per hour. South Avenue has a high proportion of vacant parcels, with primarily residential land uses. West of the trail through Norwood Avenue, the street is stop controlled by two all-way stop signs and has speed humps to slow traffic. East of the trail through Dry Creek Road approaching Grand Union High, there is only one all-way stop at Rio Linda Boulevard. While pedestrians walking along South Avenue are fairly distant from vehicles due to the width of the road, the wide roadway combined with limited stop controls facilitates faster vehicle speeds which makes crossing South Avenue unsafe and uncomfortable. Additionally, lack of dedicated bike facilities may further discourage active travel along the street.

Example of the typical streetscape along South Avenue.

Ford Road

Ford Road is a neighborhood street that extends approximately 1.2 miles from Rio Linda Boulevard to Western Avenue. The segment between Rio Linda Boulevard and Norwood Avenue is characterized by two travel lanes with no sidewalks between Altos Avenue and Dorothy Hill Street, after which point the travel lanes become wider and sidewalks are provided on developed parcels. The street is stop controlled by four all-way stop signs and has speed humps to slow vehicles. The narrow width of the road on the segment without sidewalks means that pedestrians and bikes are forced to share space with vehicles. Additionally, this segment of Ford Road is along the route from the trail to Nuevo Park, meaning that there is an opportunity for trail users to access the park if adequate infrastructure was provided.

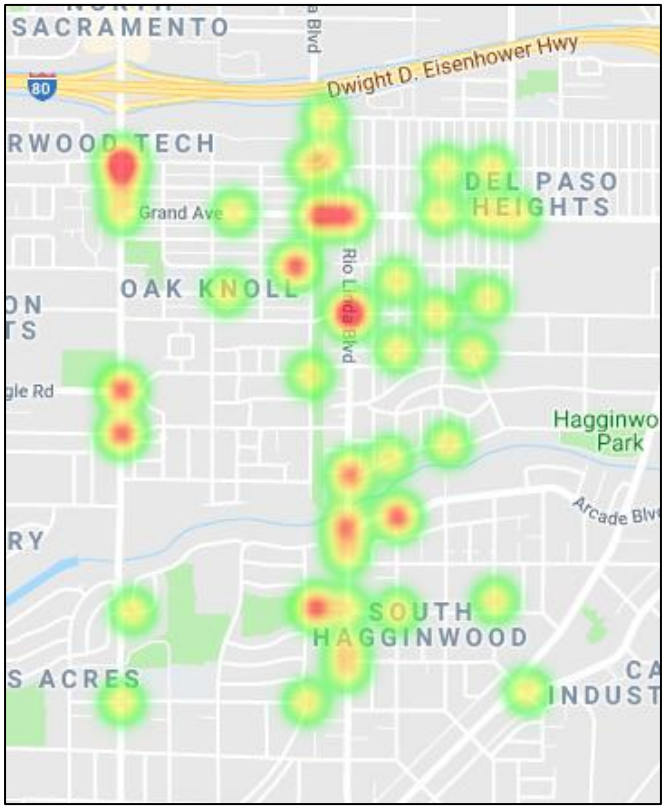
Example of the typical streetscape along Ford Road.

SAFETY AND COLLISION DATA

Between 2012 and 2016, there were a total of 54 reported collisions involving motorists and non-motorists within half a mile of the trail segment. Of these, 15 resulted in fatalities or serious injuries. Collision hotspots include intersections along Rio Linda Boulevard, particularly at Grand Avenue and South Avenue, as well as the intersections of Norwood Avenue and Grand Avenue and Norwood Avenue and Silver Eagle Road. The most common vehicle violations contributing to the collisions include failure to yield to pedestrians walking in crosswalks and unsafe speeds.

Children ages 14 or younger consisted of the highest percentage of collision victims (18%). Given the proximity of several schools, parks, and other community destinations in the area, it is imperative that children and youth feel safe while using pedestrian and bicycle infrastructure. Generally, greater separation of sidewalks and bike lanes from traffic and high visibility, stop-controlled crossings help make routes safer for children and youth and encourages active travel to youth-oriented destinations such as schools and parks.

Collision Hotspots 2012-2016



TIMS Injury Summary Statistics: Pedestrian and Bicycle Injuries 2012-2016 within ½ Mile of the Sacramento Northern Trail					
Involved With	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Total
Bicycle	0	6	11	9	**26**
Pedestrian	2	7	9	10	**28**
Total	**2**	**13**	**20**	**19**	**54**

POLICY RECOMMENDATIONS

The following policy recommendations are drawn from the best practices identified within the Parks and Healthy Retail Policy Reports. These policy recommendations focus on addressing general barriers within the community that were observed during the walk audit.

Recommendations are generally prioritized to improve safety, mobility, and comfort for the most vulnerable users. Further policy prioritization is necessary and desired and would be facilitated through additional public consultation.

All Ages and Abilities or "8-80" Policy

Healthy destinations should be easily accessible for children, families, older adults, and people with disabilities. 8-80 is a concept that if a street is safely navigable for an 8-year-old and an 80-year-old, it will be safely navigable for everyone. Given a high concentration of youth and family-oriented destinations in the community and vulnerability of children and youth to traffic injuries and fatalities, an all ages and abilities policy is critical to improving safety and mobility for those who are most reliant on active travel modes.

First Mile and Last Mile Transit Connections Policy

Several bus stops are located within the community along major thoroughfares such as Rio Linda Boulevard, Norwood Avenue, and Grand Avenue. These bus stops also often lack safe crossing opportunities at convenient locations. A First Mile Last Mile policy would focus on improving pedestrian and bicycle connectivity to transit in order to reduce transportation barriers for accessing healthy retail and other destinations.

Tree Canopy Policy

A tree canopy policy formalizes and prioritizes tree canopy along routes to community destinations. Tree canopy can improve health, comfort, and mental wellbeing for people walking and biking. The environment around the trail currently lacks tree shading along sidewalks, creating heat vulnerabilities that discourages active travel.

Pedestrian-Scale Lighting Policy

Lighting is a critical component of the built environment that helps reduce fear of and opportunity for crime. A current lack of pedestrian-scale lighting along the trail and routes to the trail indicates community-wide lighting needs.

Park Activation Policy

Park activation and programming can help improve safety by bringing more activity and "eyes on the park". Policies that focus on programs should highlight the importance of park activation for safety and identify context-sensitive programs to encourage park use. Due to a high proportion of vacant land, activation along vacant properties and at the trail can encourage greater use of public spaces and active travel to those spaces.

DESIGN RECOMMENDATIONS

The following design recommendations are based on observations from the walk audit and are intended to address the goals of improving connectivity between the Sacramento Northern Trail and community destinations and improving comfort and convenience of walking and biking in order to make active travel a more attractive option than driving.

Recommendations are generally prioritized to improve safety and mobility for the most vulnerable users. Further prioritization is necessary and desired and would be facilitated through additional public consultation.

Eliminate Sidewalk Gaps

Sidewalk gaps discourage walking by creating an unsafe and unpleasant environment for pedestrians, as pedestrians are forced into the roadway or shoulder with no separation from vehicle traffic. Several sidewalk gaps were identified in key locations along Grand Avenue, Ford Road, and Silver Eagle Road, all of which are along routes to parks and other important community destinations. In particular, sidewalks are missing at trail crossings such as Grand Avenue and Ford Road. These locations provide direct access to adjacent community centers, healthy retail sites, and transit stops, indicating an opportunity to improve connectivity through sidewalk infill.

Recommendations:

- Eliminate sidewalk gaps in the following locations:
  - Grand Avenue at the Sacramento Northern Trail
  - Ford Road between the Sacramento Northern Trail and Taylor Street
  - Silver Eagle Road between Norwood Avenue and Western Avenue

Sidewalk gaps at the trail crossing on Grand Avenue makes pedestrian access to the adjacent WIC center and Firehouse Community Center challenging and unsafe.

Upgrade Trail Crossings

Existing trail crossings are delineated with high visibility striping and crossing signage to alert vehicles to the presence of pedestrians and bicyclists, however no additional stop controls are provided to ensure that vehicles yield to people crossing. Additionally, in many places the trail crossings dip down to the road, further decreasing visibility of pedestrians and bicyclists. Two strategies to address these safety concerns include converting the trail crossings to raised crosswalks and adding stop controls. Raised crosswalks help improve visibility of pedestrians and bicyclists crossing and have the added benefit of slowing vehicles as they travel over the crosswalk. The types of stop controls that work best for trail crossings, where the rate of people crossing can be relatively low and inconsistent, include pedestrian-actuated signals such as Rectangular Rapid Flashing Beacons (RRFBs). RRFBs use in-ground or overhead flashing lights to signal vehicles to stop when a person is crossing, thereby improving yield rates and safety.

Example of a typical trail crossing. The trail dips down to the road, reducing visibility of people crossing.

Recommendations:

- Upgrade trail crossings to be raised crosswalks.
- Upgrade trail crossings to have stop controls such as RRFBs, particularly at crossings with higher traffic volumes and speeds.

Improve Bike Connections to the Trail

Bike facilities in the community are fairly limited, with a Class II bike lane located on Grand Avenue. Bike connectivity to the trail is critical for encouraging use of the trail as well as providing safe and convenient connections to nearby community destinations. Because Grand Avenue has higher traffic volumes and is located on the City's High Injury Network, the existing Class II facilities may not provide adequate separation to make bicyclists feel safe and comfortable. Upgrading these facilities and providing low-stress facilities on alternative routes are strategies to address these concerns.

Compared to Grand Avenue, South Avenue is a relatively lower-stress route that also provides direct connections to Grant Union High School and Mama Marks Park. Several bicyclists were also observed biking on South Avenue near the trail. Providing low-stress bike facilities on South Avenue would enhance safety for people who are already biking and potentially encourage greater use of active travel to the trail and to community destinations.

People biking on South Avenue despite lack of dedicated bike facilities.

Recommendations:

- Add bike facilities on South Avenue. Consider feasibility of buffered facilities in order to provide a low-stress connection to nearby schools and parks.
- Consider feasibility of upgrading existing bike facilities on Grand Avenue to parking-protected bike lanes.

Corridor Specific Recommendations

Rio Linda Boulevard

Rio Linda Boulevard is a north-south arterial street that is located within 500 feet of the Sacramento Northern Trail. Four lanes of high speed and high volume traffic combined with minimal pedestrian accommodations and no bike accommodations discourages residents from walking or biking across and along the corridor. The following recommendations focus on improving intersections and crossings and calming traffic speeds throughout the corridor.

Example of intersection on Rio Linda Boulevard in need of crosswalk restriping, ADA compliant curb ramps, and other intersection improvements.

Recommendations:

- Restripe existing crosswalks.
- Improve ADA compliance by adding curb ramps at all crossings and intersections.
- Consider adding curb extensions at key intersections to improve visibility of pedestrians crossing and to calm traffic along the corridor. Key locations include:
    - Grand Avenue
    - Roanoke Avenue
    - South Avenue
- Add marked crosswalks, prioritizing locations that are aligned with transit stops. Consider adding stop controls where feasible.
- Upgrade stop controls at key intersections, including:
    - Upgrade the all-way stop at Rio Linda Boulevard and South Avenue to a traffic signal.
    - Add a stop control at the crosswalk on Roanoke Avenue. Currently it is a high visibility crosswalk across four lanes of traffic with no stop controls.
- Consider a road diet of the street from four lanes to two lanes with a center turn lane. This would allow reallocation of road space towards improved pedestrian and bicycle facilities.

Norwood Avenue

Norwood Avenue is a north-south arterial street with five lanes of high speed and high volume traffic. The segment of Norwood Avenue between Grand Avenue and Ford Road is located adjacent to three parks and one elementary school. Pedestrian facilities are limited, with narrow sidewalks and far distances between marked crosswalks. There are no bike facilities. These conditions discourage walking and biking across and along the corridor and create challenges for accessing nearby park sites and other destinations. The following recommendations focus on improving intersections and crossings and calming traffic speeds throughout the corridor.

Recommendations:

- Restripe existing crosswalks.
- Add marked crosswalks, prioritizing locations that are aligned with transit stops. Consider adding stop controls where feasible.
- Consider adding a landscaped median to calm traffic,
- Consider a road diet of the street from five lanes to two lanes with a center turn lane. This would allow reallocation of road space towards improved pedestrian and bicycle facilities.

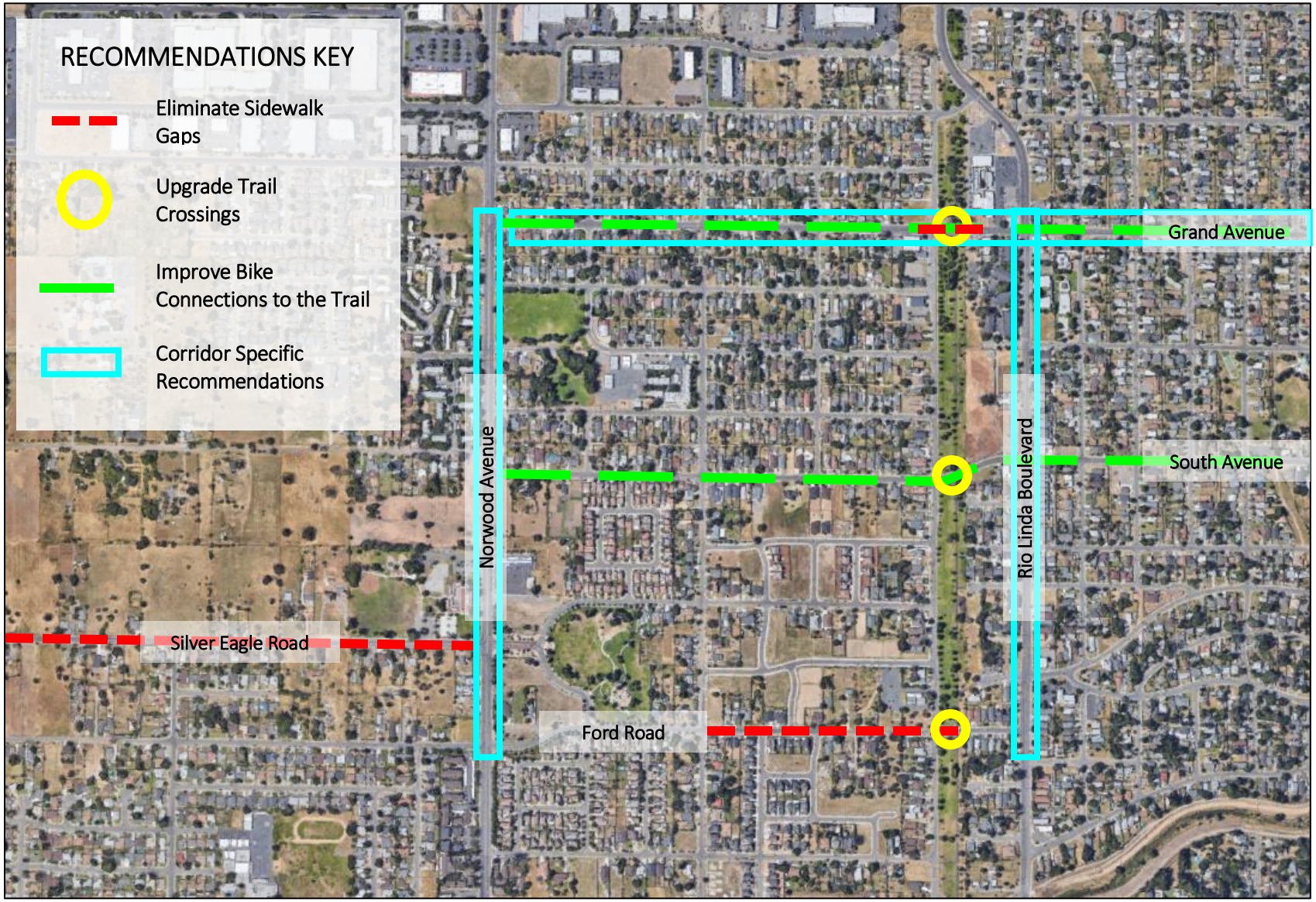
Grand Avenue

Grand Avenue is a major east-west connector street with two lanes of traffic. Grand Avenue provides important connections to several community centers, schools, and neighborhood-serving retail; however, few safe crossing opportunities combined with The following recommendations focus on improving crossings and providing seamless connections along the corridor for people walking and biking.

Recommendations:

- Eliminate sidewalk gaps.
- Add marked crosswalks, prioritizing locations that are aligned with transit stops. Consider adding stop controls where feasible.
- Consider upgrading existing Class II bike facilities to parking-protected bike lanes.

DESIGN RECOMMENDATIONS MAP



PROGRAM RECOMMENDATIONS

The following program recommendations are drawn from the best practices identified within the Programs and Marketing for Safe Routes to Parks and Healthy Retail Guide. These program recommendations focus on addressing general barriers within the community that were observed during the walk audit.

Trail, Park, and Vacant Lot Activation

Large vacant parcels are located around the Sacramento Northern Trail and throughout the community. Vacant parcels contribute to a perceived lack of safety due to poor maintenance and lack of eyes on the property. Some ideas for vacant lot activation include converting lots into parks or community gardens, or adding art and amenities to create temporary public space. Additionally, the trail and nearby community parks have large spaces that are opportunities for programs such as sports, festivals, or other events that encourage people to use the space. Activating the trail, parks, and vacant lots improves perceived safety, encourages physical activity through park use, and facilitates social cohesion through play.

Active Transportation Wayfinding

Active transportation wayfinding provides signage to direct people to nearby destinations, focusing on the amount of time it takes to walk and bike there rather than the distance. These types of wayfinding systems are effective at encouraging active travel by showing that community destinations are often closer to walk or bike to than originally perceived. Because the Sacramento Northern Trail is located near a multitude of community destinations within a 10-15 minute walk or bike ride, wayfinding signage can help trail users understand how to access other places from the trail. Currently, a lack of wayfinding signage makes it difficult to identify key locations within the community that are easily accessible from the trail.

Example of active transportation wayfinding signage at a trail to direct users to community destinations.