

# Kennedy Community

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# Complete Streets Plan

Final Plan  
January 2025



Made possible through the Caltrans Sustainable Transportation Planning Grant Program



**SAN JOAQUIN**  
COUNTY  
*Greatness grows here.*



**GREEN DOT**  
transportation solutions

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# Executive Summary

## The Kennedy Complete Streets Plan

San Joaquin County has prioritized creating a comprehensive active transportation network that efficiently and comfortably connects residents throughout the Kennedy community. This Plan is a framework for providing safe, connected transportation for all, including pedestrians, bicyclists, drivers, transit users, and those with disabilities. This Plan includes an assessment of the existing network and gaps in connectivity, safe routes to schools, and input from the community and stakeholders that inform a host of planned improvements. This Plan aims to increase safety, accessibility, and connectivity for all ages and abilities throughout the Kennedy transportation network.

Goals established for the Plan include:

- > Improve safety for all street users
- > Increase connectivity and accessibility throughout the transportation network
- > Provide equitable transportation options for all

This Plan evaluates various alternatives for proposed improvements to fulfill these goals. Recommended improvements were identified based on an alternatives' evaluation, best practices, gap closure and safe routes to school, cost effectiveness and public/stakeholder input. Preliminary cost estimates and benefits were calculated for the recommended improvements and then prioritized based on performance metrics and project complexity. Implementation strategies and funding opportunities to construct improvements are also identified, including identification of near-term improvements.

## The Complete Streets Planning Approach

Complete Streets policy and design lay the foundation for the recommendations proposed by this Plan. The Complete Streets approach centers safety and accessibility for everyone, and improvements typically benefit more than one transportation mode. More information about complete streets design strategies can be found in the Complete Streets Toolkit in Appendix D.

## What does the Plan Recommend?

Through the assessment of the existing streets and facilities, collision history, and community engagement, the Plan recommends a variety of infrastructure improvements that support and encourage active transportation for all, regardless of age or ability. Potential improvements include:

- > Filling gaps in the sidewalk network
- > Protecting pedestrians and bicyclists from vehicle traffic through separated facilities
- > Slowing driver speeds
- > Improving pedestrian and bicycle visibility and safety at intersections and key crossings

The Plan focuses on collector roadways like Eighth Street and B Street, which connect residents to destinations within and outside of the community. Recommendations like raised, separated bikeways and multi-use paths transform these roads which prioritize car travel into routes that can be used by pedestrians and bicyclists to travel around Kennedy safely and efficiently.

The Plan also analyzes safe routes to schools for the four elementary schools within the community. New pedestrian facilities are proposed to connect to both Rosa Parks Elementary and Van Buren Elementary Schools. Pick-up and drop-off zones for Hamilton Elementary and Monroe Elementary Schools were evaluated. Improvements consider safety for parents/guardians and students entering and leaving school areas. Complete streets design elements like raised crosswalks, curb extensions, and Rectangular Rapid Flashing Beacons (RRFBs) increase visibility of people walking and bicycling and reduce vehicle speeds. Improvements extend beyond the school zones to safely connect students to nearby destinations like the Maya Angelou Library and the Kennedy Community Center.

To extend connectivity beyond the Kennedy community, the Plan proposes recommendations within the City of Stockton. Interagency collaboration was integral to the development of this plan and key for creating a regionally connected transportation network.





## The Planning Process

Development of the Plan began with collecting and assessing data regarding existing conditions, which includes community characteristics, multimodal infrastructure conditions, and collision statistics. A first round of public engagement was conducted to gather additional information from residents about their transportation habits, concerns, and general wishes for the Plan. The existing conditions analysis and public input were used to develop a variety of draft improvement concepts. During a second round of engagement, the public reviewed the draft concepts, providing input and preferences for different alternatives. A draft plan was then developed, followed by a third and final phase of engagement where the community provided input on the recommended improvements, and then the plan was submitted to San Joaquin County for review and approval.

## Public Engagement

As demonstrated above, the public was engaged throughout the planning process, and input from the community was integral in developing the recommendations and the Plan as a whole. The public engagement process employed aimed to spread information about the project, collect input from the community, and facilitate discussion about potential improvement concepts. Public outreach strategies included in-person workshops, pop-ups at scheduled community events, and virtual engagement tools such as a project website, survey, and online mapping tool. A stakeholder advisory committee and project task force met at key decision points throughout the planning process.



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# 1 Introduction

## 1.1 Kennedy Community

Kennedy is a small community spanning approximately 1.2 square miles in unincorporated San Joaquin County, south of Stockton. The area has six bus routes and three main roadways, Eighth Street, B Street, and Pock Lane, connecting residents to destinations and streets outside of Kennedy. Key destinations within the community include four elementary schools, the Kennedy Community Center, the Maya Angelou Library, and several churches. The project area extends from Fourth Street to Carpenter Road. South of Eighth Street, the study area includes Bieghle Street to the west, and Pock Lane to the east. Nine key intersections were identified for evaluation, including traffic operations.

Figure 1.1 illustrates a detailed map of the project area. The Kennedy transportation network prioritizes cars and enables drivers to travel at high vehicle speeds rather than ensuring safety and accessibility for all. Gaps in the sidewalk network and limited bicycle routes increase risks associated with walking and bicycling and may discourage those who are interested in alternatives to car travel. Existing infrastructure not only hinders active transportation but increases collision risk for drivers

## 1.2 Project Purpose

The Complete Streets Plan is funded by the Caltrans' Sustainable Transportation Planning Grant Program and was initiated by the San Joaquin County Department of Public Works.

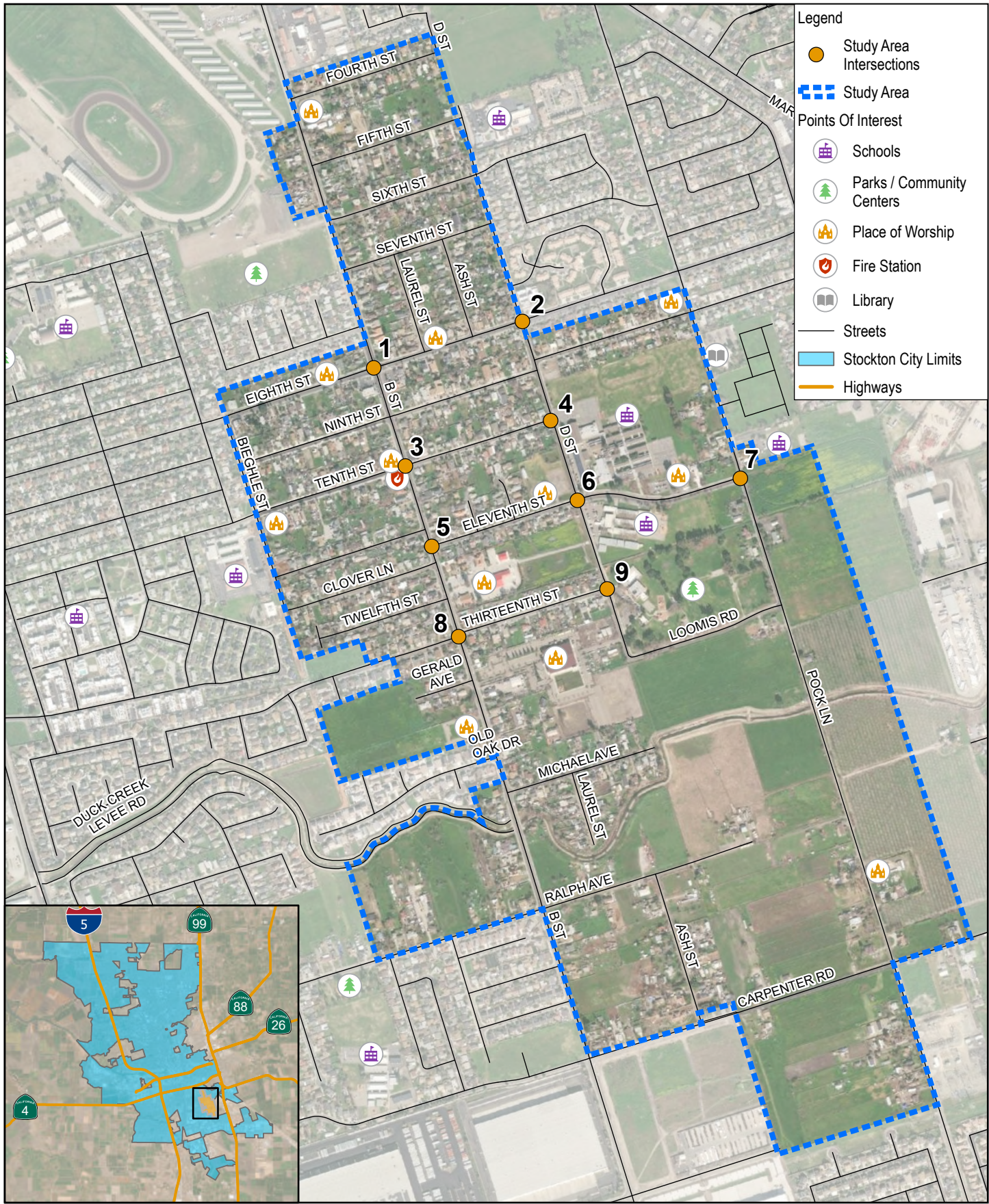
This Plan will be a roadmap for implementing complete streets improvements that will transform the existing vehicle-centric circulation network to one that is designed for safety of all people, ages, abilities, and travel modes. Areas for improvement will be identified through an analysis of existing and planned facilities, as well as a community

engagement process. Proposed improvements outlined by the Plan will bridge gaps in the transportation network, reduce the impacts of climate change, and support a healthy community and vibrant economy.

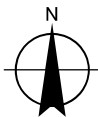
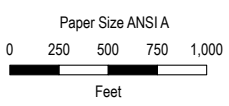
**» What is the Complete Streets planning approach? «**

**Complete streets address the needs of all road users of all ages and abilities, including drivers, pedestrians, bicyclists, and transit riders.**

**Complete streets center safety and accessibility for all street users. They provide more transportation options, support the economy, and improve quality of life.**



- Legend**
- Study Area Intersections
  - Study Area
  - Points Of Interest**
  - Schools
  - Parks / Community Centers
  - Place of Worship
  - Fire Station
  - Library
  - Streets
  - Stockton City Limits
  - Highways



**San Joaquin County  
Kennedy Community  
Complete Streets Plan**

Project No. 12602049  
Revision No. -  
Date 7/25/2023

Map Projection: Lambert Conformal Conic  
Horizontal Datum: North American 1983  
Grid: NAD 1983 StatePlane California III FIPS 0403 Feet

**Study Area**

**FIGURE 1.1**

## 1.3 Existing Planning Context

This Plan builds from existing policies and planning documents that shape transportation planning decisions in Kennedy and the greater San Joaquin County area. The Plan aims to align its recommendations with the following documents and continue working towards common regional goals. Descriptions for each document listed can be found in Attachment 1.

- > San Joaquin County General Plan (2016)
- > San Joaquin County Bicycle Master Plan Update (2020)
- > San Joaquin Regional Transit District Short Range Transit Plan (2019)
- > The City of Stockton Envision Stockton 2040 General Plan (2018)
- > The City of Stockton Bicycle Master Plan (2017)
- > Greater Downtown Stockton Active Transportation Plan (2020)
- > City of Stockton Safe Routes to School Master Plan (2017)
- > San Joaquin Council of Governments (SJCOG) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS, 2022)

San Joaquin County also has a speed hump program where residents may petition for speed humps along the road on which they live. Once the request is submitted, the County will assess traffic volumes, speeds, and roadway alignment to determine whether a speed hump is necessary. If the County approves, the resident is required to collect signatures for two-thirds of the residents living on the street where the speed bumps are requested. If signature requirements are met, the County will pay for all costs associated with implementing the speed humps. Because of this policy, this plan does not recommend speed humps, but does list other traffic calming strategies to slow vehicle speeds.

### 1.3.1 Planned Bicycle Facilities

The 2017 Stockton Bicycle Master Plan proposes several bicycle network recommendations within the Kennedy community, including:

- Class II bicycle lane along Eighth Street from Airport Way to Mariposa Road
- Class II bicycle lane along B Street between Fourth Street and Dr Martin Luther King Jr. Boulevard and between Ralph Avenue and Arch Airport Road
- Class I bike path along Duck Creek trail from B Street to Mariposa Road

Additionally, the Stockton plan proposes separated bikeways along Airport Way and Dr. Martin Luther King Jr Boulevard, as well as a Class II bike lane on Mariposa Road. These facilities will provide intercommunity connectivity to and from Kennedy. The 2020 San Joaquin County Bicycle Master Plan Update does not propose any bicycle improvements in Kennedy.

### 1.3.2 Common Regional Goals

Common goals identified throughout these plans include:

- > Improve safety for all street users
- > Develop a connected, accessible active transportation network
- > Provide safe, low stress bicycle facilities for riders of all ages and abilities that offers continuous access throughout the region
- > Increase transportation accessibility through multimodal travel
- > Offer efficient public transportation services that meet the needs of County residents
- > Reduce climate and air quality related impacts

## 1.4 Plan Goals

Three goals were created for the Kennedy Complete Streets Plan in partnership with the County and project stakeholders. The goals below guide the planning process and create a foundation for improving the Kennedy transportation network:

**GOAL 1:** Improve Safety for All Street Users

**GOAL 2:** Increase Connectivity Throughout the Transportation Network

**GOAL 3:** Provide Equitable Transportation Options for All



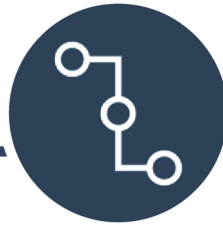
### Goal 1

Improve safety for all road users

Mitigate factors related to crash fatalities and serious injuries

Identify and address areas with high collision risk

Prioritize infrastructure recommendations that offer maximum safety for all modes



### Goal 2

Increase connectivity throughout the transportation network

Provide convenient connections to key destinations

Consider improvements that support comfort along the network

Collaborate with neighboring jurisdictions to create a cohesive, inter-community active transportation network



### Goal 3

Provide equitable transportation options for all

Collect and consider demographic and social data

Identify underserved communities

Consider existing inequities when determining project types and locations



## 2 Community Engagement

Input from the Kennedy community informed the development of this Plan and its recommendations. Several methods were used to engage the public throughout the planning process including online engagement tools, virtual meetings with stakeholders, and several in-person community events. Flyers and yard signs were posted throughout the community and mailers were sent in advance of the community meetings. This chapter presents a summary of the public outreach conducted. A full report is included in Appendix E.

### 2.1 Online Engagement

#### 2.1.1 Project Website

A project website was developed to share information about the planning process, upcoming public engagement events, and information about active transportation planning strategies.

The website contained engagement tools including an interactive project map, an ideas wall, and an online survey for community members. A video introducing the plan and project purpose, the

existing conditions report, and draft concept recommendations were included as well. The project website was [kennedycompletestreets.com](https://kennedycompletestreets.com).

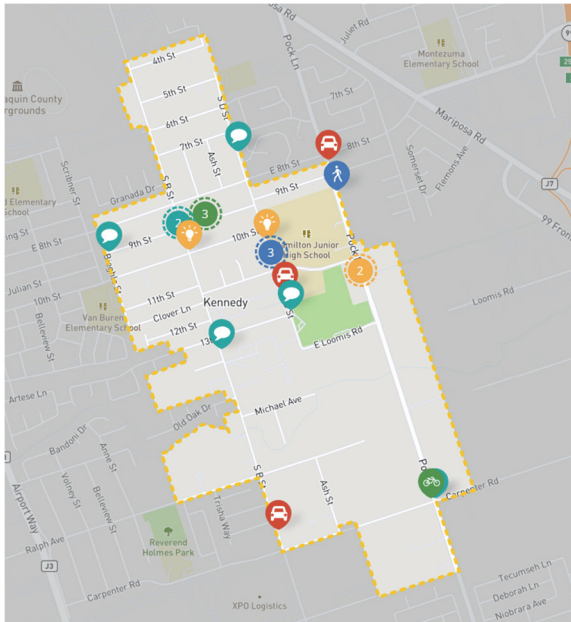
**Interactive Project Map**  
Add your location-specific ideas and comments on the project map.  
View Project Map

**Travel Survey**  
Let us know how you travel around Kennedy and your vision for the future of the community.  
Get Involved

**Ideas Wall**  
Share, discuss, and add images of your ideas for the future of Kennedy.  
Add Your Idea

## 2.1.2 Interactive Comment Map

The online mapping tool allowed participants to make location specific comments about their experiences travelling in Kennedy and improvement recommendations. Comments from in-person workshops, pop-up events and stakeholder meetings were uploaded for people visiting the website to view.



## 2.1.3 Ideas Wall

The ideas wall was a forum designed for community members to express general concerns, comment on proposed active transportation infrastructure strategies and alternatives, and discuss ideas with one another.

## 2.1.4 Survey

The survey was a travel questionnaire that the community could fill out to provide insights on their day-to-day travel habits or behaviors.



Meeting with Monroe Elementary School Principal

## 2.2 Stakeholder Engagement & Community Workshops

### 2.2.1 Project Development Team

Members of San Joaquin County, SJCOG, and the City of Stockton, composed the Project Development Team (PDT). The project team and PDT reviewed project milestones, upcoming phases of the project, potential challenges, and community engagement strategies, all to ensure the project remains aligned with established goals and timeline for the planning process.

### 2.2.2 Stakeholder Advisory Committee

The Stakeholder Advisory Committee (SAC) was comprised of the PDT, the local library director, the battalion chief of the local fire department and the Principals of Hamilton Elementary School and Monroe Elementary School. The SAC met regularly and conducted multiple site visits playing an integral role in understanding challenges for school pick-up and drop-up zones, emergency vehicle access, and the community's existing transportation conditions.

### 2.2.3 International Walk to School Day

The Project Team met with the school principals to observe and discuss school pick-up operations at Monroe and Hamilton Elementary Schools on October 4<sup>th</sup>, 2023. Later in the day, the PDT and SAC participated in a walking tour from 3:30-4:30 pm, at the Kennedy Community Center.



Project Team Observing School Pick-Up with Principals

Topics discussed included:

- > Safety concerns when walking and bicycling
- > Pedestrian safety and circulation improvements at school pick-up and drop-off locations

- > Priority projects and planned improvements throughout the community

### 2.2.4 Outreach Events

Pop-Up events were held at existing events and provided an informal discussion about the project. Events included:

- > **Pop-Up Event 1:** September 15<sup>th</sup>, 2023, at the Kennedy Community Center farmers market/food pick-up event
- > **Pop-Up Event 2:** October 31<sup>st</sup>, 2023, at the Progressive Community Church Harvest Festival

Community workshops were held in a more formal setting at key points during the Plan’s development. The workshops were held at the Kennedy Community Center, and included presentations translated into English and Spanish, and engagement activities used to facilitate feedback and discussion about existing conditions and proposed improvements. Events included:

- > **Community Workshop 1:** September 28<sup>th</sup>, 2023
- > **Community Workshop 2:** February 21<sup>st</sup>, 2024
- > **Community Workshop 3:** September 11<sup>th</sup>, 2024



Community members writing comments during Workshop 2

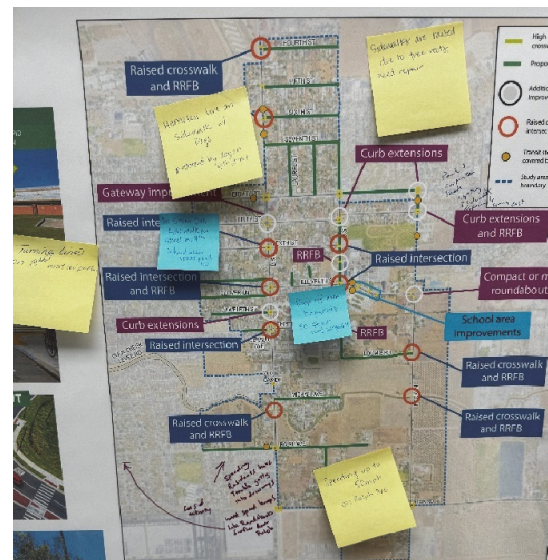
## 2.3 Summary of Community Input

Attendees at in-person events discussed existing challenges for walking and bicycling in Kennedy. Comments included:

- > New and improved sidewalks are needed for parents and children walking to school
- > Lacking pedestrian-level lighting is a barrier for walking and bicycling
- > Personal safety concerns prevent people from walking in Kennedy
- > Broken glass on the street creates a hazard for bicyclists and discourages bicycling

The Community was generally in support of improvement recommendations presented during Workshop 2 and 3. Specific projects identified by the community included:

- > New sidewalks on Laurel St., Ash Streets, and Fifth Street well as along D Street on the back side of the church
- > Sidewalks and marked crossings near Rosa Parks Elementary School
- > Raised crosswalks along B Street to slow traffic and improve crossing safety
- > Improved crossings on Pock Lane near the Library



Community members comments on a board presenting draft improvement concepts.

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## 3 Existing Conditions

The following chapter summarizes the *Existing Conditions Report* created for this Plan, which can be found in Attachment 1.

### 3.1 Local Context

#### 3.1.1 Community

Kennedy is home to roughly 2,632 residents, or about 733 households. One-fourth of Kennedy's population is under 18 years of age. A majority of those under 18 are unable to drive themselves in personal vehicles, signifying an increased need to walk, bicycle, or take transit to their destinations.

The median household income in Kennedy is \$42,083 which is significantly below the County's median of \$80,681 and the California median of \$84,907, and lower than the City's median of \$69,844. Lower income communities typically rely more heavily on alternatives to car travel.

Around 3% of Kennedy households do not own a vehicle, and about 31% have access to only one vehicle. Households with fewer vehicles may rely more heavily on transportation alternatives to car travel.

#### ENVIRONMENTAL JUSTICE COMMUNITIES

Kennedy is identified as an environmental justice community and a disadvantaged community using multiple metrics from SJCOG and the State of California. Environmental justice or disadvantaged communities are typically characterized as communities of color, having lower than average household incomes, and as disproportionately exposed to environmental hazards. These communities historically have inadequate pedestrian, bicycle, and transit infrastructure.

SJCOG identifies environmental justice communities using the following criteria in their RTP/SCS:

- > **Income:** Census tracts with at least 40 percent of the population living at or below 150 percent of the federal poverty level as defined by the Census Bureau.
- > **Minority:** Census tracts where at least 80 percent of the population are of minority groups. The U.S. Census definition was used for minority persons.

Using these criteria, the RTP/SCS identifies the northern part of Kennedy as an environmental justice community.

Parts of Kennedy also have lower English proficiency rates than San Joaquin County. The entire Kennedy community has a high minority population and a lower proportion of people with high school diplomas compared to the County.

California utilizes alternative methods for identifying disadvantaged communities: the Center for Disease Control and Prevention Social Vulnerability Index and California Climate Investments Cal EnviroScreen. Using both metrics, Kennedy is identified as a severely disadvantaged community.

### 3.1.2 Street System and Destinations

The street system in the Kennedy community predominantly forms a grid system. Local streets connect residents to major collector roads like Eighth Street, which runs east-west, and B Street, which runs north-south. Additional important streets include “D” Street, Eleventh Street, and Pock Lane which provide access to key destinations like Hamilton Elementary and Junior High School, Monroe Elementary School, the Kennedy Community Center, and the Maya Angelou Branch Library.

### 3.1.3 Planned bikeways

New Class II bicycle facilities are planned along Mariposa Road and Eighth Street. A Class II extension is also planned along the northern segment of B Street. Separated bikeways are proposed along Airport Way and Martin Luther King Jr. Boulevard. The Complete Streets Plan used the planned facilities as a framework for developing improvements for the Kennedy bicycle network.

### 3.1.4 Future Development

The Plan considers future travel conditions and growth within the community and surrounding region, including information from the County General Plan, Envision Stockton 2040 General Plan, and anticipated local development and street improvements along Pock Lane near Duck Creek and Loomis Road.



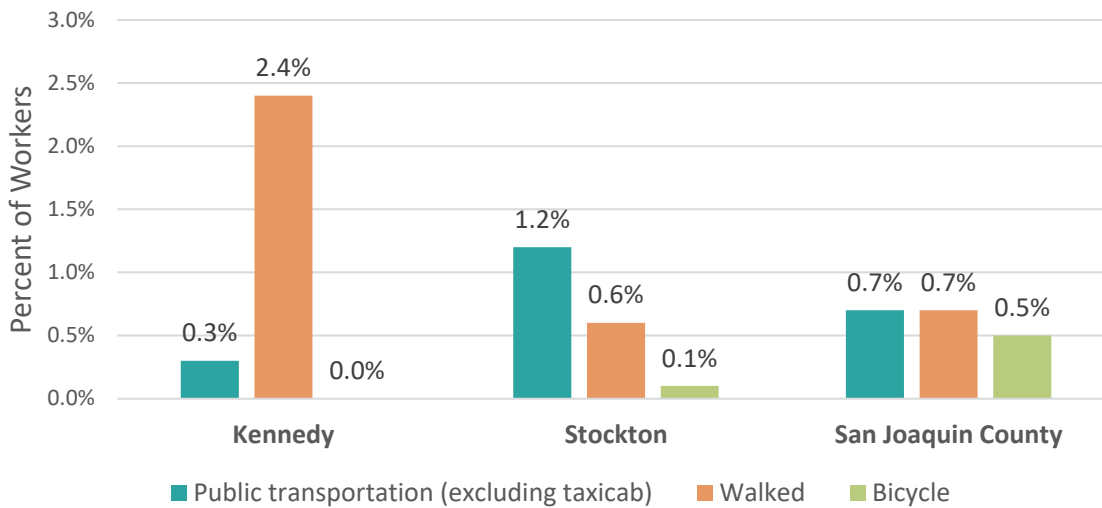
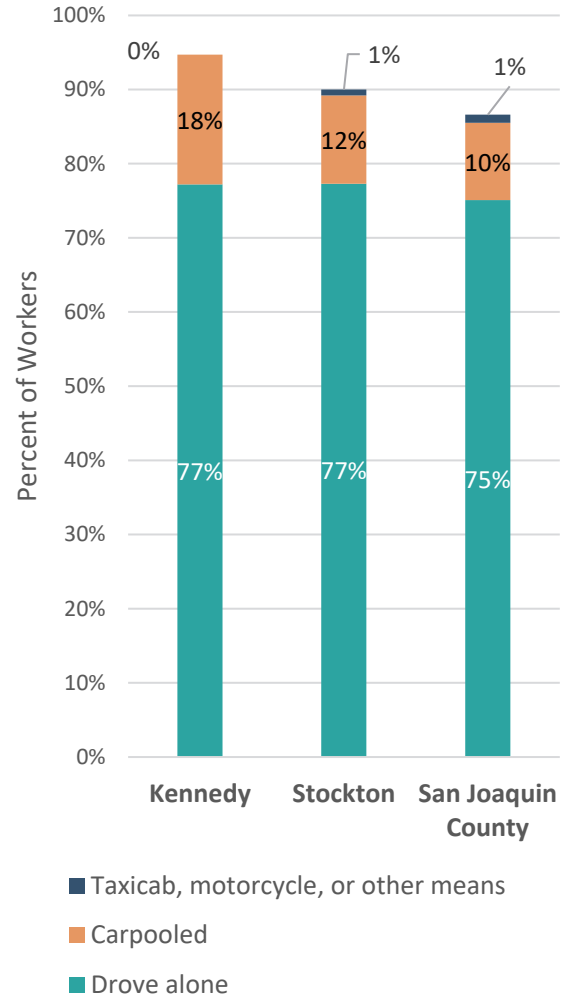
## 3.2 Transportation Patterns

Transportation pattern data for the community reflects 2021 5-year estimates from the US Census American Community Survey (ACS), unless otherwise indicated. Travel patterns for Kennedy residents were compared to those living in the City of Stockton and San Joaquin County.

### 3.2.1 Means of Transportation

As compared to the City and the County, a higher proportion of Kennedy residents reported driving to work but also reported carpooling more. Kennedy residents did not report bicycling to work, and few took public transportation, but 2.4% reported walking, significantly more than in both the City (0.6%) and County (0.7%).

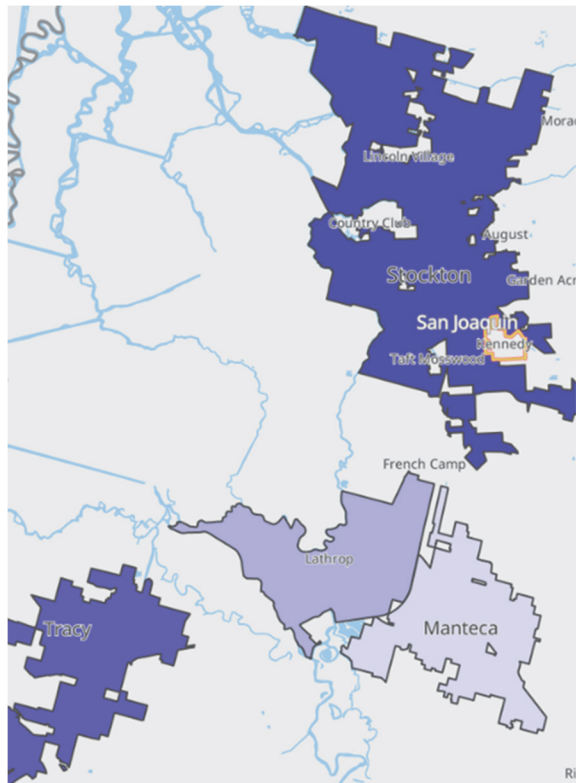
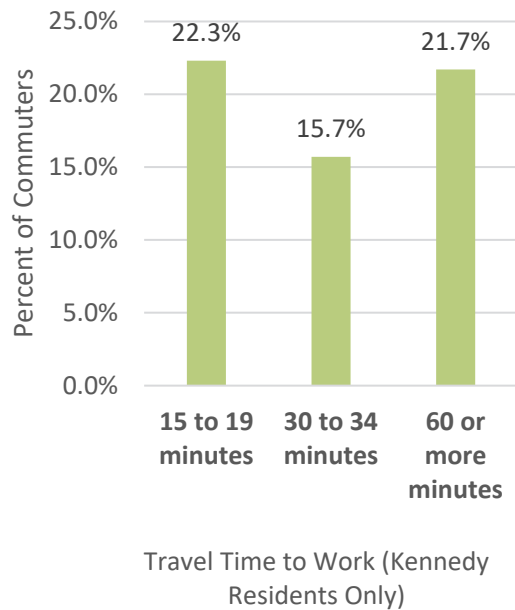
ACS data only presents means of transportation for working individuals, but the Plan addresses the needs of residents who travel to destinations outside of work, like school or community spaces. Older residents and residents under 18 years of age who may not work often walk, bike, use transit as their main mode of transportation.



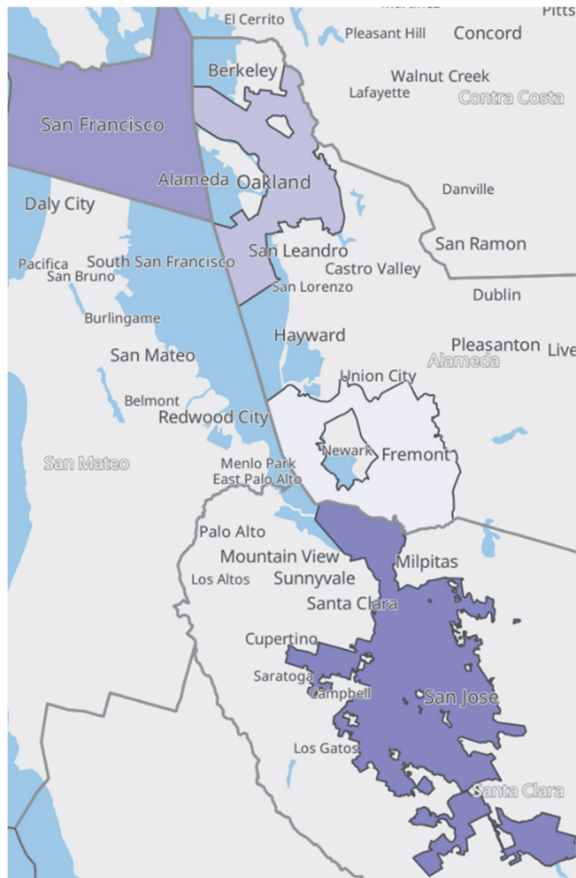
### 3.2.2 Travel Time to Work and Work Destinations

Kennedy residents on average have longer commute times than people in the City and the County. The average commute time for Kennedy residents is 37.8 minutes, compared to 33.4 minutes for County residents and 32.5 minutes for Stockton residents. The highest share of Kennedy residents travelled 15 to 19 minutes to work (22.3%), followed by those who travelled 60 minutes or more to work (21.7%). Workers who have lower commute times are more likely than other residents to switch to alternate modes of transportation if adequate infrastructure is available.

The maps to the right present journey-to-work data available from the Longitudinal Employer-Household Dynamics (LEHD) program. Locations colored in dark purple represent where the highest portion of Kennedy residents work, while the lighter purple areas are where fewer Kennedy residents are employed. The highest proportion of workers are employed in the City of Stockton, but Kennedy residents work throughout the County, in Modesto, the Bay Area, Sacramento, and more.



Where Kennedy Residents Work (Cities in San Joaquin County)



Where Kennedy Residents Work (Bay Area Cities)

## 3.3 Existing Multimodal Conditions

### 3.3.1 Pedestrian and Bicycle Facilities

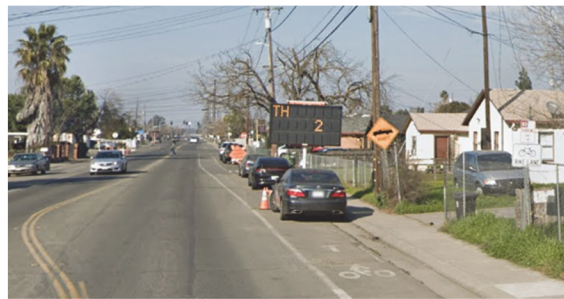
Figure 3.1 and Figure 3.2 illustrate existing bicycle and pedestrian facilities in Kennedy. Gaps in the pedestrian network exist throughout the community, including missing sidewalks along most local streets and intersections without marked crosswalks. Existing sidewalks are concentrated along B Street, D Street, and Beighle Street. Many crosswalks are uncontrolled where vehicles are not required to stop, increasing pedestrian vulnerability. Multiple marked crossings within the study area are missing ADA compliant curb ramps, including a major crossing near Hamilton Elementary and Monroe Elementary.

The only designated on-street bicycle facility in Kennedy are Class II bike lanes along B Street which have an inconsistent width and are frequently blocked by parked cars, especially near intersections. There is also a Class I shared-use path along Duck Creek, which connects B Street to Airport Way.

Duck Creek Trail continues as an informal recreational trail from east of B Street to State Route 99. The trail serves both pedestrians and bicyclists, and while currently not paved, the County has plans to formalize the pathway.

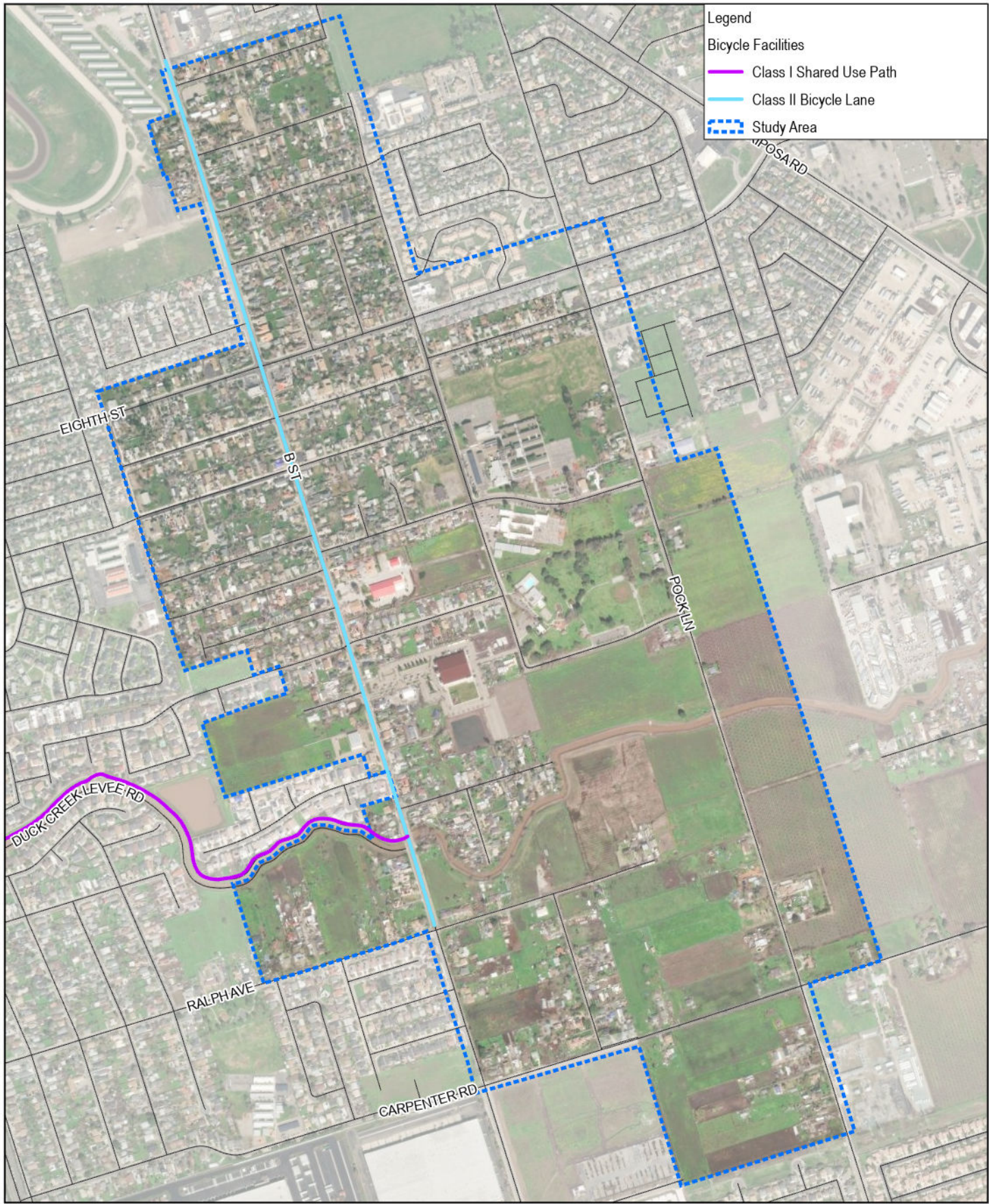


*D Street and Eleventh Street crosswalk. Missing sidewalk and curb ramp.*



*B Street Class II Bike Lane. Vehicles are shown parked in the lane.*

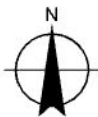
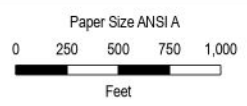




**Legend**

**Bicycle Facilities**

- Class I Shared Use Path
- Class II Bicycle Lane
- Study Area



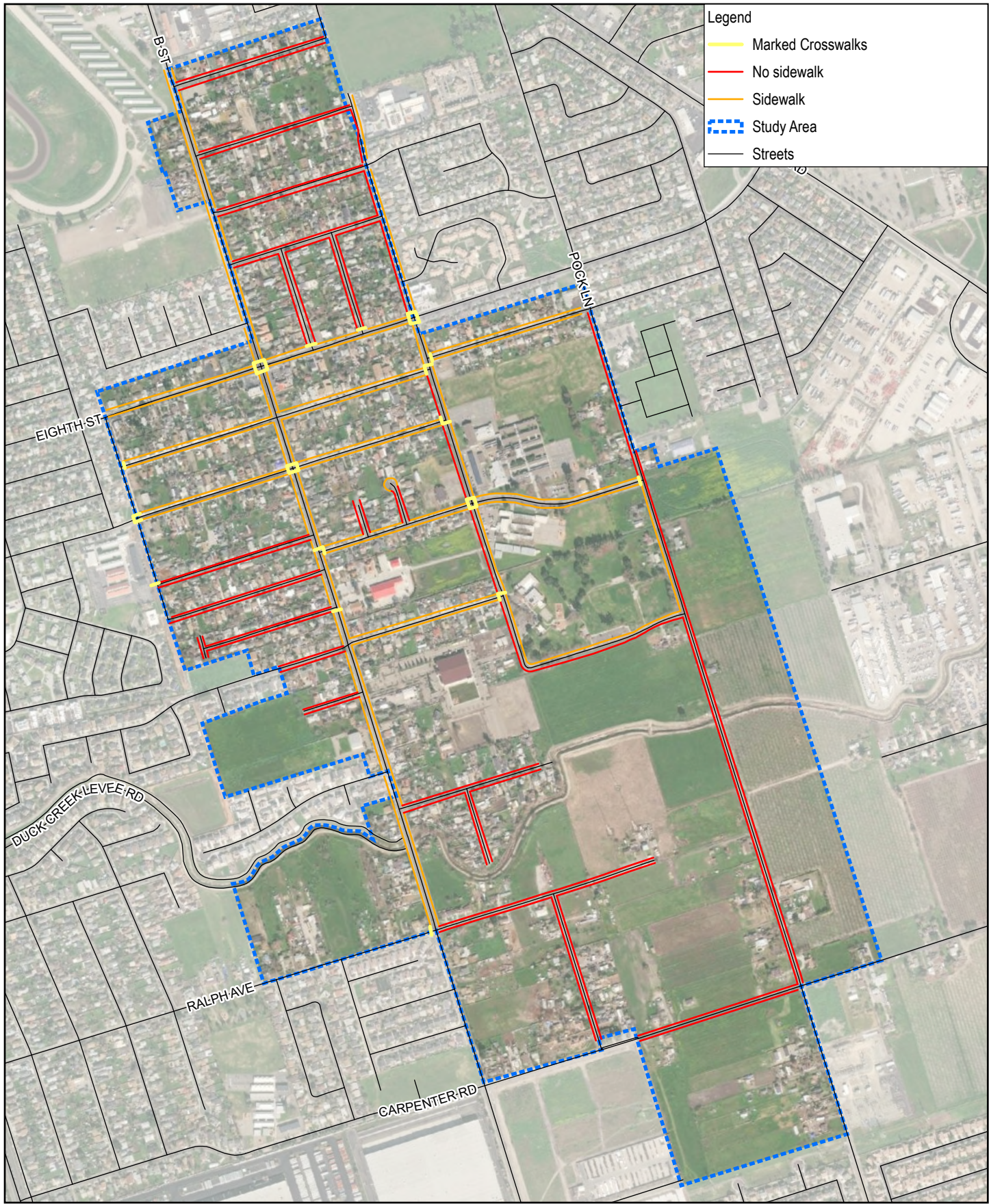
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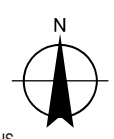
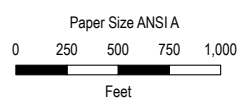
Map Projection: Lambert Conformal Conic  
Horizontal Datum: NAD 1983 2011  
Grid: NAD 1983 2011 StatePlane California III FIPS 0403 FT US

**Existing Bikeway Network**

**FIGURE 3.1**



- Legend**
- Marked Crosswalks
  - No sidewalk
  - Sidewalk
  - - - Study Area
  - Streets



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Horizontal Datum: NAD 1983 2011  
Grid: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US

**Existing Pedestrian Network**

**FIGURE 3.2**

### 3.3.2 School Zones

There are four schools within the project vicinity. Aspire Rosa Parks Elementary School and Van Burden Elementary School are within Stockton City Limits but serve the Kennedy community. Aspire Rosa Parks Elementary School is located at Fifth Street and D Street. Sidewalks are only present on the east side of D Street. Van Buren Elementary School is located at Bieghle Street and Tenth Street. There are currently no sidewalks on Bieghle Street, but there is a marked yellow crosswalk at Eleventh Street. Hamilton and Monroe Elementary Schools are located at D Street and Eleventh Street and are across the street from one another. There are gaps in the sidewalk network along the west side of D Street south of Ninth Street where students walk on the side of the road during pick-up and drop-off. There is a four way stop with four marked crosswalks at the intersection of D Street and Eleventh Street. There are no curbs or ADA compliant curb ramps on the west corners of the intersection.

Along Eleventh Street between the two schools, parents and guardians park in designated spots or along no-parking zones during pick-up and drop-up times. Drivers enter and back out of parking spaces while students, parents and guardians must cautiously navigate around vehicles to get to and from the schools. There are no designated crossing points or bicycle facilities along Eleventh Street. Drivers also line up along D Street where signage indicated parking between 7 am and 4 pm is prohibited. Comments received from the community helped with identifying improvements at all schools.



### 3.3.3 Transit and Rail

The San Joaquin Regional Transit District operates eight bus routes within the Kennedy Community: 44, 49, 378, 380, 385, 390, and 580. Apart from the B Street stop at Eighth Street, most transit stops in Kennedy lack benches and shelters, and some are missing sidewalks for riders to stand or walk to.

The closest Amtrak and ACE stop for the Kennedy community is the Robert J. Cabral Station in downtown Stockton. Kennedy residents can access the downtown station via routes 44 and 378. Amtrak also has a station on San Joaquin Street, which can be accessed via route 49. Table 3.1 presents the transit boardings and alightings (deboardings) provided by Regional Transit for stops within the Kennedy community. As shown in Table 3.1, Eighth Street at B Street has the highest average boardings (Route 44) and highest average deboardings (Route 49) on a weekday. B Street at Ralph Avenue has the highest average deboardings on the weekends.

Table 3.1 Transit Ridership in Kennedy

Bus Stops	Weekday		Weekend	
	Avg. Daily Boardings	Avg. Daily Deboardings	Avg. Daily Boardings	Avg. Daily Deboardings
<b>Route 44</b>				
Eighth Street & B Street	20.83	7.41	7.75	3.98
Ralph Avenue & B Street	5.09	11.44	2.04	4.67
<b>Route 49</b>				
Eighth Street & B Street	7.72	13.37	2.03	3.15
<b>Route 378</b>				
Eighth Street & B Street	0.01	0.04		
<b>Route 380</b>				
Eighth Street & B Street	0.02	0.50		
Eleventh Street & D Street EB	0.64	0.09		
Eleventh Street & D Street WB	0.02	0.82		
<b>Route 385</b>				
Eighth Street & B Street	1.9	0.26		
B Street & Ninth Street	0.02	1.42		
<b>Route 390</b>				
Eighth Street & B Street	0.06	0.29		
Eleventh Street & D Street	0.03	0.33		



### 3.4 Bicycle Level of Traffic Stress (LTS)

Bicycle level of traffic stress, or LTS, measures how comfortable bicyclists feel riding on a particular roadway. LTS analysis rates roadways on a scale from 1 to 4. LTS 1 categorizes the least stressful roadways accessible for all ages and abilities. LTS 4 defines the most stressful roadways where only strong and fearless bicyclists feel comfortable. Studies have shown that traffic stress is one of the biggest deterrents to bicycling and walking. The less stressful the experience, and the lower the LTS score, the more appealing it is to a wider range of bicyclists with varying levels of experience.

Roadways are evaluated based on a variety of characteristics to determine bicycle LTS:

- > Posted speed limit
- > Number of vehicle lanes
- > Presence or type of bikeway
- > Driveways and other potential conflicts

The project considers bicycle LTS for three categories:

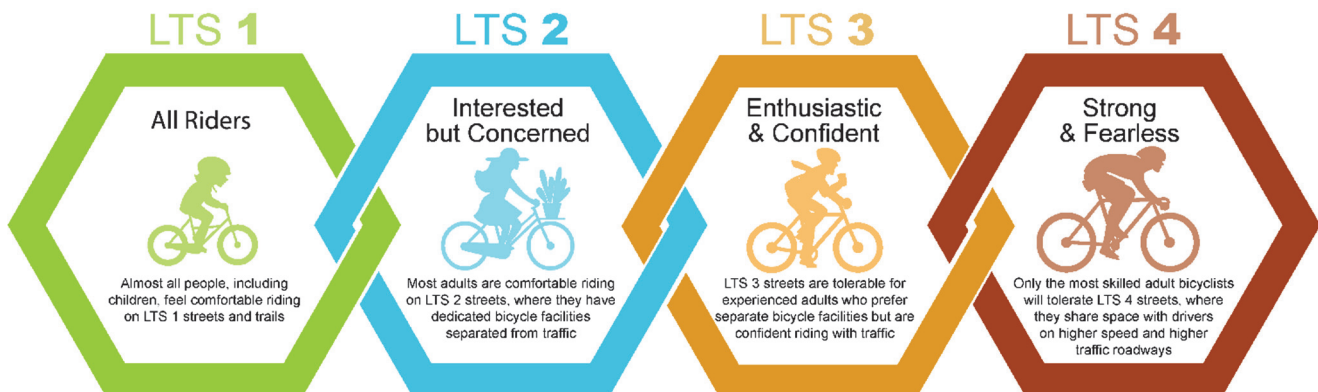
- > Street segments between intersections
- > Approaches to intersections with right turn lanes
- > Intersections without traffic signals

### Types of Bicyclists

Most people fall into one of four categories of bicyclists, based on skill level and confidence:

- > Strong and Fearless bicyclists are skilled and experienced and are comfortable riding on most roadways whether a designated bicycle facility is provided. They likely account for one to three percent of the population.
- > Enthusiastic and Confident bicyclists are very comfortable riding in most situations but would prefer streets with designated bicycle facilities. They likely account for five to ten percent of the population.
- > Interested but Concerned bicyclists are comfortable riding on shared use paths or in bicycle lanes on lower speed streets and would like to bicycle more if better separation was provided. They likely account for about half of the population.
- > All Ages and Abilities include children, new riders, and people uncomfortable riding on the most comfortable facilities. It also includes people currently uninterested in bicycling, such as those who are physically unable to bicycle. They likely account for about a third of the population.

The LTS scoring and relation to types of bicyclists are shown in the graphic below.





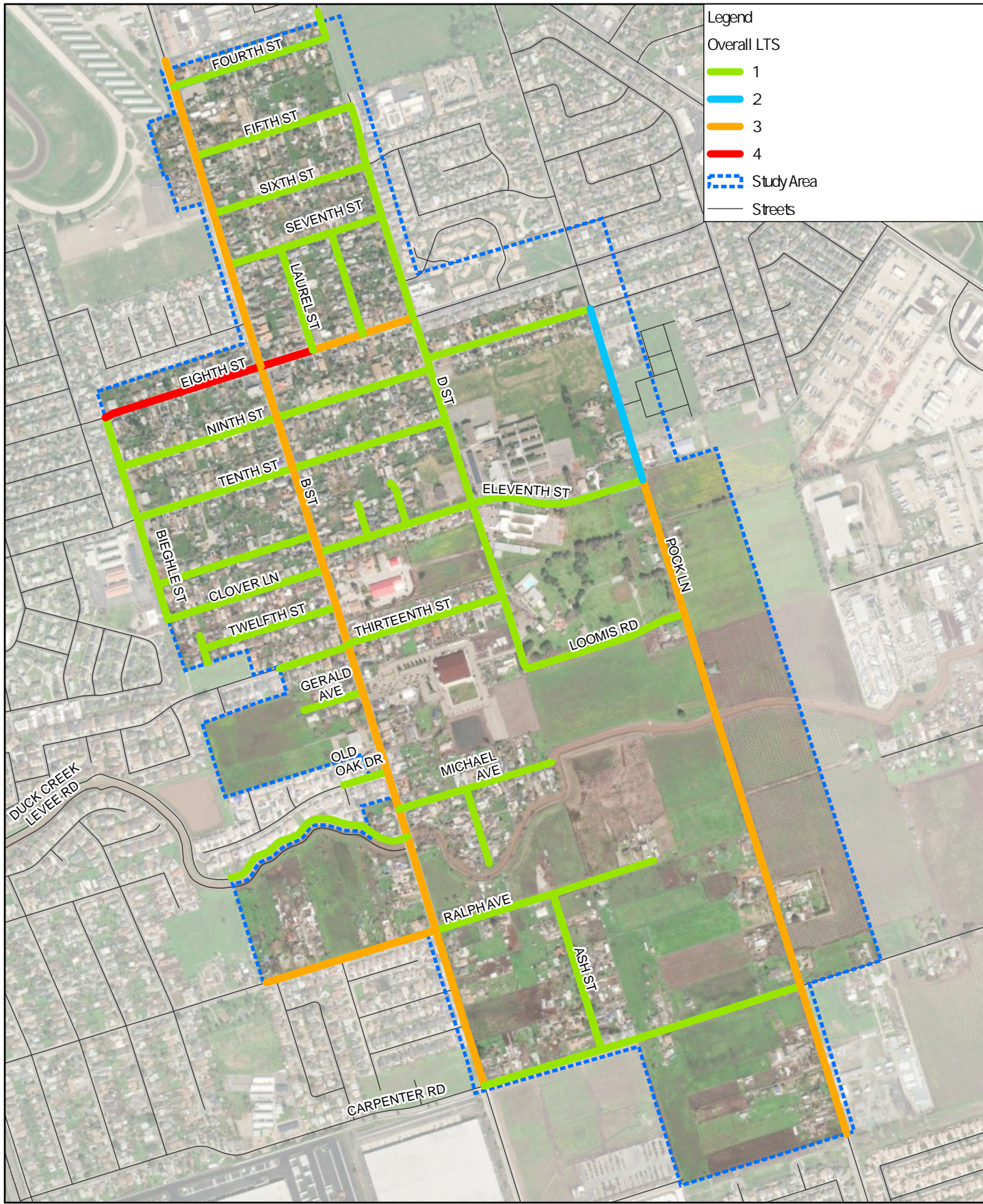
*Class II Bicycle Lane on B Street passing OK's Food and Liquor south of Eighth Street.*



*Lack of Bicycle Lanes and wide cross-section on Eighth Street.*

Shown in Figure 3.3, the LTS analysis illustrates overall LTS scores (LTS scoring for segments and intersections can be found in Appendix B). Kennedy is made up of a series of low stress, residential roads, connected by higher stress collector streets. B Street, Pock Lane and Eighth Street are considered high stress due to traffic volumes, vehicle speeds, and lack of adequate bicycle facilities. B Street, Pock Lane, and Eighth Street east of Laurel Street scored LTS 3, and Eighth Street west of Laurel Street scored LTS 4.

These high stress collector streets restrict access throughout the community and create greater risks for vulnerable street users. Children and seniors are more likely to use alternative modes of transportation and are the target audience for local destinations like the library, school, and the community center. Currently, high stress collectors pose a barrier to these destinations for bicyclists.



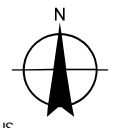
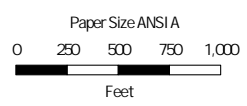
**Legend**

Overall LTS

- 1
- 2
- 3
- 4

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Horizontal Datum: NAD 1983 2011  
Grid: NAD 1983 2011 StatePlane California III FIPS 0403 F T US

Existing Bicycle LTS - Overall Score

FIGURE 3.3

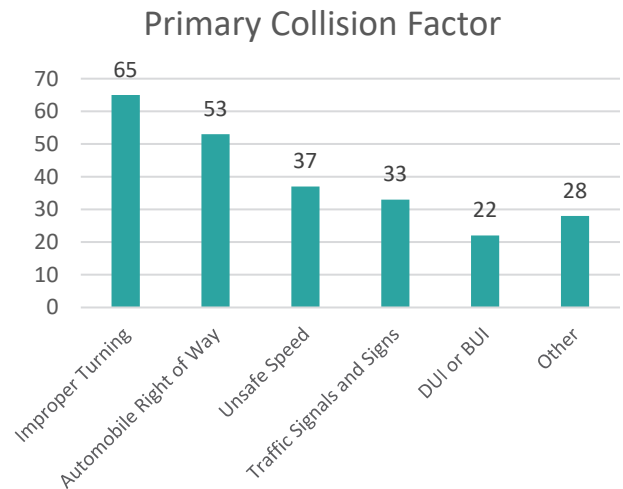
### 3.5 Collision Analysis

Collision data over the most recent six-year period (January 1, 2017 – December 31, 2022<sup>1</sup>) available from the Statewide Integrated Traffic Records System (SWITRS) and Transportation Injury Mapping System (TIMS) was utilized to evaluate safety within the Kennedy community.

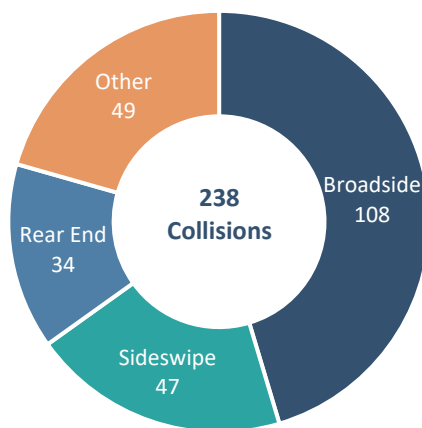
#### 3.5.1 Traffic Collisions

During the study period, there have been 238 collisions. Figure 3.4 presents collision density, or where collisions happened most frequently. Three of the reported collisions resulted in fatal injuries. Fatal collisions have occurred at the B Street and Ralph Avenue intersection, on Pock Lane near Carpenter Road, and on B Street near Clover Lane, the last of which resulted in the death of a pedestrian crossing the road. More than a quarter of all collisions resulted in an injury of some kind.

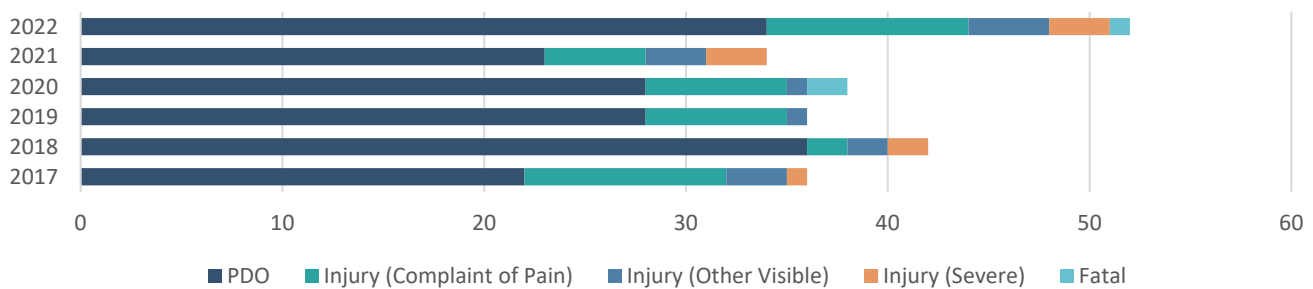
The most reported collision types were broadside collisions, followed by sideswipe and rear end collisions. More than half of all collisions were attributed to improper turning, automobile right-of-way, and unsafe driver speeds. Broadside collisions, turning errors, or right-of-way violations are most common at intersections, highlighting a need for intersection improvements. Unsafe speed collisions illustrate a need for traffic calming improvements along roadway segments where drivers often exceed the speed limit.



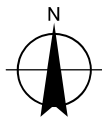
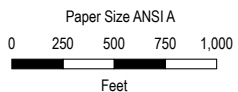
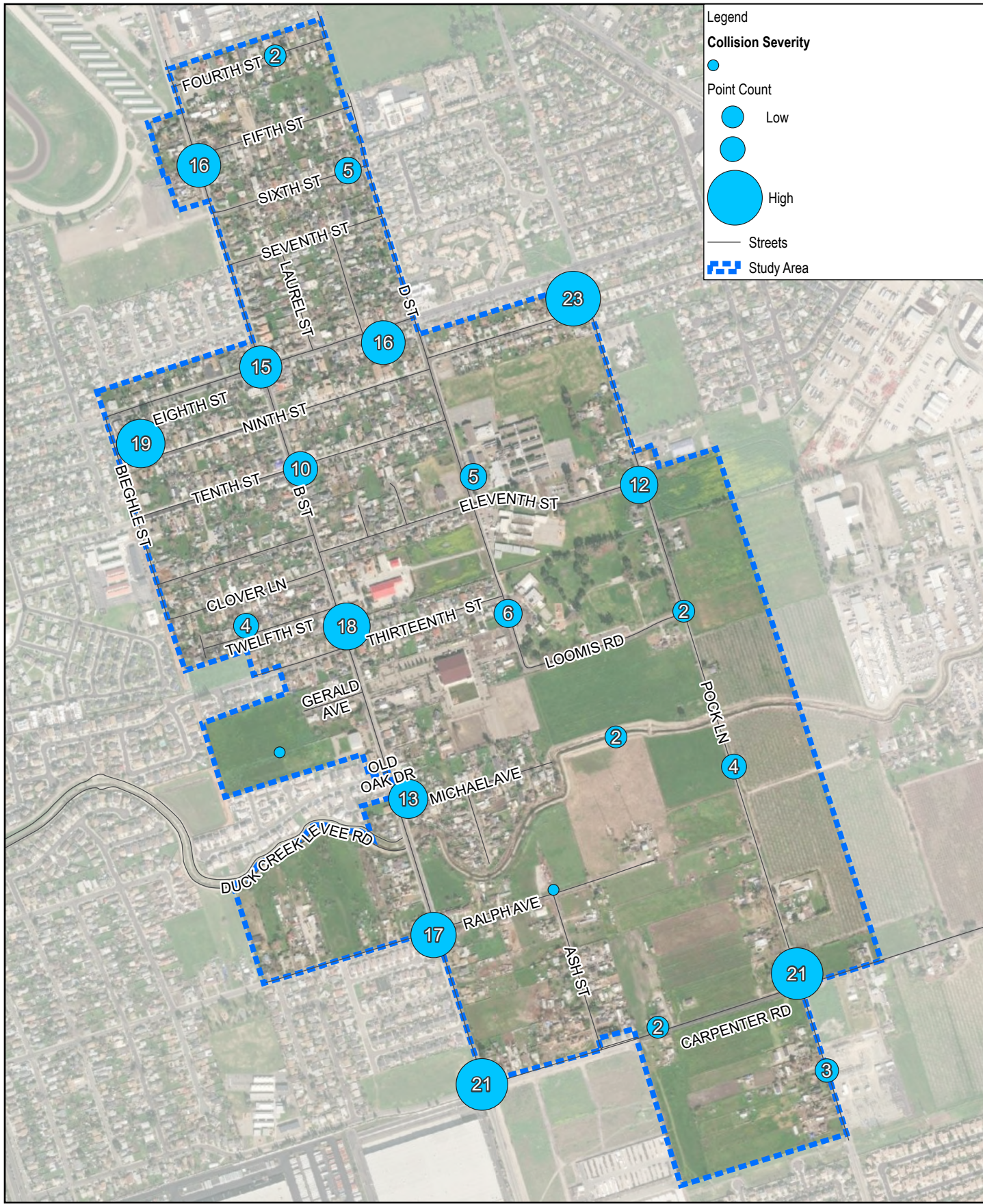
Collision Type



Collision Severity



<sup>1</sup> 2021 - 2022 collision data from SWITRS and TIMS is provisional and subject to change.



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**Collision Density  
(2017-2022)**

**FIGURE 3.4**

### 3.5.2 Collisions Involving Pedestrians or Bicyclists

Of the collisions that occurred in the study area, two involved pedestrians and four involved bicyclists.

The first pedestrian collision occurred at Clover Lane and Bieghle Street. The street features a 90 degree turn without sidewalks or bicycle lanes. The collision was a result of a turning violation by the driver and resulted in visible pedestrian injuries.

The second pedestrian collision occurred on B Street south of Clover Lane and resulted in a fatality of an 83-year-old woman. There is no crosswalk at Clover Lane meaning the pedestrian did not cross at a marked crosswalk. The fatality occurred in the evening and the collision was reported as occurring in dark lighting conditions without streetlights. B Street is a major collector with a speed limit is 25 miles an hour. The Clover Lane at B Street intersection has a side street stop control, with free movement along B Street. Although there is not a crosswalk at Clover Lane, standard crosswalks are present at Eleventh Street and Twelfth Street, 175 feet away and 265 feet away from the collision location, respectively. The Twelfth Street crossing currently has a RRFB, but it was installed after the collision took place.

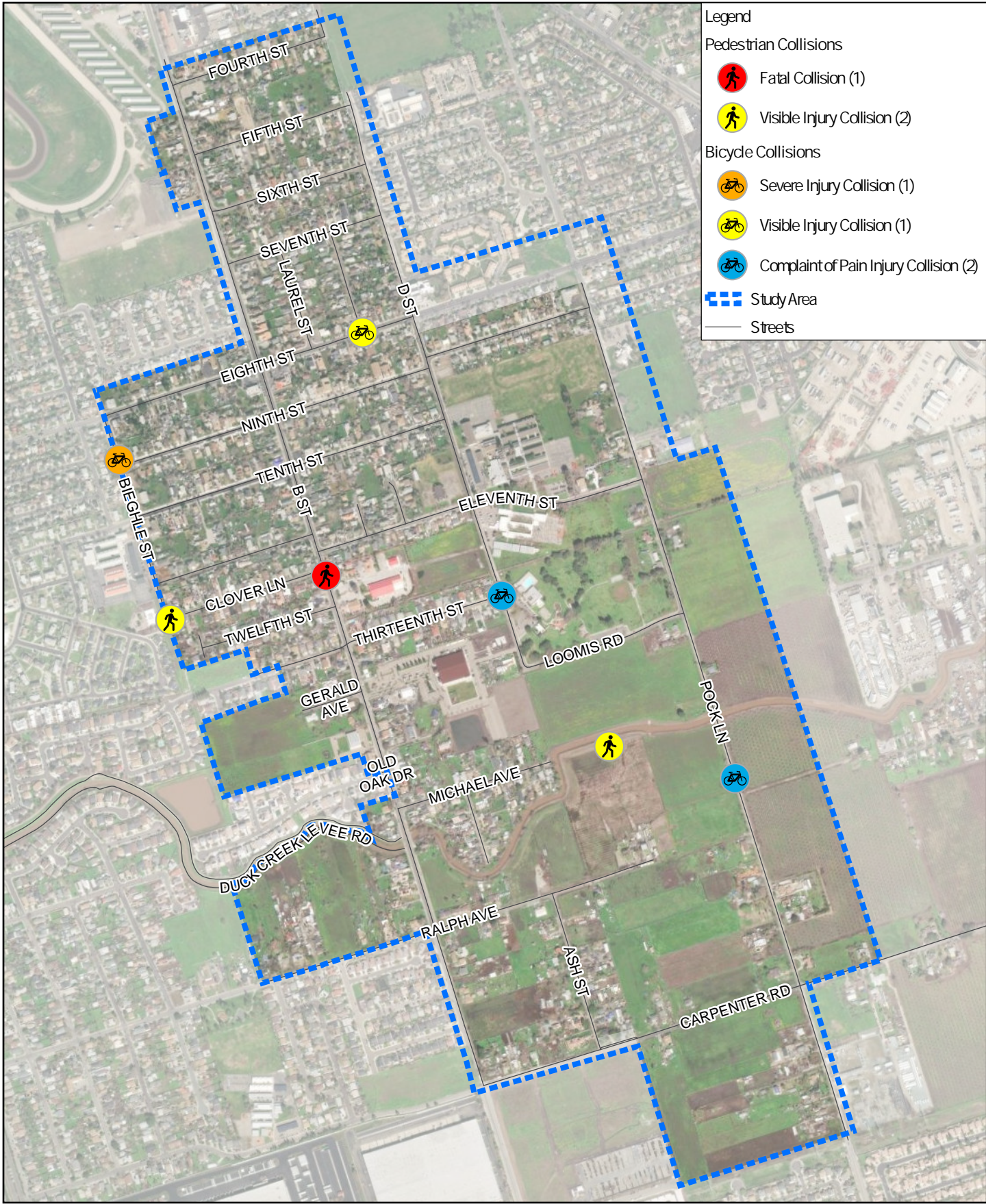
Four bicyclist collisions have occurred since 2017. The first collision occurred at the intersection of Eighth Street and Ash Street. At the time of the collision, the bicyclist was proceeding straight and was struck by a driver making a left turn. The driver was deemed at fault for an automobile right-of-way violation, which resulted in a broadside collisions and a visible injury sustained by the bicyclist. Eighth Street has a posted speed limit of 35 mph and does not have bicycle lanes.

The second collision occurred at the intersection of D Street and Thirteenth Street. The collision occurred when a ten-year-old bicyclist traveling east on Thirteenth Street rode through the stop sign and was struck by a driver traveling south. The bicyclist was deemed at fault for a traffic sign violation. The broadside collision resulted in an injury with a complaint of pain sustained by the bicyclist. This intersection is in a school zone indicated by signage and roadway markings and is adjacent to the Kennedy Community Center. Thirteenth Street and the community center driveway are stop-controlled, while D Street has a free movement. Marked crosswalks are present across Thirteenth Street and the north leg of D Street. Proximity of the collision to the school and the age of the bicyclist suggest a need for improved bicyclist safety along D Street at existing marked crossings and non-infrastructure programs to help educate school-aged bicyclists.

The third collision occurred on Bieghle Street near Nineth Street. The collision occurred when the driver traveling at an unsafe speed struck a stopped bicyclist, resulting in a severe bicyclist injury.

The fourth collision occurred on Pock Lane south of Duck Creek. The collision occurred when the driver traveling at an unsafe speed rear-ended a southbound bicyclist. The collision resulted in a bicyclist injury. Pock lane does not have bicycle lanes facilities between Eighth Street and Carpenter Road. A dedicated and separated bicycle facility would significantly reduce collision risk.

Pedestrians and bicyclists involved in collisions are more likely to incur injuries. All five pedestrian and bicyclist collisions resulted in some kind of injury or fatality, as compared to the 28% of all collisions resulting in injury or fatality in Kennedy.



**Legend**

**Pedestrian Collisions**

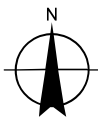
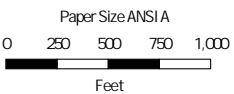
- Fatal Collision (1)
- Visible Injury Collision (2)

**Bicycle Collisions**

- Severe Injury Collision (1)
- Visible Injury Collision (1)
- Complaint of Pain Injury Collision (2)

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Map Projection: Lambert Conformal Conic  
Horizontal Datum: North American 1983  
Grid: NAD 1983 StatePlane California III FIPS 0403 Feet

Bicycle and Pedestrian Collisions  
(2017-2022)

**FIGURE 3.5**

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Print date: 23 Sep 2024 - 10:10

Date source: World Imagery: Mixar. Created by: hmurphy

### 3.6 Existing Traffic Operations

Traffic operations were quantified through the determination of "Level of Service" (LOS). LOS is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or street segment, representing progressively worsening traffic conditions. LOS "A" represents free-flow operating conditions and LOS "F" represents over-capacity conditions. Refer to Appendix A for more information on LOS methodology and analysis and Appendix C for existing traffic counts.

Existing weekday AM and PM peak hour traffic volume counts for the 9 study intersections were collected on Wednesday, May 10, 2023, and Wednesday May 17, 2023. Peak traffic counts were taken between 7:00 AM and 9:00 AM and between 2:00 PM and 6:00 PM to capture school-related traffic volumes. Existing weekday AM and PM peak hour intersection traffic operations were analyzed using the existing traffic volumes and existing intersection lane geometrics and controls. All intersections are currently operating under the Target LOS.



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## 4 Conceptual Improvement Alternatives

This chapter provides conceptual bikeway alternatives proposed to improve safety, connectivity, and comfort along Eighth Street and B Street. These routes are primary collector streets that form the backbone of Kennedy’s transportation network. However, lacking adequate active transportation infrastructure limits access for bicyclists and other non-motorized modes of transportation. Bikeway improvements along Eighth Street and B Street will improve safety, enhance connectivity to local and regional destinations, and encourage bicycling and other active travel modes.

Three conceptual design alternatives were developed for Eighth Street, and two were developed for B Street. All alternatives aim to enhance both bicyclist and pedestrian safety. In Chapter 5, a recommended alternative is identified for each street, based on public and stakeholder input, and conceptual visualizations are provided.

## 4.1 Bikeway Alternatives

### 4.1.1 Eighth Street Bikeway Alternatives

Eighth Street is an east-west collector street that connects residents to Montezuma Elementary School, as well as major arterials Mariposa Road and South Airport Way. Eighth Street does not currently have any bicycle facilities; the street is classified as LTS 4 between Beighle Street and Laurel Street, and as LTS 3 between Laurel St. and D Street, meaning the street is uncomfortable for most people to ride on. Three improvements alternatives were considered along Eighth Street.

#### **ALTERNATIVE 1: RAISED PARKING-PROTECTED BIDIRECTIONAL CLASS IV BIKEWAY**

Alternative 1 includes a parking-protected, bidirectional Class IV facility between Bieghle Street and D Street. Parking-protected bikeways provide a dedicated space for bicyclists separated from vehicle traffic. Alternative 1 recommends a physical buffer from parking to further improve safety and comfort. The bidirectional bikeway creates space for an eight-foot sidewalk on the opposing side of the street. The bikeway would likely be along the south side of Eighth Street, improving access to B Street, D Street, and surrounding destinations within Kennedy.

In addition to the bikeway, Alternative 1 proposes reducing parking lanes to seven feet and driving lanes to 11 feet. Alternative 1 would provide maximum separation from motor vehicles and supports a wide range of bicyclists of different ages and abilities.

Alternative 1 will also need to provide a transition where the proposed Class IV bikeway ends. The County must provide an adequate crossing at Fourth Street and at Ralph Avenue for cyclists to safely cross. Additionally, the 2017 Stockton Bicycle Master Plan proposes Class II Bike Lanes along B Street north of Fourth Street and south of Ralph Avenue. The proposed bikeway in the study area will connect to the bikeways planned beyond the study area. The crossing improvements are discussed in Section 5.2.

#### **ALTERNATIVE 2: PARKING-PROTECTED CLASS IV BIKEWAY**

Alternative 2 includes one-way parking-protected Class IV bikeways on both sides of the street, with painted buffers and flexible posts separating the bicycle lane from the parking lane. The parking lane provides bicyclists protection from motor vehicle traffic.

Alternative 2 proposes reducing parking lanes to seven feet to allow for maximum bike lane and buffer widths and 11-foot drive lanes. The three-foot buffer and flex-posts for the bike lane aim to prevent collisions between bicyclists and opening car doors (door zone).

#### **ALTERNATIVE 3: TEN-FOOT SIDEWALKS**

Alternative 3 includes widening sidewalks from 5 feet to 10 feet to allow bicyclists to share the walkway with pedestrians. Wide sidewalks provide greater separation from motor vehicle traffic and parked cars.

Alternative 3 proposes reducing driving lanes to 11 feet.

Shared sidewalks may pose a higher risk of conflicts between pedestrians and bicyclists. Additionally, this shared sidewalk cannot be classified as a Class I shared use-path as the sidewalk buffer is limited to two feet, which may impact funding eligibility for this type of facility.

## 4.1.2 Eighth Street Cross-Section Alternatives

Figure 4.1 Existing Conditions (62' Right-Of-Way)

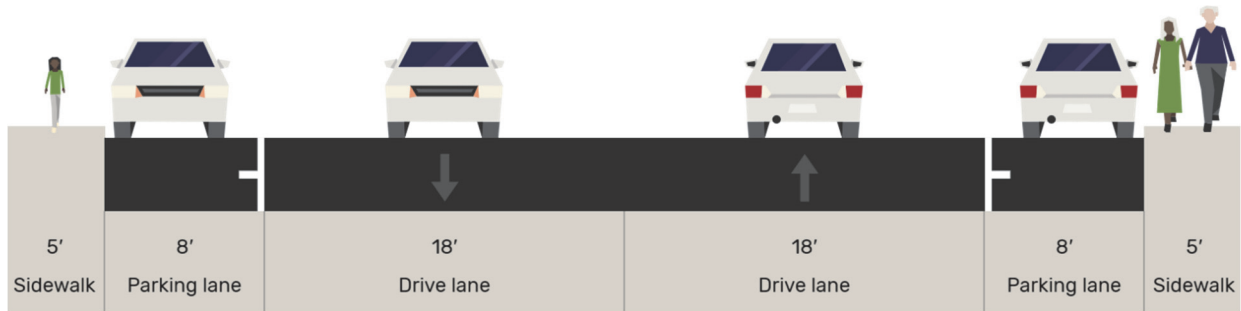


Figure 4.2 Alternative 1: Raised Parking-Protected Bidirectional Class IV Bikeway (62')

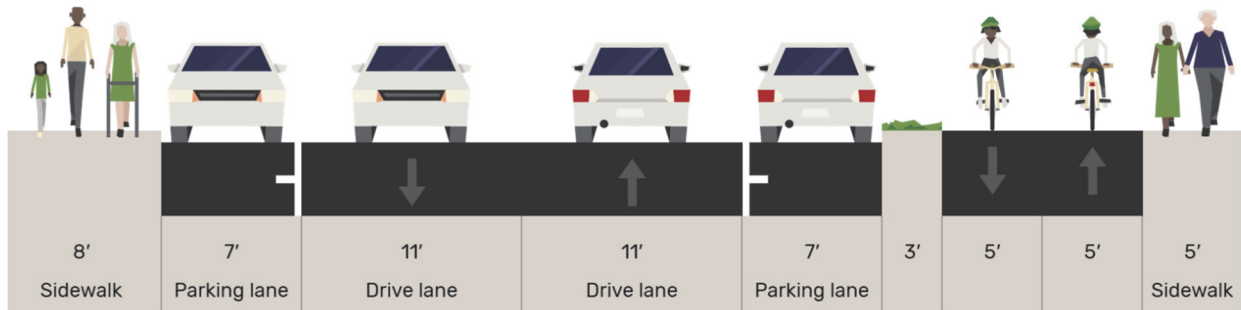


Figure 4.3 Alternative 2: Parking-Protected Class IV Bikeway (62')

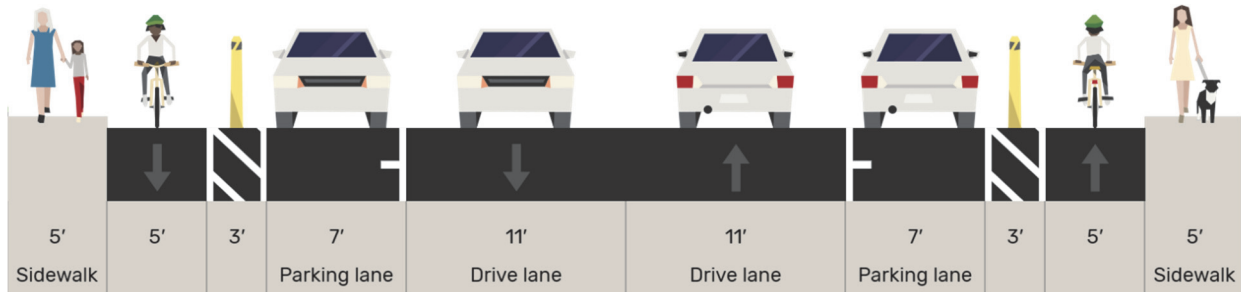
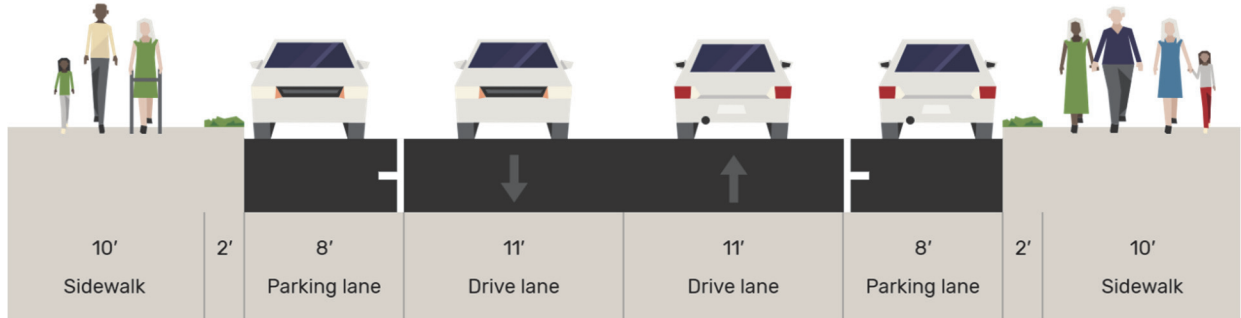


Figure 4.4 Alternative 3: Ten-Foot Sidewalks with Vegetative/Hardscape Buffer



### 4.1.3 B Street Bikeway Alternatives

B Street is a north-south collector street directly connecting residents to multiple churches, and to major arterials like Dr. Martin Luther King Jr. Boulevard and to the Stockton Airport. B Street also connects to low capacity, low speed residential streets like Tenth Street, Eleventh Street and Thirteenth Street, which provide access to the Hamilton and Monroe Elementary Schools and the Kennedy Community Center. B Street currently has a Class II bicycle lanes, but a LTS of 3, making it inaccessible for many potential bicyclists. Additionally, the bike lanes are frequently blocked by parked vehicles near intersections. B Street has an existing width of 60 feet, including sidewalks.

#### **ALTERNATIVE 1: RAISED, PARKING-PROTECTED, BIDIRECTIONAL CLASS IV BIKEWAY**

Alternative 1 includes a parking-protected, bidirectional Class IV bicycle facility from Fourth Street to Carpenter Road. The bikeway is proposed to be vertically separated from the roadway, level with the sidewalk and a vegetative buffer to provide additional protection from the parking lane and vehicle traffic. Bidirectional Class IV bikeways can be used where protected bicycle facilities are needed but right-of-way is constrained. B Street is narrow, and where space for buffered bike lanes is limited, a bidirectional facility allows for desired separation from the roadway and parked vehicles without compromising protection. Placing the bidirectional bikeway on the east side of the street improves access to more destinations along B Street and

connections east by reducing the need to cross the street.

Alternative 1 will also need to provide a transition where the proposed Class IV bikeway ends. The County must provide an adequate crossing at Fourth Street and at Ralph Avenue for cyclists to safely cross. This will connect to the proposed Class II Bike Lanes along B Street north of Fourth Street and south of Ralph Avenue. The crossing improvements are discussed in Section 5.2.

Alternative 1 also recommends reducing parking lanes to seven feet and driving lanes to 11 feet. Alternative 1 provides maximum separation from motor vehicles and supports a wide range of bicyclists of different ages and abilities.

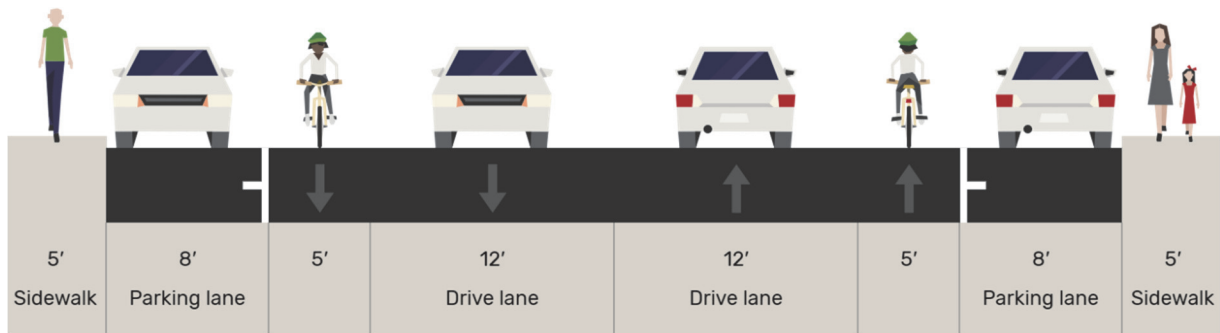
#### **ALTERNATIVE 2: BUFFERED CLASS II BIKE LANES**

Alternative 2 includes Class II bike lanes separated from vehicle traffic by a three-foot striped buffer. One-way bikeways on either side of B Street do not allow room for substantial protection between vehicle traffic and bicyclist without the need of costly street widening. While the painted buffer offers some separation, bicyclists are at risk of collisions with moving motor vehicles because there is no physical vertical separation. Alternative 2 also includes reducing parking lanes to seven feet and driving lanes to 10 feet.

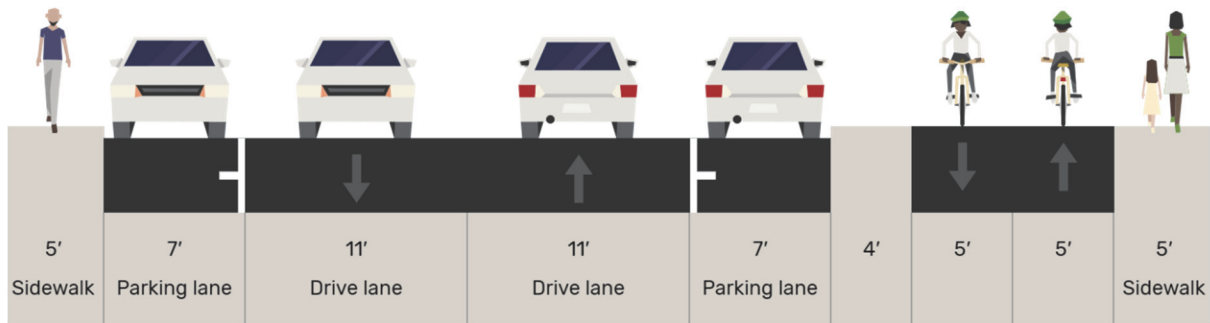
To provide additional protection, the buffered bicycle lane and parking lane may be switched for a parking protected bicycle lane. The three-foot buffer would serve as protection from the vehicle door zone, but flexible delineator posts should be installed in the buffer zone.

## 4.1.4 B Street Cross-Sections

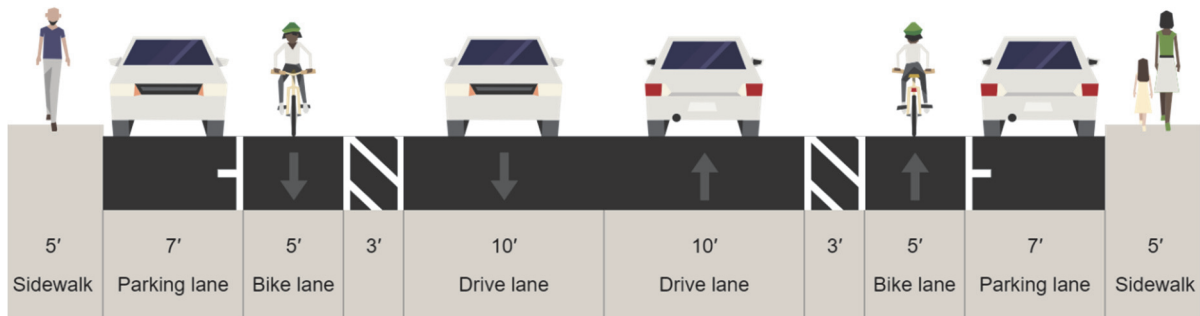
**Figure 4.5 Existing Conditions (60' Right-Of-Way Width)**



**Figure 4.6 Alternative 1: Raised, Parking-Protected, Bidirectional Class IV Bikeway (60')**



**Figure 4.7 Alternative 2: Buffered Class II Bike Lanes (60')**



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## 5 Infrastructure Recommendations

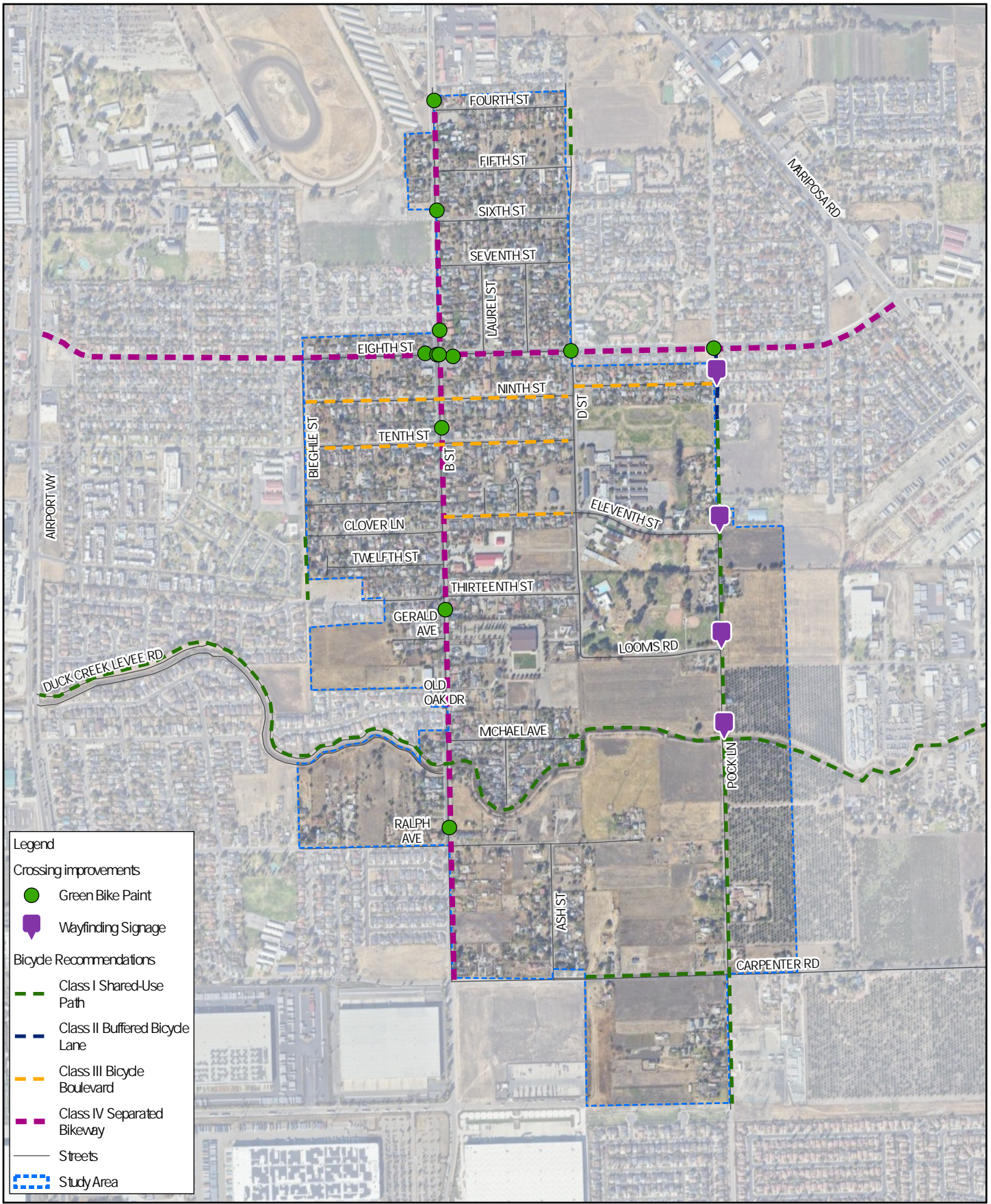
This chapter outlines a series of site-specific recommendations proposed to enhance safety, connectivity, and comfort throughout the Kennedy transportation network. Recommendations include recommended bikeway from the alternatives identified in Chapter 4, pedestrian facilities, and shared pathways, as well as amenities that make traveling through Kennedy more comfortable and accessible, like wayfinding, lighting, and transit benches and shelters. Figure 4.1 and Figure 4.2 present the bicycle and pedestrian network recommendations that are further described in this chapter. For more information about the included improvement strategies, please review Appendix D for the Complete Streets Toolkit. This toolkit was developed to identify various strategies for improving safety and connectivity throughout Kennedy.

### ACCESSIBILITY

Accessibility for all users should be prioritized when considering any recommendation listed in this section. While this plan presents concepts, the design will ultimately need to comply with accessibility standards, including Public Right-of-Way Accessibility Guidelines (PROWAG).

Additionally, not all bikeway users are “bicyclists.” Consider the needs for people using the following mobility devices when prioritizing infrastructure:

- > Wheelchairs
- > Scooters
- > Skateboards
- > Tricycles
- > Hand bikes
- > Recumbent bikes
- > Cargo bikes
- > Electric bikes



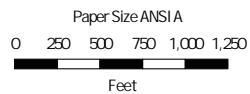
**Legend**

**Crossing improvements**

- Green Bike Paint
- Wayfinding Signage

**Bicycle Recommendations**

- Class I Shared-Use Path
- Class II Buffered Bicycle Lane
- Class III Bicycle Boulevard
- Class IV Separated Bikeway
- Streets
- Study Area

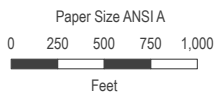
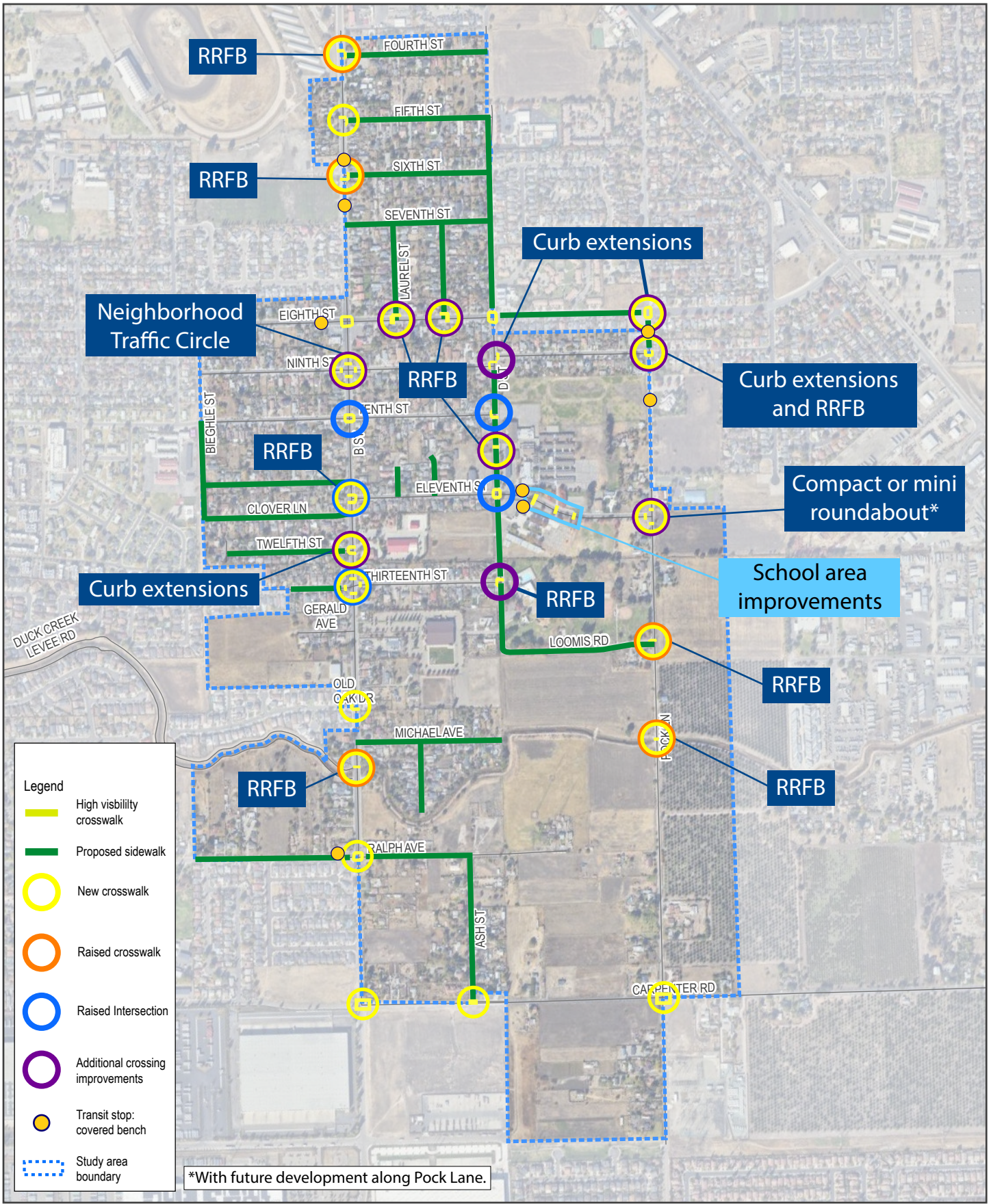


San Joaquin County  
Kennedy Community  
Complete Streets Plan

Project No. 12602049  
Revision No. -  
Date 9/23/2024

**Bikeway Network  
Recommendations**

**FIGURE 5.1**



San Joaquin County  
Kennedy Community  
Complete Streets Plan

Project No. 12602049  
Revision No. -  
Date 12/20/2024

**Pedestrian and Transit  
Improvement Concepts**

**FIGURE 5.2**

## 5.1 Bikeway Recommendations

Below are the prioritized bikeway design concepts chosen from Chapter 4, conceptual renderings, and additional recommendations. Recommendations identified consider public input, right-of-way and utility constraints, and which alternatives best met the goals identified in Chapter 1.

### 5.1.1 Eighth Street Bikeway

#### ALTERNATIVE 2: PARKING-PROTECTED CLASS IV BIKEWAY

Alternative 2, the parking-protected bikeway option, is recommended along Eighth Street. Compared to the raised, bidirectional bikeway proposed for Alternative 1, Alternative two provides protected bicycle facilities on both sides of the street and is less costly to implement. Compared to

Alternative 3, Alternative 2 minimizes conflicts between pedestrians and bicyclists. Figure 4.1 shows a cross section of the parking -protected Class IV alternative. Figures 4.2, 4.3, and 4.4 illustrates a rendering of Eighth Street with the recommended bikeway as well as intersection improvements discussed in the following sections, such as high visibility crosswalks, green conflict markings, bike boxes, and transit islands.

The proposed bikeway connects to the proposed separated bicycle facility along Airport Way, as well as the proposed Class II on Mariposa Road, providing connectivity for Kennedy residents to bicycle routes and destinations outside of the community.

Alternative 2 is most compatible with the front on adjacent land uses along Eighth Street and balances parking impacts for property owners on both sides of the street.

Figure 5.3 Parking-Protected Class IV Bikeway Cross Section

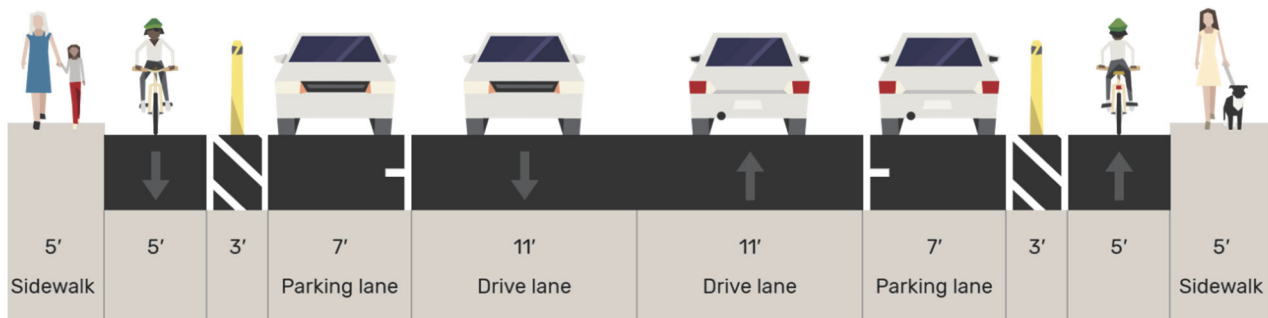


Figure 5.4 Rendering of Eighth Street Recommendations



## 5.1.2 B Street Bikeway

### ALTERNATIVE 1: RAISED, PARKING-PROTECTED, BIDIRECTIONAL CLASS IV BIKEWAY

Alternative 1, the raised, parking-protected, bidirectional bikeway option is recommended for B Street. Compared to the Class II buffered bikeway alternative, Alternative 1 offers physical separation from vehicle traffic and supports a wider range of street users, including children and people who feel uncomfortable riding alongside drivers.

To accommodate for the planned Class II bike lane extensions proposed by the 2017 City of Stockton Bicycle Master Plan, a raised crosswalks and an

RRFB is proposed at Fourth Street to allow bicyclists riding on the west side of B Street to cross to the raised bikeway. A four-way crosswalk is also proposed at Ralph Avenue to accommodate the southern Class II extension.

Alternative 1 maintains parking for residents on both sides of the street.

Figure 4.5 shows a cross section of the raised Class IV alternative. Figures 4.6, 4.7, and 4.8 illustrates a rendering of B Street with the recommended bikeway as well as intersection improvements discussed in the following sections, such as high visibility crosswalks, green conflict markings, bike boxes, and a raised intersection.

Figure 5.5 Raised Bidirectional Class IV Bikeway

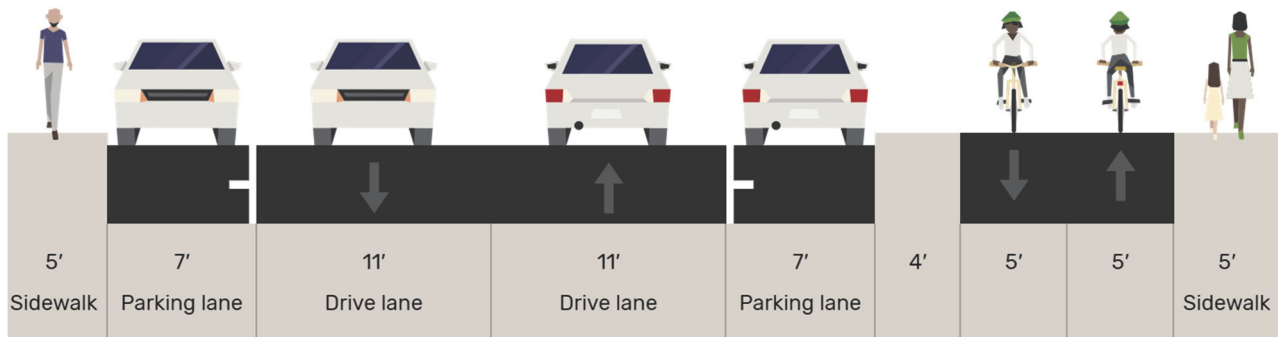


Figure 5.6 Rendering of B Street Recommendations



### 5.1.3 Class I Multi-Use Paths

Class I multi-use paths provide off-street facilities separated from vehicle traffic for pedestrians and bicyclists. Class I facilities provide travel options for vulnerable street users or bicyclists who may not feel confident enough to use on-street bikeways. Class I paths should be a minimum of 10-feet wide with a two-foot shoulder. The multi-use or shared-use paths proposed in Kennedy should undertake further feasibility evaluations to include environmental and utility impacts.

#### **POCK LANE**

A Class I multi-use path is recommended along the east side of Pock Lane from the Maya Angelou Library to connect to existing facilities south of Carpenter Road. The path will connect Hamilton Elementary School, Monroe Elementary School, and the Kennedy Community Center to the Maya Angelou Branch Library, with support from low stress local roads like Eleventh Street and Loomis Road. The Class I path also connects students and residents to the Duck Creek Trail, and residents south of Kennedy, improving access to recreation. The Class I path may be placed on either side of Pock Lane. However, right-of-way is limited on the west side of Pock Lane, posing some challenges for implementation. Large utility poles exist on the west side of Pock Lane, with smaller utility poles on the east side. There is also an existing sidewalk on the west side of Pock Lane from Eleventh Street to Loomis Road, so the east side of Pock Lane is recommended. Crossing improvements at Eleventh Street, Loomis Road, Duck Creek Trail, and Carpenter Road are recommended for users to cross the street and safely access the trail. Safety measures include RRFBs, high visibility crosswalks or raised crosswalks that enhance visibility of pedestrians and bicyclists, and slow traffic speeds. The proposed Pock Lane Trail would require the full width of the ultimate right-of-way of 50 feet.

A compact or mini roundabout is proposed at Pock Lane and Eleventh Street to accommodate anticipated

traffic from future development of the nearby vacant land. A roundabout would slow vehicles near Hamilton and Monroe Elementary Schools while allowing vehicles to make a U-turn and enhancing pedestrian and bicycle access. County is recommended to develop a Specific Plan for Pock Lane.

#### **DUCK CREEK TRAIL**

On the north side of Duck Creek, the County has a shared-use trail planned from Airport Way to Mariposa Road (Bicycle Master Plan). The trail is currently paved between Airport Way and B Street where it transitions to a dirt path and is gated as a maintenance access. This Plan recommends formalizing the trail to SR 99 Frontage Road to improve comfort and accessibility for all users.

#### **CARPENTER ROAD TRAIL**

A path is proposed along the north side of Carpenter Road from Pock Lane to B Street. Instead of using asphalt, this trail proposes decomposed granite (DG), pea gravel, or similar, to reduce costs and retain rural context. This provides a missing connection for people walking, biking, or rolling east and west along Carpenter Road.

#### **OTHER TRAILS**

In addition to the trails and multi-use paths listed above, this Plan proposes to provide pedestrian and cyclist connections at the follow locations where footpaths or maintenance access exists, and a formalized path would benefit direct connections within Kennedy:

- > D Street between 4<sup>th</sup> and Fifth Street, north of Rosa Parks School
- > Bieghle Street from Clover Lane to Thirteenth Street. This could also be extended in the future down to Duck Creek Trail if desired.

Figure 5.7 Pock Lane Existing Conditions

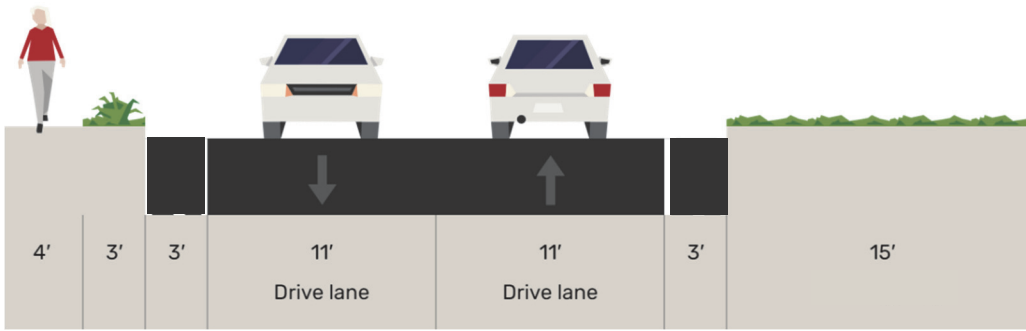


Figure 5.8 Pock Lane Proposed Class I

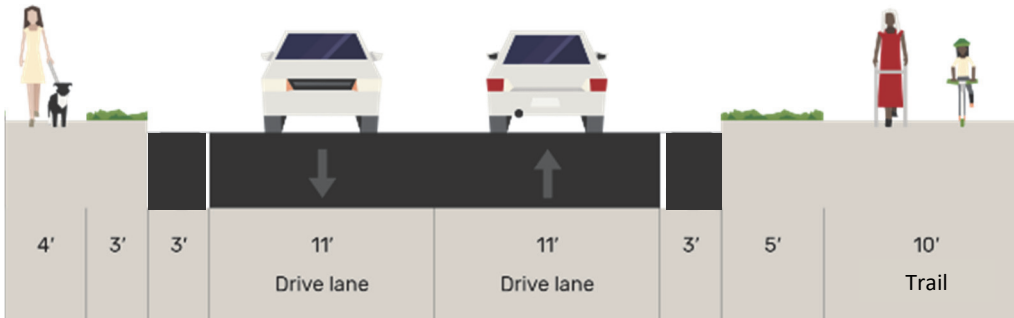


Figure 5.9 Pock Lane Class I Path and Raised Intersection



## 5.1.4 Bicycle Boulevards

Class III bicycle boulevards are reserved for streets with low traffic volumes and speeds that cater to bicyclists. Bicycle boulevards may employ traffic calming measures, wayfinding signs, and pavement markings to enhance safety for bicycle travel.

Bicycle boulevards are recommended along:

- > Ninth Street, between Bieghe Street and Pock Lane
- > Tenth Street, between Bieghe Street and D Street
- > Eleventh Street between B Street and D Street.

These streets are east-west local roads that connect the community to schools, the library, the community center, and more. The streets are already lower stress streets and provide an alternative route to Eighth Street. Using traffic calming techniques, shared pavement markings and signage, these routes may serve as safer connections for vulnerable street users traveling to the key destinations mentioned, specifically children traveling to school.

## 5.1.5 Intersection Conflict Markings

Green conflict markings are used where turning motorists cross the bicycle lane. They can be used at intersections, transit stops, and driveways where protected facilities pause. Conflict markings draw attention to the bicycle lane and alert drivers to watch for bicyclists. Conflict markings are recommended along B Street and Eighth Street where protected bicycle facilities are proposed.

Proposed locations include:

- > Eighth Street and B Street intersection
- > Eighth Street and D Street intersection
- > Eighth Street and Pock Lane intersection
- > Transit stops along B Street and Eighth Street
- > At cross-streets along B Street and Eighth Street

## 5.1.6 Two-Stage Queue Boxes

Two-stage turn queue boxes improve safety for left turning bicyclists by breaking turns into two-steps, rather than attempting to cross the vehicular lane. Bicyclists may first cross the intersection and stop at a green box positioned between the bicycle lane and the crosswalk. They can then make the second leg of the turn when the light is green, allowing them to ride with traffic. Two-stage turn queue boxes are useful for protected bicycle facilities because they prevent bicyclists from merging into traffic to turn.

Two-stage turn queue boxes are recommended at the B Street and Eighth Street intersection where the two Class IV facilities meet at a signalled intersection. Boxes are recommended on the north-east corners of the intersection.



*Green Conflict Markings*



*Two-stage turn que box*

## 5.2 Pedestrian Network Recommendations

### 5.2.1 Sidewalks

Closing gaps in the sidewalk network is key to improving connectivity and accessibility throughout the region. The plan recommends adding five-foot sidewalks throughout the study area where sidewalks are currently missing.

### 5.2.2 High Visibility Crosswalks

High visibility crosswalks improve pedestrian visibility for drivers and make crossing the street safer. Crosswalks should be paired with additional safety measures when located across high speed or high-capacity roads. New crosswalks that are proposed mid-block or at uncontrolled crossings should be installed when warranted, as determined by San Joaquin County Department of Public Works.

High visibility crosswalks are recommended at almost all crossings along B Street from Eighth Street to Ralph Avenue (excluding Gerald Avenue and Michael Avenue), on D Street from Eighth Street to Eleventh Street, and crossings on Pock Lane from Eighth Street to Carpenter.

### 5.2.3 Raised Crosswalks

Raised crosswalks encourage yielding at designated pedestrian crossings. They slow approaching vehicle speeds, as well as raise crossing pedestrians above grade, improving visibility to drivers. Raised crosswalks can be used at intersections and midblock crossings on roadways with 25mph-45mph speeds.

If crosswalks are determined to be warranted, raised crosswalks are recommended at the following locations:

- > B Street and Fourth Street
- > B Street and Sixth Street
- > B Street and Duck Creek Trail (when trail is constructed)
- > Pock Lane and Loomis Road
- > Pock Lane and Duck Creek Trail (when trail is constructed)

Raised crosswalks are recommended to improve access to transit stops on Fourth Street and Sixth Street, and to Duck Creek, the community center, and the recommended Class I along Pock Lane. All raised crosswalks recommended by the plan are accompanied by RRFBs to improve pedestrian visibility.



## 5.2.4 Raised Intersections

Similarly, to raised crosswalks, raised intersections slow motor vehicles, and encourage yielding to pedestrians.

Raised intersections are recommended at the following locations:

- > B Street and Tenth Street
- > B Street and Eleventh Street
- > B Street and Thirteenth Street
- > D Street and Tenth Street
- > D Street and Eleventh Street

Raised intersections along B Street are meant to slow traffic and improve safety for pedestrians crossing at key locations. Raised intersections on D Street are recommended to increase safety near school pick-up and drop-off zones.



*Raised Intersection in Cambridge, MA.*

## 5.2.5 Curb Extensions

Curb extensions widen the sidewalk into the parking lane, shortening street width at crossings. Curb extensions also serve as a traffic calming measure as they narrow the roadway. Curb extensions are recommended at the following locations:

- > B Street and Twelfth Street
- > D Street and Ninth Street
- > Pock Lane and Eighth Street
- > Pock lane and Ninth Street
- > Eleventh Street between Hamilton and Monroe Elementary Schools

Curb extensions are recommended to support high visibility crosswalks at minor intersections. They are intended to provide shorter crossing distances and aid in pedestrian visibility.

## 5.2.6 Rectangular Rapid Flashing Beacons (RRFBs)

RRFBs utilize human-activated flashing lights to provide additional visibility to pedestrian crosswalk signs. RRFBs are typically used at unsignalized intersections and midblock crossings, where traffic volumes do not warrant a signal or stop.

As mentioned previously, RRFBs would be implemented at all raised crosswalks. In addition, RRFBs are recommended at the following locations:

- > Eighth Street at Laurel Street
- > Eighth Street at Ash Street
- > B Street and Eleventh Street (raised intersection)
- > D Street between Tenth Street and Eleventh Street (mid-block crossing)
- > D Street and Thirteenth Street

The RRFBs in combination with the other improvements aim to enhance access around the community and create safer routes to the schools on D Street.

## 5.2.7 Compact Roundabouts and Neighborhood Traffic Circles

Gateway improvements can indicate a transition to slower traffic speeds. To slow vehicles along B Street, a compact roundabout or a neighborhood traffic circle at Ninth Street would physically reduce speeds and signal to drivers that they are entering a local street with frequent pedestrian crossings. Compact roundabouts are ideal for locations with constrained right-of-way. Compact roundabouts are mountable, meaning trucks and other large vehicles may drive over the center of the roundabout when turning.



*Neighborhood traffic circle in Sacramento, CA*

## 5.3 Amenities

### 5.3.1 Transit Stop Sheltered Benches

Transit shelters provide protections from weather, resting spaces, and places for transit information, improving comfort for riders. Transit shelters should be provided at transit stops with a moderate amount of boardings, at transfer points, at transit stops in particularly weather-exposed locations, and locations with higher use by vulnerable groups (seniors, children, etc.). Transit shelters and benches are recommended at the following locations:

- > B Street and Sixth Street northbound and southbound stops, serving routes 378 and 580
- > Eighth Street and B Street westbound stop, serving routes 44, 380, and 390
- > Ralph Avenue and B Street eastbound stop, serving route 44
- > Eleventh Street and D Street east and westbound stops, serving routes 380 and 390
- > Eighth Street and Pock Lane westbound stop, serving routes 378, 385, and 580
- > Pock Lane and Eleventh Street northbound stop, serving routes 380 and 390

### 5.3.2 Pedestrian Scale Lighting

Pedestrian scale lighting supplements typical streetlights by adding or adjusting lighting lower to pedestrian level, improving visibility of users walking or biking along and across the street to vehicles. Lighting is recommended along Pock Lane to increase safety and comfort along the proposed Class I path, at transit stops, at raised crossings, and crossings near Hamilton Elementary School and Monroe Elementary School.

To implement additional lighting, the County should consider a variety of funding options, including the formation of a safety or street lighting district.

### 5.3.3 Wayfinding Signage

Wayfinding signage helps pedestrians and bicyclists navigate the active transportation network.

Wayfinding can include directions and distances to key destinations. Bicycles-specific wayfinding may indicate to riders that they are on a designated bikeway or direct them to bicyclist-oriented routes.

#### POCK LANE

Wayfinding signage should communicate that bicyclists and pedestrians are permitted to use the Pock Lane Class I path, and to direct users to key locations nearby, like the library and community center.

#### EIGHTH STREET

If Alternative 3 is selected for Eighth Street bikeway improvements, signage should indicate that bicyclists are able to ride on the widened eight-foot sidewalk. If Alternative 3 is selected, similar signage is needed for bicyclists using 10-foot sidewalks on either side of the road.



## 5.4 School Area Improvements

This section presents a menu of strategies designed to improve safety and calm traffic for school pick-up and drop-off along Eleventh Street. These school area improvements were developed in collaboration with the principles of the Hamilton Elementary School and Monroe Elementary School, and with Stockton Unified School District staff. Figure 5.10 presents the potential layout of the proposed improvements listed below. Any school improvement project will need to be a joint venture between San Joaquin County and Stockton Unified School District. Frontage improvements like the Class I path could be a widened sidewalk instead but will need to be coordinated with the School Facilities Plan and may need additional feasibility studies. Additionally, sidewalks are proposed along Bieghle Street next to Van Buren Elementary School, in coordination with planned improvements by the city of Stockton. New sidewalks and marked crosswalks are proposed near Aspire Rosa Parks Elementary School as well.

Figure 5.10 School Area Improvements



### RAISED CROSSWALK

Raised crosswalks increase visibility of pedestrians crossing the street by raising them above grade. Raised crossings also slow vehicle speeds, encouraging yielding to pedestrians.



### RAISED INTERSECTION

Similarly, to raised crosswalks, raised intersections slow vehicle speeds, and raise pedestrians above grade, improving safety for people crossing the street.



### CURB EXTENSIONS

Curb extensions shorten crossing distances and serve as traffic calming devices.



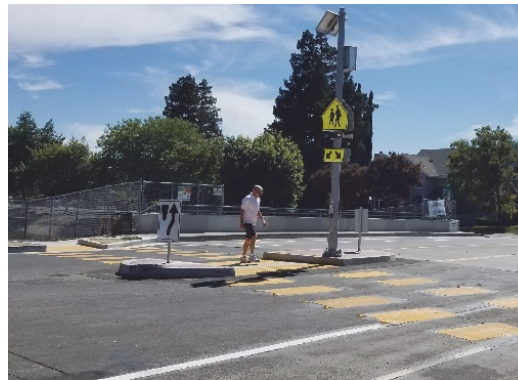
### MEDIAN FENCING

Median fencing can be used to guide pedestrians to designated crossings. In this scenario, adjacent parking must be converted to diagonal parking if implementing fencing. Additionally, pavement markers could increase visibility at night.



### RECTANGULAR RAPID FLASHING BEACON

An RRFB utilizes human-activated flashing lights to provide additional visibility to pedestrian crosswalk signs at unsignalized intersections and midblock crossings.



### CLASS-I MULTI-USE PATHS AND WIDENED SIDEWALKS

Class I facilities and widened sidewalks can be used to allow for more pedestrian space and for students riding bicycles to ride off-street, protecting from drivers dropping off or picking up students.

When right-of-way is limited, widened sidewalks designed for both pedestrians and bicyclists to travel together safely may be used. Consider implementing signage permitting bicyclist to ride on the sidewalk. Review existing local traffic and bicycle laws for guidelines regarding bicycle riding on sidewalks.



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## 6 Implementation Plan

The Kennedy Community Complete Streets Plan provides recommendations for projects, programs, and policy changes intended to make the Kennedy transportation network safer, connected and more comfortable for all street users. Implementation of this Plan will require community support, political leadership, and significant funding.

This chapter provides a strategy for implementation of the infrastructure projects, including a benefit-cost analysis of proposed infrastructure improvements, potential implementation challenges, and a summary of funding opportunities for bicycle and pedestrian projects.

As the County moves to implement the Plan, the inventory of strategies in this section can be used to evaluate how the County should prioritize improvement projects, identify funding opportunities, and pursue the development of Kennedy's transportation network.

### 6.1 Cost Estimates

Table 6.1 provides a cost summary of the six segments for which improvements are recommended. The costs are preliminary estimates. The preliminary construction costs are based on unit costs and rough quantities for various construction items. Soft costs include an assumed cost percentage based on the construction (capital) cost for subsequent environmental and engineering phases including preliminary assessment and environmental review (PA&ED), plans, specifications and estimates (PS&E), construction support, and right-of-way support costs. A list of each segment and unit cost estimates is available in Appendix F.

Table 6.1 Cost Summary

Roadway or Project Type	Notes	Construction Cost	Soft Costs	Total Cost
Eighth Street Bikeway	Assumes Slurry Seal	\$ 2,020,000	\$ 620,000	\$ 2,640,000
B Street Bikeway, Raised Intersections and Crossings, RRFBs, etc.	Slurry Seal new width, removes ex. C+G, new concrete and HMA for bikeway.	\$ 5,620,000	\$ 1,680,000	\$ 7,300,000
D Street	Sidewalks on one side	\$ 1,730,000	\$ 520,000	\$ 2,250,000
Pock Lane	SUP	\$ 4,570,000	\$ 1,520,000	\$ 6,090,000
Duck Creek Trail & Carpenter Trail, and School Path	Paved Duck Creek, DG Path for Carpenter	\$ 3,400,000	\$ 1,020,000	\$ 4,420,000
Community Sidewalks		\$ 8,470,000	\$ 2,570,000	\$ 11,040,000
Bike Routes and Boulevards	Pavement markings on Ninth Street, Tenth Street, and Eleventh Street	\$ 1,410,000	\$ 420,000	\$ 1,830,000
Pedestrian-Scale Lighting	At crosswalks, assumes solar powered	\$ 310,000	\$ 100,000	\$ 410,000
<b>Grand Total:</b>				<b>\$ 35,980,000</b>

## 6.2 Environmental Justice and Social Equity

California’s Global Warming Solution Act of 2006 established the Greenhouse Gas Reduction Fund to support projects and programs that reduce greenhouse gas emissions throughout the State. SB 535 and AB 1550 attempt to ensure that the benefits of California’s climate change policies are distributed to areas designated as disadvantaged and/or low-income communities. As mentioned in the Existing Conditions Chapter, Kennedy is recognized as a disadvantaged community, and the improvements recommended in the Plan address transportation needs of the community’s most vulnerable street users.

### CONNECTIONS TO COMMUNITIES OF CONCERN

Communities of color, people with disabilities, older adults, people with lower socioeconomic status, and people with limited English language proficiency have all lacked adequate infrastructure for walking and biking and faced greater difficulty accessing affordable transportation than non-disadvantaged peer groups. These communities also spend a greater percentage of their overall income on

transportation, and they experience greater environmental harms due to past inequitable transportation and land use planning decisions (e.g., urban freeway routes and industrial manufacturing facilities in lower income communities of color). These communities can be described as environmental justice communities or disadvantaged communities.

To begin to counteract the environmental injustices of the past, government regulations have been put into place to provide additional attention to these communities of concern as part of the planning process. Metropolitan Planning Organizations (MPOs) must create a plan to identify communities of concern using guidance found in Title VI of the 1964 Civil Rights Act and Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.”

San Joaquin Council of Government’s (SJCOG) Regional Transportation Plan/Sustainable Communities Strategies identifies environmental justice communities to assess equitable distribution of land use and transportation projects and policies.

SJCOG defines environmental justice primarily using the following criteria:

- > **Income:** Census tracts with at least 40 percent of the population living at or below 150 percent of the federal poverty level as defined by the Census Bureau.
- > **Minority:** Census tracts where at least 80 percent of population is minority. The U.S. Census definition was used for minority persons.

To capture communities of concern not identified using the primary criteria, census tracts that met four out of five an additional set of criteria, listed below, were identified:

- > At least 50 percent above the County average for percentage of population age 5 and over that speak English “less than very well”.
- > At least 50 percent above the County average for percentage of population that is age 65 and over.
- > At least 50 percent above the County average for percentage of population that has a disability.
- > At least 25 percent below the County average for percentage of households that have internet access at home.
- > At least 50 percent of the County Average for percentage of population over 18 with no high school diploma

As identified by the RTP/SCS, all recommendations within the study area are located within census block groups that are either both low income and high minority, or just high minority, furthering the equitable transportation access goals of Title VI and Executive Order 12898. Census block groups within Kennedy do not meet the additional criteria.

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<sup>2</sup> <https://www.transportation.gov/mission/office-secretary/office-policy/transportation-policy/benefit-cost-analysis-spreadsheet-template>

## 6.3 Benefit Analysis

A benefit-cost analysis (BCA) for various components of the Plan, including Eighth Street, B Street, and Pock Lane, was completed with the use of the USDOT BCA Spreadsheet Template2 (updated January 31, 2024) and the BCA Guidance for Discretionary Grant Programs. The analysis relied on data inputs from the American Communities Survey (ACS), Department of Finance projections, traffic counts collected on May 10, 2023, and collision data from the Statewide Integrated Traffic Records System (SWITRS).

The Project’s first year of construction is estimated to be in the spring of 2028, the length of construction is estimated to be 2 years, with an Opening Year during Fiscal Year 2030. The spreadsheet template uses a base year of 2022, per the BCA Guidelines.

The analysis calculates the Opening Year (2030) and Design Year (2050) benefit metrics and then uses a straight-line trend to interpolate between the two to obtain the values for each year.

Project benefits that were quantified include:

- > **Safety Benefits:** Reduction in pedestrian and bicycle collision types and severity levels through installation of the two roundabouts, a proven safety countermeasure, installing high-visibility crosswalks, installing a new mid-block pedestrian crosswalk, and installing RRFBs at the mid-block crossing and on the south leg of the western roundabout. The total discounted safety benefit is \$74.8 million.
- > **Journey Quality/Amenity Benefits:** Providing protected bikeways, fillings gaps in the sidewalk network and improving pedestrian crossings and transit stops all improve the experience for pedestrians, bicyclists and transit riders. The

total (discounted) journey quality/amenity benefits are \$4.3 million.

- > **Health Benefits:** Reduced absenteeism and reduced mortality resulting from the population using active transportation modes. The total discounted health benefits are \$6.5 million.

Below summarizes the results of each of the benefits quantified. The assumptions and annual quantified benefits are included in **Appendix G**.

The Project Cost Estimate includes capital costs of \$27,530,000, support cost of \$8,450,000, and previously incurred costs of \$224,000 that the County used to develop the Plan. These costs are in current dollar amounts.

The resulting total discounted benefits were \$85.6 million, total discounted costs are \$29.2 million, and the Project presents a **B/C of 2.93**.

## 6.4 Implementation Methods and Challenges

The implementation strategy outlines a plan for implementing recommended improvement concepts and projects described in the previous chapter. This section includes methods for implementing street improvements, as well as potential challenges the County should consider.

### 6.4.1 Implementation Methods

Not all active transportation infrastructure is implemented in the same way. Below are typical methods and techniques that the County can use to build out the active transportation network in Kennedy. While recommendations in this Plan were developed based on local street features, the specific details for how each bicycle and pedestrian project will be implemented is determined by the County and relevant partners. Additional analysis (e.g., community engagement, traffic studies) may be necessary before implementation of any project recommended in this Plan and recommendations may be subject to change.

## RESURFACING AND RESTRIPING



*Restriping, Source: Streetsblog*

Implementing new on-street bikeway projects as part of planned roadway resurfacing is a common way that local agencies grow their active transportation networks. Once a roadway is resurfaced – an existing street section is paved, either completely or partially – new bicycle facilities can be added through painting, striping, or restriping. Bicycle lanes, green conflict markings, and two-stage turn queue boxes are all examples of projects that can be completed during roadway resurfacing.

Restriping removes and replaces existing striping to reconfigure the roadway to accommodate new or upgraded bicycle facilities. Examples of restriping might include replacing an existing Class II bicycle lane with either a Class II buffered bicycle lane or Class IV bikeway. Common roadway reconfiguration tactics to allow for new or upgraded on-street bicycle facilities include:

- > Narrowing travel lanes
- > Reallocating travel lanes
- > Reallocating parking lanes
- > Reallocating turn lanes

## RECONSTRUCTION

More substantial reconstruction projects beyond resurfacing are frequently paired with active transportation facility implementation. During roadway reconstruction, in addition to the reconfiguration tactics listed above, more significant changes to allow for new bikeways or traffic calming treatments can take place, including:

- > Raised bikeways
- > Sidewalks
- > Adding/moving curbs
- > Curb extensions
- > Speed humps/cushions
- > Raised crosswalks and intersections
- > Landscaped, vegetative or hardscaped medians and buffers.

Many on-street active transportation projects recommended in this Plan do not require the acquisition of additional right-of-way, but where it is required, the street would be considered for reconstruction, instead of resurfacing and restriping.

### CONSTRUCTION



Construction refers to individual projects outside of the roadway, including new Class I Multi-Use Paths, bridges, and underpasses. New construction, if minor, may also include roadway widening to allow for bicycle lanes or shoulders, either along the full length of the bicycle facility or at select locations to better support safe travel for non-motorized users.

## 6.4.2 Potential Challenges

### RIGHT-OF-WAY

On-street and off-street active transportation facility projects that cannot be realized without acquisition of additional rights-of-way have greater complexity and longer completion times than projects entirely within existing rights-of-way.

Acquisition and/or condemnation to acquire the property rights required to construct and maintain the active transportation network may be required prior to the funding and construction (or

reconstruction) of specific projects. Right-of-way acquisition, including any financial negotiation or legal proceedings, may be necessary to complete pedestrian or bicycle projects and close active transportation network gaps, however it may also impact the overall project timeline and budget significantly.

The Class I shared-use path recommended along Pock Lane will require additional right-of-way on the east side of the roadway to complete. Room will be needed to construct the path and to provide adequate buffer between the pathway and vehicular traffic. Aside from the Pock Lane recommendation, other recommended improvements included in this Plan are not anticipated to require additional right-of-way to complete.

### INTERAGENCY COOPERATION

Kennedy is a small area in the unincorporated county – to improve connectivity outside of the community, partnerships between agencies will be needed to expand the transportation network. In some parts of the study area, half of the roadway is in the County’s jurisdiction while the other half is within the City’s. In other locations, the Plan recommends protected bikeways up to the project boundary but cannot provide further recommendations beyond the study area. Interagency coordination will facilitate cohesive, non-redundant planning strategies that connect Kennedy to nearby communities.

### UTILITIES

The Plan recommends lighting throughout the transportation network to improve safety and comfort for all street users. Kennedy is within the Ash Street Lighting District. To install additional streetlighting, San Joaquin County lighting districts require a petition signed by at least 20 district rate payers or 50% of property owners in the district, and property owners immediately adjacent to proposed lighting locations must provide written consent. More information about San Joaquin

County lighting districts can be found at [Special Districts Home \(sjgov.org\)](#).

### **RAISED CLASS IV BIKEWAY CONSIDERATIONS**

Raised or separated bikeways require reconsideration of drainage location that minimally interferes with bicyclists using the facility. Providing sloped bikeways, openings for drainage channels in the bikeway buffer, drainage grates and landscaped or vegetative bioswales are all options for proper bikeway drainage. Detailed drainage strategies can be found in section 3.8 of the MassDOT Separated Bike Lane Planning and Design Guide<sup>3</sup>. Drainage improvements for recommended bikeway facilities are eligible for funding opportunities such as the Active Transportation Program (ATP), discussed in Section 6.6.2.

Class IV facilities will require trash pick-up from the bike lane buffer rather than the sidewalk. To prevent residents from blocking bike lanes, the County should investigate ways to communicate to residents regarding proper trash can placement.

Class IV facilities are recommended along Eighth Street and B Street which are primarily residential and have many driveways. An opening in the protected bikeway will be implemented to maintain access to existing driveways.

### **FUNDING**

While many funding opportunities are available at all levels of governance and beyond to improve our connectivity, some typical transportation project funding challenges remain, including:

- > Grant funding cycles
- > Application writing
- > Funding availability and capacity
- > Competitiveness of grant applicant pool
- > Project eligibility and planning preparation
- > Performance tracking and measurement

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<sup>3</sup> MassDOT Separated Bike Lane Planning & Design Guide: Chapter 3, General Design Considerations

- > Competing local priorities

Specific funding details can be found in the Funding section below.

### **ENVIRONMENTAL REQUIREMENTS**

The County must consider and prepare for the project approval and environmental document phase (PA&ED) for any active transportation infrastructure project for which state or federal grant funding is desired, including from the Active Transportation Program (ATP). This requirement of environmental clearance of a given project includes completed environmental documents and filed notices by the lead agency, pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), if required.

Typical grant funding bodies will not allocate funding for any planning, design, right-of-way acquisition, or construction work for an infrastructure project without prior documentation of environmental clearance through CEQA (and NEPA for federally funded projects).

## 6.5 Non-Infrastructure Programs

Education and encouragement programs may be used to support safe, active travel in Kennedy. Educational programs can teach street users how to use pedestrian and bicycle facilities, encourage walking and bicycling, practice safety behaviors and build excitement around new active transportation facilities in Kennedy. Successful programs typically include three types of recommendations:

- > **Education**  
Designed to improve safety and awareness. They can include programs that teach students how to safely cross the street or teach drivers where to anticipate bicyclists and pedestrians and how to share the road safely.
- > **Encouragement**  
Provide incentives and support to help people leave their car at home and try walking or bicycling instead.
- > **Evaluation**  
Measure success at meeting the goals and milestones of the complete streets plan and programmatic recommendations and identify adjustments that may be necessary. These may include annual report cards to track progress of the goals established in the plan, or annual ride-alongs conducted by the county and local stakeholders to identify new opportunities to improve walking and bicycling.

### 6.5.1 Safe Routes to School (SRTS)

SRTS programs are a way to encourage students and families to walk and bicycle to school. More information for developing a SRTS program can be found in the Safe Routes Partnership Building Blocks Guide<sup>4</sup>. The benefits of increasing active travel to school include, but are not limited to:

- > Improving safety for students and families walking to school
- > Improving student health by encouraging physical activity
- > Relieving school pick-up and drop-off congestion
- > Lower cost transportation opportunities
- > Improved air quality

SRTS programmatic activities may include:

- > Walking School Buses and Bike Trains
- > Bicycle rodeos and maintenance courses
- > Crossing guards

Keys to develop an effective program:

- > **SRTS Coordinator**  
Having a staff member hired by the school district, County, or as a volunteer is key to having an effective SRTS program. Grant funding may be allocated to hiring a staff member. However, funding can be limited to one-time purchases rather than staff members that require reoccurring funding.
- > **Developing a Safe Routes to School Plan**  
SRTS plans can include additional program and project recommendations that specifically benefit active travel to school. Funding for SRTS plans is available at the state level.
- > **Partnerships**  
Partnerships with students, families, school staff and community groups are key for a successful SRTS Program.



<sup>4</sup> [Building Blocks Toolkit.pdf](#)

## 6.6 Project Prioritization

Infrastructure projects were prioritized based on the criteria listed in Table 6.2. The full points listed were assigned if the criterion was met; no partial scores were awarded.

Project recommendations in this Plan are prioritized based on an evaluation methodology to help the County identify which project should be selected and targeted for implementation first. The County may establish a phasing plan for implementing recommended improvements. The County may choose to fulfill lower complexity improvements to demonstrate progress implementing the plan to the community.

Project selection methodology is based up typical grant criteria and modified to fit the context of the Kennedy community. The evaluation methodology has been vetted by the County. Other considerations such as available funding and grant program criteria may result in projects being implemented in a modified order from that suggested by the prioritization. Projects may also shift in priority based on safety or operations and upon future studies, especially if other safety issues are identified.

Equity is included in the project prioritization criteria, but because the entire Kennedy Community is considered disadvantaged by CalEnviroScreen, Healthy Places index, and Median Household Income, all projects are awarded points for equity.

**Table 6.2** Project Prioritization Criteria

Criteria	Description	Possible Points
Equity*	Projects located in an area identified as vulnerable by Median Household Income, Free or Reduced Meal Program (projects within a ¼ mile of schools), Healthy Places Index, or CalEnviroScreen	5
Safe Routes to School	Projects located within 1/8 mile of a K-12 school	5
Gap Closure	Project that close a gap between existing bicycle or pedestrian facilities	5
Activity Generator	Projects that directly connect to activity generators such as parks, civic facilities (library, community center) and churches	4
Safety	Projects located within 250 feet of a location with a history of pedestrian or bicycle collisions	3
Community Input	Projects that address a challenge or include an improvement identified by the community during the public engagement process	3
Low Stress Network	Bicycle Projects that reduce LTS score to LTS 1 or 2, sidewalks and traffic calming	2
Transit	Projects that directly connect to transit stops that improve connections to transit or improve the experience for transit riders.	1
<b>Total</b>		<b>28</b>

*\*All of Kennedy is disadvantaged by multiple metrics. Equity is included in the in the prioritization criteria but does not impact the overall ranking as all projects receive full points.*

## 6.6.1 Project Complexity

In addition to assessing the priority of projects, this evaluation also considers the complexity of implementing different types of improvements. Projects were initially rated as higher or lower complexity based on the type of improvement, and then reviewed and reassigned as needed based on location-specific context or other considerations related to design, construction, and maintenance of the facility.

The County may establish a phasing plan for implementing recommended improvements. The County may choose to fulfill lower complexity improvements to demonstrate progress implementing the plan to the community.

### LOW COMPLEXITY

In general, lower complexity projects include Class III bicycle facilities and Class IV bikeways, raised and high visibility crosswalks, RRFBs, transit shelters, and projects are comprised mainly of signage or pavement markings.

### MEDIUM COMPLEXITY

Medium complexity projects generally include new sidewalks, raised intersections, and projects that involve coordination with the school district.

### HIGH COMPLEXITY

More complex projects typically include Class I multi-use paths, grade separated bikeways, and Class IV bicycle lanes, as well as grade separated intersections and crosswalks and projects that include paving, hardscaping, or acquisition of right of way.

Table 6.3 Project Prioritization and Complexity Matrix

Project Priority	Higher	<p><b>Short-Term</b></p> <p>Projects that score high on prioritization and are not very complex should be pursued for implementation within the first five years. These “quick wins” may be able to be implemented as part of the City’s Capital Improvement Program or may be grouped together to pursue funding through competitive sources.</p>	<p><b>Long-Term</b></p> <p>Projects that score high on prioritization but are more complex may require further analysis or funding from additional sources for construction. These projects will take more time to construct but grant applications or studies should be undertaken in the first five to ten years.</p>
	Lower	<p><b>Opportunities</b></p> <p>Projects that score lower on prioritization and are not very complex can be implemented as opportunities arise. These opportunities might include nearby development or capital projects with similar types of work.</p>	<p><b>Future Projects</b></p> <p>Projects that score lower on prioritization and are more complex are part of the long-term vision for active transportation in Chico, but the challenges to implement these projects likely outweigh the benefit they would currently offer. These projects would likely not be undertaken for at least 10 years.</p>
		Lower	Higher
<b>Project Complexity</b>			

## 6.6.2 Priority Recommendations

To provide a coordinated implementation of the facilities proposed, this plan groups the individual infrastructure recommendations into 19 projects. This way, projects that require coordination are funded simultaneously, such as raised bikeway facilities and raised intersections. It also ensures a comprehensive implementation approach that maximizes safety benefits. Many of the recommendations, such as improved bikeways and sidewalks, should be implemented along side crossing improvements, for the community to reap the greatest safety benefit.

Table 6.4 lists all 19 projects ranked highest to lowest, regardless of complexity, of which the top five projects are highlighted. Low complexity projects are ranked in Table 6.5, medium complexity projects in Table 6.6, and high complexity projects in Table 6.7. A detailed table of

project rankings by the prioritization criteria can be found in Appendix H.

County staff will use the recommendations when determining which projects to prioritize for implementation. The County reserves the right to implement projects in the order they see fit.

Recommendations may change over time as the County begins to implement the Plan, especially if other safety needs arise or if superior safety measures are identified. Given the various funding sources needed to fund these types of projects, County staff will also look at how available grant funding aligns with these recommendations. For example, lower priority recommendations may be considered when they better align with funding sources and grants

**Table 6.4** Priority Recommendations – All Projects

Ranking	Facility Types	Location	From Extent	To Extent	Complexity	Total Points
1	<b>Central Eighth Street</b>	Eighth Street	B Street	Pock Lane	Low	28
2	<b>D Street Improvements</b>	D Street	Nineth Street	Pock Lane	Medium	27
3	<b>North Sidewalk Improvements</b>	Fourth Street Fifth Street Sixth Street Seventh Street D Street Laurel Street Ash Street	B Street B Street B Street B Street Fifth Street Seventh Street Seventh Street	D Street D Street D Street D Street Eighth Street Eighth Street Eighth Street	Medium	26
4	<b>Central Class III Bicycle Boulevards</b>	Nineth Street, Tenth Street, and Eleventh Street	Bieghle Street	Pock Lane	Low	25
5	<b>North Pock Lane</b>	Pock Lane	Eighth Street	Loomis Road	High	24
6	South Pock Lane	Pock Lane	Loomis Road	Existing Sidewalk (1,250' south of Carpenter Road)	High	23
7	Central Sidewalk Improvements	Bieghle Street Eleventh Street Clover Lane Twelfth Street Thirteenth Street	Clover Lane Bieghle Street Bieghle Street End of Road County Limit	Tenth Street B Street B Street B Street B Street	Medium	21
8	East Eighth Street	Eighth Street	Pock Lane	Mariposa Road	Low	20

Ranking	Facility Types	Location	From Extent	To Extent	Complexity	Total Points
9	B Street	B Street	Fourth Street	Carpenter Road	High	17
10	Laurel Street and Ash Street Sidewalk Improvements	Laurel Street and Ash Street	Cul-de-Sac	Eleventh Street	Medium	17
11	Eleventh Street School Improvements	Eleventh Street School Trail	D Street	Pock Lane	Medium	17
12	D Street Class I	D Street	Fourth Street	Fifth Street	High	16
13	Bieghle Street Trail	Bieghle Street	Clover Lane	Thirteenth Street	High	16
14	Ralph Avenue and Ash Street Sidewalk Improvements	Ralph Avenue	B Street	Ash Street	Medium	14
15	West Duck Creek Trail	Duck Creek Trail	B Street	Pock Lane	High	14
16	West Eighth Street	Eighth Street	Airport Way	Bieghle Street	Low	14
17	Carpenter Road Trail	Carpenter Road Trail	B Street	Pock Lane	High	13
18	Michael Avenue and Laurel Street Sidewalk Improvements	Michael Avenue Laurel Street	B Street Michael Avenue	End of Road Cul-de-Sac	Medium	12
19	East Duck Creek Trail	Duck Creek Trail	Pock Lane	Frontage Road	High	6

**Table 6.5** *Priority Recommendations – Low Complexity*

Ranking	Facility Types	Location	From Extent	To Extent	Complexity	Total Points
1	Central Eighth Street	Eighth Street	B Street	Pock Lane	Low	28
4	Central Class III Bicycle Boulevards	Nineth Street, Tenth Street, and Eleventh Street	Bieghle Street	Pock Lane	Low	25
8	East Eighth Street	Eighth Street	Pock Lane	Mariposa Road	Low	20
16	West Eighth Street	Eighth Street	Airport Way	Bieghle Street	Low	14

Table 6.6 Priority Recommendations – Medium Complexity

Ranking	Facility Types	Location	From Extent	To Extent	Complexity	Total Points
2	D Street Improvements	D Street	Nineth Street	Pock Lane	Medium	27
3	North Sidewalk Improvements	Fourth Street Fifth Street Sixth Street Seventh Street D Street Laurel Street Ash Street	B Street B Street B Street B Street Fifth Street Seventh Street Seventh Street	D Street D Street D Street D Street Eighth Street Eighth Street Eighth Street	Medium	26
7	Central Sidewalk Improvements	Bieghle Street Eleventh Street Clover Lane Twelfth Street Thirteenth Street	Clover Lane Bieghle Street Bieghle Street End of Road County Limit	Tenth Street B Street B Street B Street B Street	Medium	21
10	Laurel Street and Ash Street Sidewalk Improvements	Laurel Street and Ash Street	Cul-de-Sac	Eleventh Street	Medium	17
11	Eleventh Street School Improvements	Eleventh Street School Trail	D Street	Pock Lane	Medium	17
14	Ralph Avenue and Ash Street Sidewalk Improvements	Ralph Avenue	B Street	Ash Street	Medium	14
18	Michael Avenue and Laurel Street Sidewalk Improvements	Michael Avenue Laurel Street	B Street Michael Avenue	End of Road Cul-de-Sac	Medium	12

Table 6.7 Priority Recommendations – High Complexity

Ranking	Facility Types	Location	From Extent	To Extent	Complexity	Total Points
5	North Pock Lane	Pock Lane	Eighth Street	Loomis Road	High	24
6	South Pock Lane	Pock Lane	Loomis Road	Existing Sidewalk (1,250' south of Carpenter Road)	High	23
9	B Street	B Street	Fourth Street	Carpenter Road	High	17
12	D Street Class I	D Street	Fourth Street	Fifth Street	High	16
13	Bieghle Street Trail	Bieghle Street	Clover Lane	Thirteenth Street	High	16
15	West Duck Creek Trail	Duck Creek Trail	B Street	Pock Lane	High	14
17	Carpenter Road Trail	Carpenter Road Trail	B Street	Pock Lane	High	13
19	East Duck Creek Trail	Duck Creek Trail	Pock Lane	Frontage Road	High	6

## 6.7 Funding

A variety of existing transportation funding sources as well as those more specifically aligned with bicycle and pedestrian uses exist. Many are limited to new construction, though some may also offer funds for maintenance of existing facilities. Capital Projects for bicycle and pedestrian facilities are typically funded through a combination of sources and not one single source.

### 6.7.1 Local and Regional Programs

#### **COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM**

The Community Development Block Grant (CDBG) Program is a flexible federal funding program that provides communities with resources to address a wide range of unique community needs. These funds are provided through the U.S. Department of Housing and Urban Development (HUD). These funds are allocated to the City annually and can be used for capital projects that remove a barrier to accessibility.

#### **SURFACE TRANSPORTATION BLOCK GRANT PROGRAM**

The Surface Transportation Block Grant (STBG) program provides funding for a variety of transportation projects, including pedestrian, bicycle, and transit projects.

The STBG program provides federal funds allocated from the Bipartisan Infrastructure Law (BIL) to each state. The state then allocates funds annually to localities based on population. Projects are submitted to SJCOG and nominated for funding.

#### **MEASURE K**

Measure K is a half-cent sales tax collected in the County and can finance or match funds for a wide variety of transportation projects, including pedestrian and bicycle infrastructure.

### 6.7.2 State Programs

#### **ACTIVE TRANSPORTATION PROGRAM (ATP)**

The ATP was created by SB 99 to encourage increased use of active modes of transportation, such as walking and biking. ATP consolidated various transportation programs into a single program and was originally funded at about \$123 million a year from a combination of state and federal funds. Senate Bill 1 (SB 1) directed an additional \$100 million annually to the ATP (see SB 1 – Road Repair and Accountability Act, below). Application cycles occur approximately every two years, typically in late spring or summer. Funding is awarded at both the state level through the Californian Transportation Commission (CTC) and at the regional level through BCAG. Applications for Cycle 7 are due June 17, 2024.

The goals of the ATP include, but are not limited to, increasing the proportion of trips accomplished by walking and biking, increasing the safety and mobility of non-motorized users, advancing efforts of regional agencies to achieve greenhouse gas (GHG) reduction goals, enhancing public health, and providing a broad spectrum of projects to benefit many types of users including disadvantaged communities. The ATP funds five project types, including:

- > Infrastructure projects
- > Plans
- > Non-infrastructure (NI) projects (educations and encouragement programs)
- > Infrastructure and NI combination projects (capital projects with an educational component)
- > Quick-build projects (temporary capital projects with low to moderate costs that last one to five years).

#### **AFFORDABLE HOUSING AND SUSTAINABLE COMMUNITIES PROGRAM (AHSC)**

The Affordable Housing Sustainable Communities (AHSC) Program funds land-use, housing, transportation, and land preservation projects to

support infill and compact development that reduce GHG emissions. The program assists project areas by providing grants and/or loans, or any combination thereof, that will achieve GHG emissions reductions and benefit Disadvantaged Communities through increasing accessibility of affordable housing, employment centers, and key destinations via low-carbon transportation resulting in fewer vehicle miles traveled through shortened or reduced trip length or mode shift from single occupancy vehicle use to transit, bicycling, or walking. The three Project Area types include:

- > Transit Oriented Development Project Areas
- > Integrated Connectivity Project Areas
- > Rural Innovation Project Areas

### **SB 1 – ROAD REPAIR AND ACCOUNTABILITY ACT**

The “Road Repair and Accountability Act” of 2017 (SB 1) invests \$54 billion over a decade to repair roads, improve traffic safety, and expand public transit systems across California, with funds split equally between state and local investments. SB 1 directs \$100 million annually to the ATP to fund infrastructure projects, program implementation, and plan development to increase bicycling and walking.

SB1 funds come to the City either directly or through one of several competitive programs. SB1 also created the Local Partnership Program (LPP), which continuously appropriates \$200 million annually from the Road maintenance and Rehabilitation Account to local and regional transportation agencies that have sought and received voter approval of taxes or that have imposed fees, which taxes or fees are dedicated solely for transportation improvements, to improve active transportation, aging infrastructure, road conditions, and other benefits. The LPP funds are distributed through both a formulaic program and a competitive program, for both

### **SUSTAINABLE TRANSPORTATION PLANNING GRANTS**

Caltrans Sustainable Transportation Planning Grants are available to communities for planning, study,

and design work to identify and evaluate projects, including conducting outreach or improving pilot projects. Communities are typically required to provide an 11.47 percent local match, with staff time or in-kind donations eligible to be used towards the match. Sustainable Transportation Planning Grants are available annually and applications typically open in the fall.

Three types of grants are available through this program, including Sustainable Communities Grants, Strategic Partnerships Grants, and Climate Adaptation Planning Grants.

## **6.7.3 Federal Programs**

### **CARBON REDUCTION PROGRAM**

The Carbon Reduction Program (CRP), established by the BIL, provides federal funding for projects designed to reduce transportation emissions, defined as carbon dioxide (CO<sub>2</sub>) emissions from on-road highway sources. CRP funds are available through 2026.

CRP funds may be used for transportation alternative projects including, but not limited to, the construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation. CRP funding is apportioned to regions and local agencies based on population, using the 2020 U.S. Census. California’s share of the CRP is \$106,704,653. Local funds are distributed by Metropolitan Planning Organizations and Regional Transportation Planning Agencies, in this case SJCOG, and can be awarded to projects that contribute to either zero emission vehicles and infrastructure, active transportation and micromobility, or rail and transit.

### **CONGESTION MANAGEMENT AND AIR QUALITY IMPROVEMENT PROGRAM**

The Congestion Management and Air-Quality Improvement Program (CMAQ) is a federal program funded through the BIL through 2026. It provides a flexible funding source to State and local governments for transportation projects and

programs to help meet the requirements of the Clean Air Act.

Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas). Eligible projects include funding for electric vehicles and charging stations, diesel engine replacements and retrofits, transit improvements, bicycle and pedestrian facilities, shared micromobility projects and more.

### **HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)**

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance.

To apply for HSIP funding, an agency must prepare a Local Road Safety Plan (LRSP) or, as of 2022 an LRSP equivalent, like a comprehensive safety action plan through the Safe Streets and Roads for All Program, a Systemic Safety Analysis Report, or a Vision Zero Action Plan. An LRSP provides a framework for organizing stakeholders to identify, analyze, and prioritize roadway safety improvements on local and rural roads. Funding is no longer available for the Local Road Safety Plan, but funding for equivalents is still available. Funding for HSIP projects is available through 2026.

### **PROMOTING RESILIENT OPERATIONS FOR TRANSFORMATIVE, EFFICIENT, AND COST-SAVING TRANSPORTATION (PROTECT) GRANTS**

The BIL included \$8.7 billion to create the PROTECT discretionary grant program with the purpose of helping local agencies improve the resiliency of their on-system transportation infrastructure. The program provides Federal funding to projects to

help communities address vulnerabilities due to weather, natural disasters, and climate change. The program also provides funds to plan transportation improvements and emergency response strategies to address those vulnerabilities. Vulnerabilities the program addresses include, but are not limited to, current and future weather events, increasing frequency and magnitude of natural disasters, and changing climate conditions, including sea level rise. PROTECT grants include resilience improvement grants, community resilience and evacuation route grants, and at-risk coastal infrastructure grants.

The PROTECT program funds are distributed Federally and by formula and competitive grants. Funds are available through 2026.

### **REBUILDING AMERICAN INFRASTRUCTURE WITH SUSTAINABILITY AND EQUITY (RAISE) GRANTS**

RAISE Grants are federal grants awarded on a competitive basis by the US Department of Transportation (USDOT) for investments in surface transportation infrastructure that will have a significant local or regional impact. RAISE Grant Funds were authorized under the Local and Regional Assistance Program in the Infrastructure Investment and Jobs Act, known as the Bipartisan Infrastructure Law (BIL). RAISE grant funding cycles are renewed on an annual basis.

Eligible grantees include public or government agencies or authorities, units of local government, special purpose districts, transit agencies, federally recognized Indian Tribes, and multi-state or multijurisdictional groups of entities. The Federal share grant may fund up to 80 percent of the costs of projects located in an urban area and up to 100 percent of the costs of a project located in a rural area, a historically disadvantaged community, or an area of persistent poverty.

### **RECONNECTING COMMUNITIES AND NEIGHBORHOODS PROGRAM**

The Reconnecting Communities and Neighborhoods (RCN) Program combines two Federal funding opportunities: the Reconnecting Communities Pilot (RCP) and the Neighborhood Access and Equity

(NAE) Program. Both programs address transportation barriers that have negatively impacted connectivity and access to resources in disadvantaged communities. Funding for the RCN Program is available through 2026.

There are three grant types available through the RCN Program: RCP Planning Grants, RCP Capital Construction Grants, and NAE Community Planning, Capital Construction, and Regional Partnership Challenge Grants. The maximum award for RCP Community Planning Grants is 80%, with a 20% minimum recipient match. The maximum award for RCP Capital Construction Grants is 50%, with a 20% minimum recipient match and opportunity to fund the rest with other federal moneys. The maximum award for NAE Grants is 80%, with a 20% minimum recipient match, unless the community is disadvantaged or underserved, for which the local match requirement is waived.

Funding supports planning grants and capital construction grants, as well as technical assistance, to restore community connectivity through the removal, retrofit, mitigation, or replacement of eligible transportation infrastructure facilities, including active transportation improvements.

## **SAFE STREETS AND ROADS FOR ALL (SS4A) GRANTS**

The SS4A funding program was established following passage of BIL in 2021, with the first competitive application cycle commencing in 2022. Funding will be available through 2026.

Local government agencies may directly apply to the program, with funding being provided in three categories: Action Plans, Supplemental Planning, and Implementation Grants. Applications for all three categories must be focused on implementing complete streets which will ultimately reduce serious injuries and fatalities for roadway users. Action Plan grants fund development of a qualifying Plan to support complete streets and reduction of roadway fatalities/serious injuries. Supplemental Planning activities include follow-up efforts to further the existing Action Plans. Implementation Grants, which implement activities from existing action plans, including constructing roadway safety treatments, including systemic safety fixes, constructing complete streets facilities such as walking and bicycling facilities, and non-infrastructure program activities to support the infrastructure investments.





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