



ACTIVE

TRANSPORTATION

PLAN



CITY OF CHULA VISTA®



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ES

Executive Summary



Project Overview & Planning Process

The Chula Vista Active Transportation Plan (ATP) focuses on enhancing the safety and comfort of existing pedestrian and bicycle facilities as well as increasing connectivity to key attracting land uses such as schools, employment centers, retail districts, and recreational areas. This plan was developed by taking a comprehensive look at the current active transportation environment and users as well as previous planning efforts. This information, combined with input from residents and project stakeholders, shaped the development of recommendations for bicycle and pedestrian improvements and the overall ATP.

Community Engagement

A Stakeholder Working Group (SWG) was convened early in the planning process to shape the community engagement methods and general approach to the plan. The members were comprised of representatives from multiple public agencies and City departments, non-profits and advocacy organizations, residents, school districts, and law enforcement. Each SWG member was tasked with representing their unique perspective, identifying priorities, and providing feedback on draft deliverables. Additionally, the SWG reported back to the organizations they represented,

helping spread the word about the plan development and opportunities for the public to participate.

In total there were three SWG meetings. The first meeting discussed priorities, provided input on the outreach approach, and reviewed the existing conditions data. During the second SWG meeting, the group refined project goals and strategies and discussed concepts that would ultimately become the draft active transportation networks. The third and final SWG meeting involved finalizing the proposed networks and prioritization criteria.

As advised by the SWG input, the community engagement process was guided by a “go to the people” approach in an effort to garner broader, more diverse participation and reach community members that may not attend traditional public meetings. Considering the large geographic size and differing characteristics across Chula Vista, Phase I and Phase II outreach events were conducted in both the western and eastern halves of the City, ensuring equitable geographic distribution. Importantly, each engagement medium was presented in both English and Spanish. Bilingual project team members were also present at all events.

The public outreach efforts involved a variety of engagement methods in addition to the SWG meetings, including a project fact sheet, website, questionnaire and mapping exercise, and attendance at community events. The Chula Vista ATP community engagement process was conducted through two phases: Phase I outreach focused on identifying the key issues and opportunities related to the existing state of active transportation; Phase II involved soliciting feedback on network concepts and identifying community priorities.

A questionnaire was disseminated during the first phase of outreach. The

questionnaire was available as a paper hard copy and in an electronic format online. The questionnaire asked questions regarding travel modes, locations where residents felt comfortable and uncomfortable walking and biking, as well as, transit access and use. There was a total of 226 completed questionnaires.

A mapping exercise enabled participants to provide location specific input. The mapping exercise was available online and at pop-up outreach events. Respondents were asked to identify locations where they feel comfortable and uncomfortable walking and biking in Chula Vista. Supporting information was also provided for each location identified, identifying what made the location comfortable or uncomfortable. In total, 1,354 pins were placed on the map.

Phase I pop-up outreach events were held at the City of Chula Vista's Earth Day Celebration on April 6, 2019 in Memorial Park and the Day of the Child event on April 27, 2019 in Memorial Park, as well as, at the Otay Ranch Town Center Farmers Market on May 14, 2019. Public input themes heard during the first phase of outreach included a desire for calmer and safer traffic conditions, safe and secure public spaces, connected communities, and comprehensive street lighting.

Phase II included pop-up events at HarborFest on August 17, 2019, and at the Otay Ranch Town Center Farmers Market on August 20, 2019. The purpose of the second phase of outreach was to gain public input regarding the existing networks, prioritization criteria, and to receive input from youth about what would make their neighborhood better for walking and biking.

The public input themes heard during the second phase of outreach were regarding slowing traffic on neighborhood streets, focusing on safety in areas with high pedestrian traffic, creating safe bikeways on high-speed streets, closing gaps that exist in the current sidewalk and bicycle network, and prioritizing high collision areas around schools and transit.



Existing Conditions

An extensive research and data collection effort was undertaken at the project onset to inform the identification of existing issues and opportunities. This information was analyzed and memorialized in an Existing Conditions Report (ECR), documenting the state of pedestrian and bicycle demand, facility quality, network connectivity, and user safety in Chula Vista.

Key opportunities identified include the strong street grid present in western Chula Vista; the wide lane widths present in eastern Chula Vista; and the significant high-quality public transit investments in the Blue Line Trolley and South Bay Rapid Bus. These opportunities also largely coincide with some of the greatest constraints facing active transportation, including the largely built-out environment and narrow streets in western Chula Vista, which limit potential improvement types; the high-speed arterials in eastern Chula Vista resulting in uncomfortable bicyclist environments; and the limited freeway crossings with comfortable connections for pedestrians and/or bicyclists. These findings, along with the themes identified throughout the community engagement process played a large role in the formulation of project recommendations.

Goals and Strategies

The community engagement and existing conditions findings were used to develop the goals intended to guide development of the plan recommendations and future pedestrian and bicycle activities in the City. The goals were supported by a series of strategies, covering topics related to the five E's of planning: engineering, education, encouragement, enforcement, and evaluation. The following four overarching goals were identified as desired future outcomes for active transportation within Chula Vista:

- A mobility network that provides safe and convenient travel for pedestrian,

bicycle and micro-mobility modes between residential areas, activity centers, recreational resources, schools and transit.

- An accessible mobility network that meets the needs of travelers of all ages and abilities and is supported by programs and high-quality infrastructure.
- An environment that allows for school aged children to safely walk and ride their bicycles to school on convenient and connected routes.
- A mobility network that is well-integrated with the City's land uses, is flexible and adaptable to change, and aligned with the Climate Action Plan which seeks to reduce greenhouse gas emissions.



Recommendations

In addition to goals and strategies, the ATP includes recommendations consisting of a sidewalk infill hierarchy process, pedestrian route typology system, bicycle network, a discussion on emerging mobility trends, and programmatic recommendations. The recommendations sought to address the key themes gathered through the community engagement activities and the opportunities and constraints identified through the existing conditions analysis.

The sidewalk infill hierarchy process was established with the intent of filling gaps where they would provide the greatest safety benefit and also have the potential

to benefit the greatest number of users. To address this, missing sidewalks identified through a citywide sidewalk inventory effort were overlaid with the City's currently adopted Circulation Element roadways. From this subset, missing sidewalks along roads with four or more lanes were identified.

These locations are understood to have greater vehicular travel speeds and traffic volumes, while also serving as critical links in the transportation network, justifying the importance of providing continuous and complete sidewalks. **Figure ES-1** identifies the top tier locations of the sidewalk infill hierarchy.

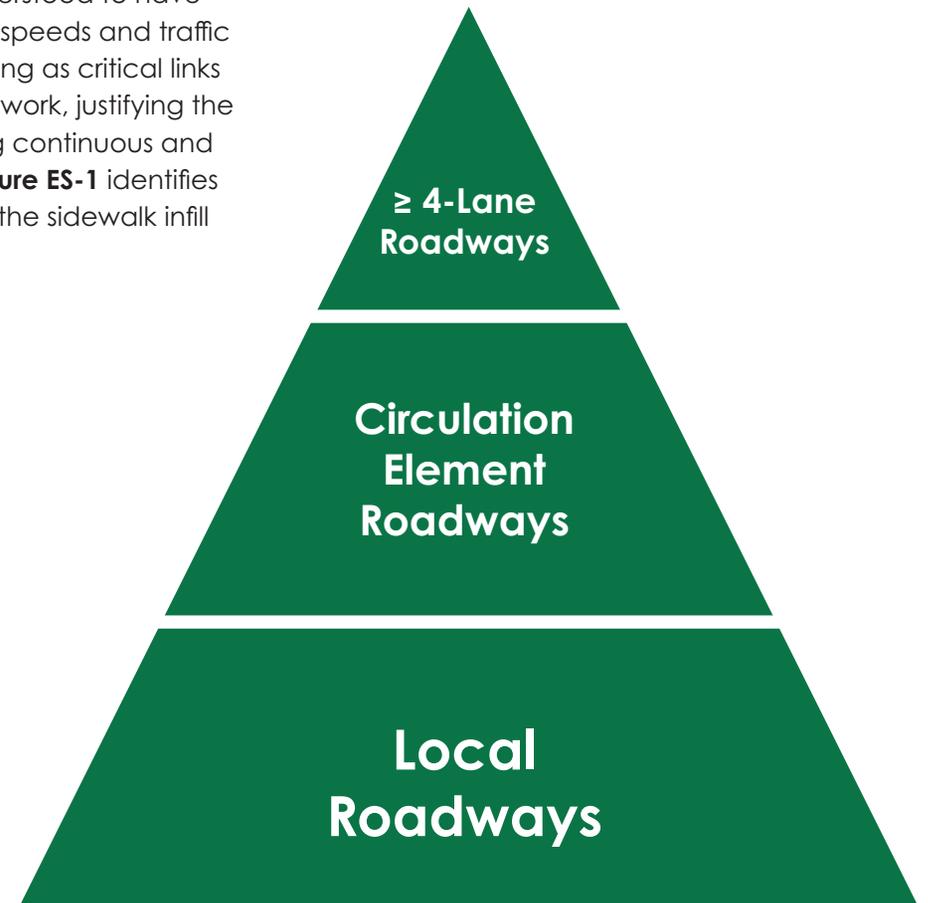
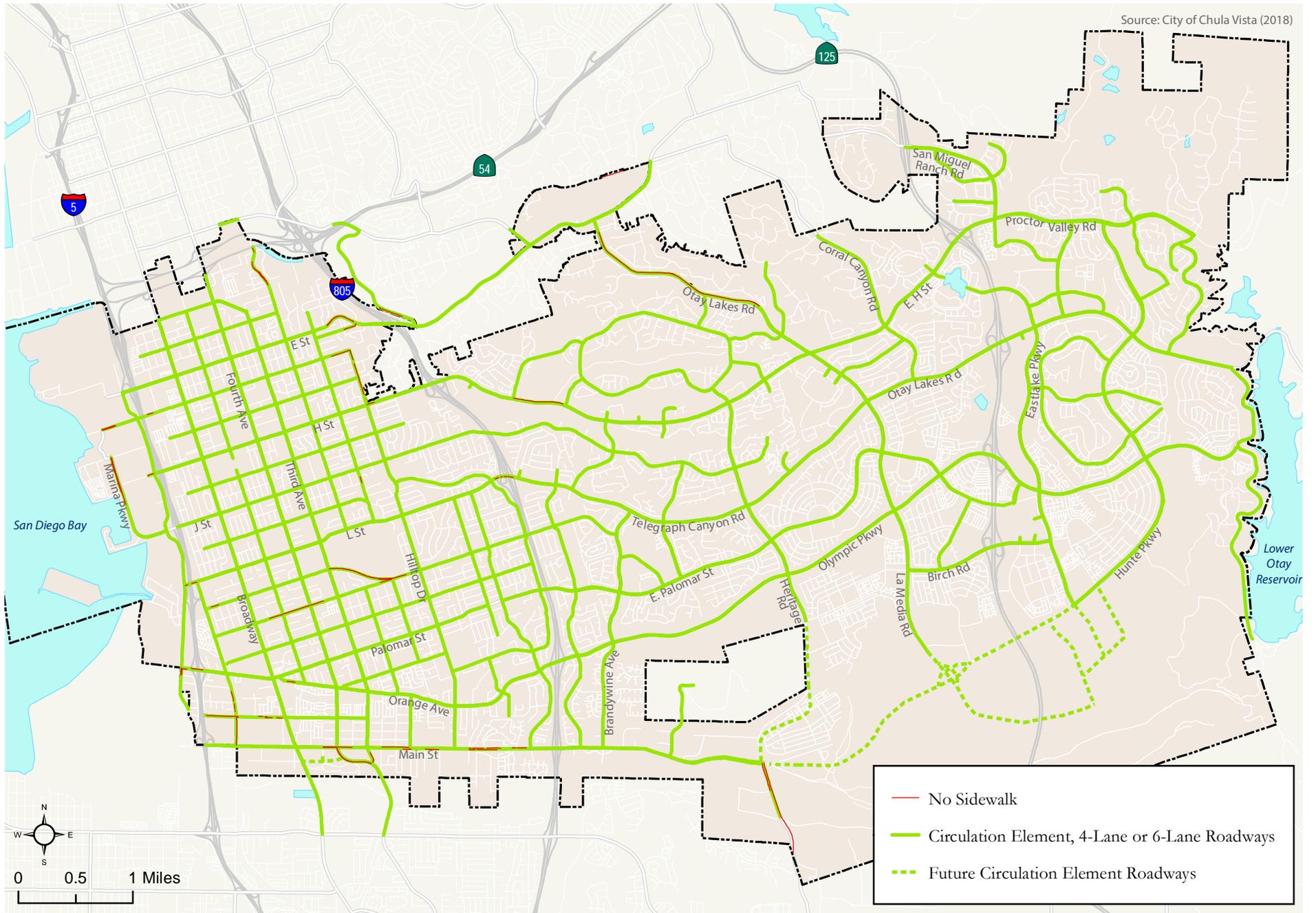


Figure ES-1: Top Tier Location of Sidewalk Infill



A pedestrian route type classification system was developed to categorize roadways based on existing or desired characteristics of the walking environment, adjacent uses, and destinations served. This route type system will help to focus treatments and safe crossings within high pedestrian activity areas and establish a mechanism for identifying future site-specific improvements citywide. Three route type designations are proposed for Chula Vista:

- Connectors – Intended for areas with low pedestrian activity. Connectors commonly bridge the gap between residential neighborhoods and Corridor route types. Consist of standard sidewalks, accessible curb ramps, and marked crosswalks at signalized intersections.

- Corridors – Intended for areas with moderate pedestrian activity. Corridors support commercial uses, schools and parks, and lead to high quality transit stations, necessitating more enhanced features, such as wide sidewalks, high visibility crosswalks, pedestrian lighting, lead pedestrian intervals and countdown signal heads at signalized intersections.
- Districts – Intended for areas with the greatest pedestrian activity, such as areas around downtown and the urban core, and areas where mixed-use developments are concentrated. In addition to Connector and Corridor features, Districts may include increased landscaping and buffers from the roadway, curb extensions, and pedestrian street furnishings.

Figure ES-2 depicts a prototypical design of each route type, while **Figure ES-3** displays the pedestrian route types across the City. The bicycle network development revolved around a desire to strengthen east-west connections across I-805, provide protected facilities where possible, create comfortable bicycling environments along constrained roadways, and continue to improve connections to transit stations.



Figure ES-2: Route Types

Connectors



Corridors



Districts

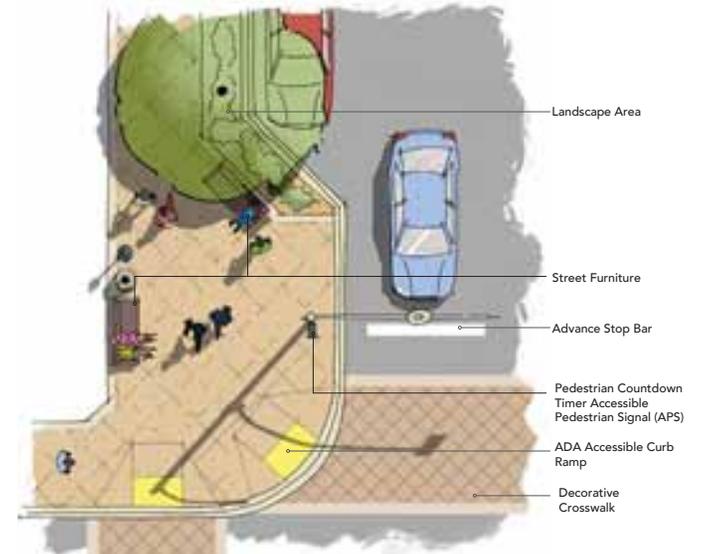
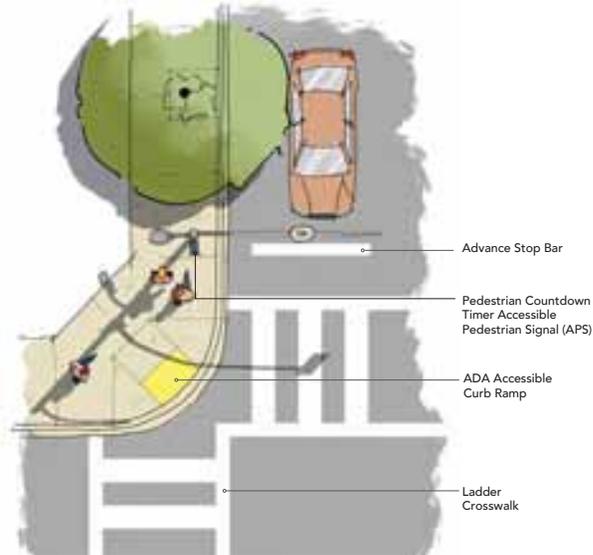
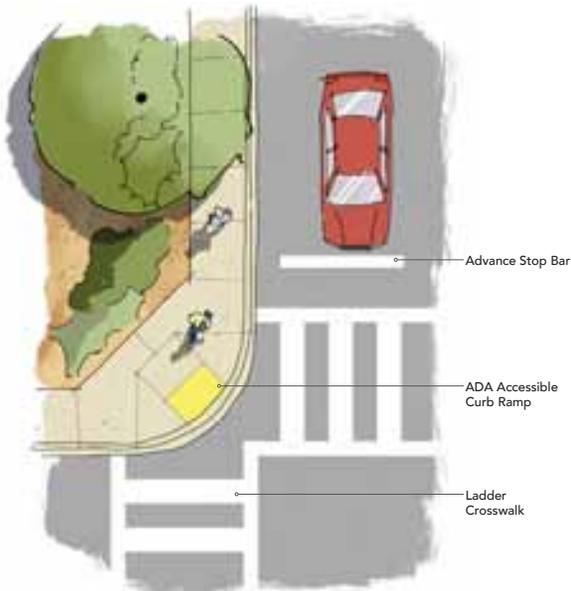
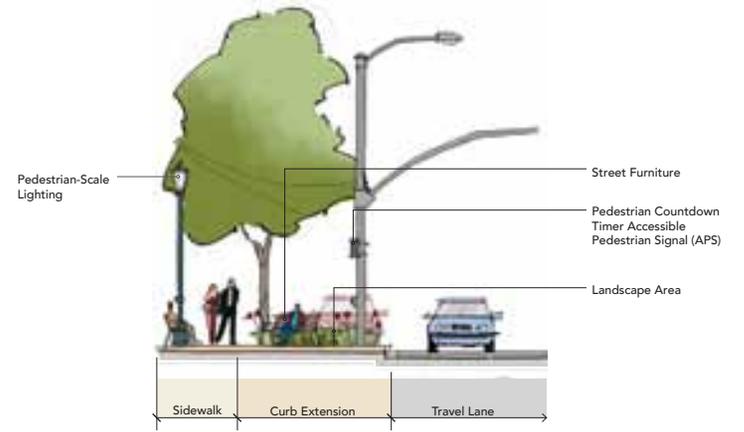


Figure ES-3: Pedestrian Route Types

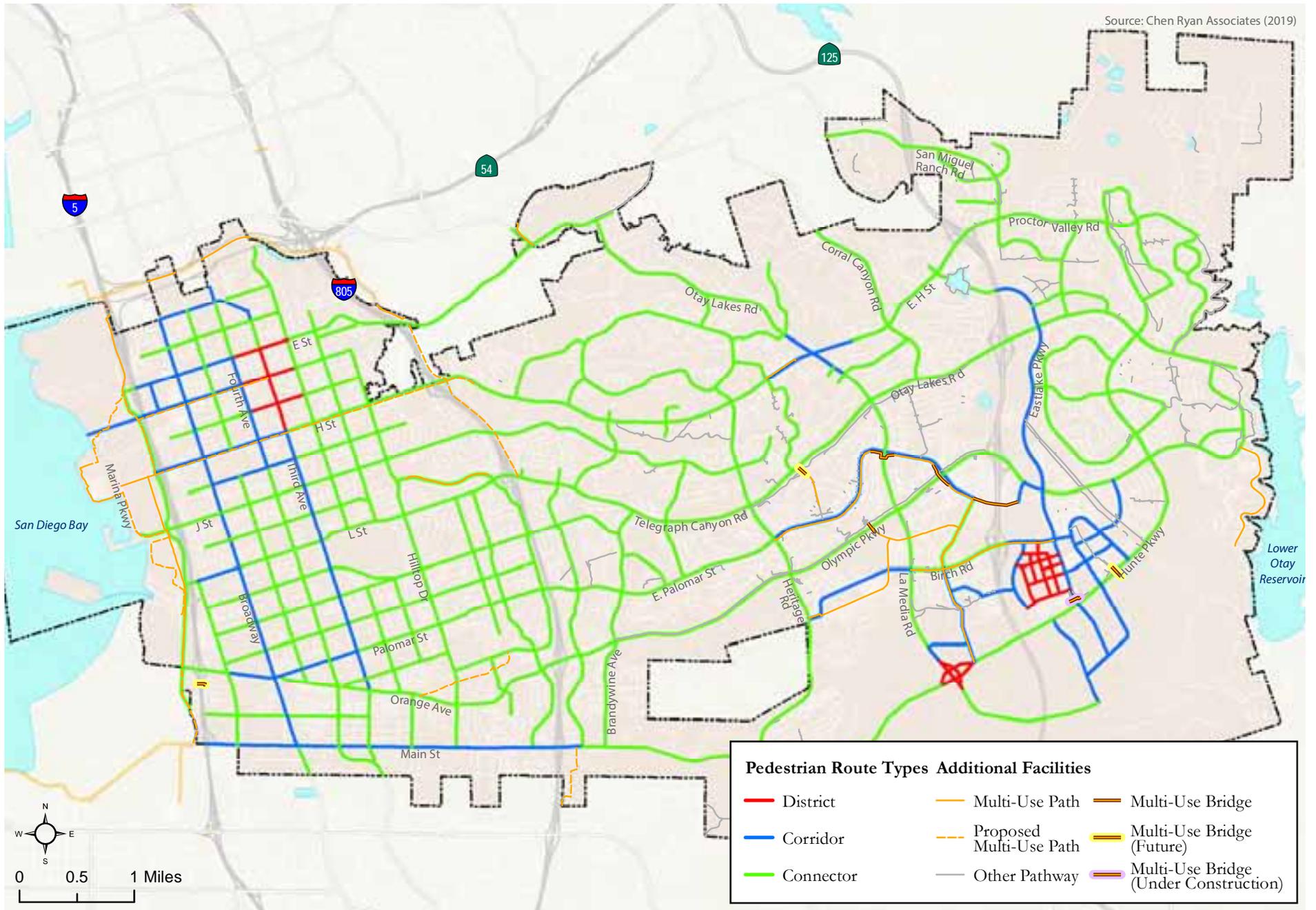


Figure ES-4: Bicycle Facilities

Crossing of the I-805 was addressed by building on the Urban Core Specific Plan recommendation for multi-use paths along H Street, continuing the path to connect with the planned I-805 Connector multi-use path and existing bike lane along east H Street. Bicycle boulevards are planned for the two roadways that traverse I-805 without on-/off-ramps, including J Street and Naples Street. Bicycle boulevards will include traffic calming features and enhanced signage intended to make a more comfortable bicycling environment along these constrained roadways while enhancing a necessary connection.

Recommended protected facilities consist of multi-use paths and cycle tracks. The multi-use paths largely align with recommendations set forth in other planning documents adopted at the regional and local levels. Cycle tracks are planned to address the high-speed roadways present along many of the major arterials in eastern Chula Vista. The wide lane widths along these roadways may be narrowed, with the excess space repurposed to provide for physical buffers between the bikeway and vehicular travel lane.

Figure ES-4 provides a depiction of the four bicycle facilities recognized by Caltrans. The planned bicycle network is shown in **Figure ES-5**.



Class I Multi-Use Paths

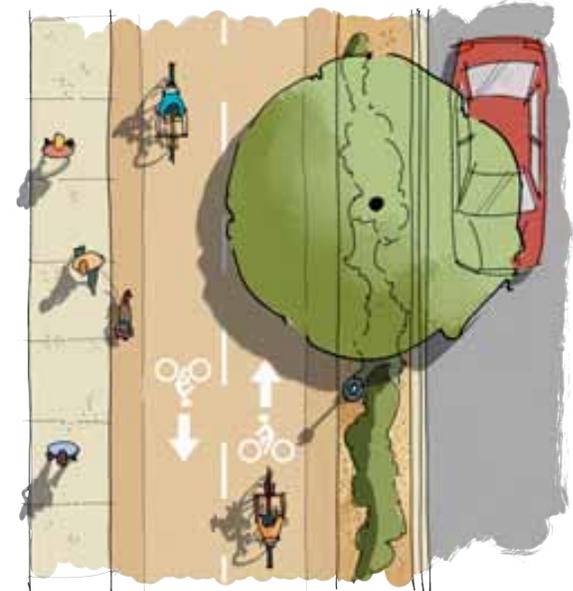
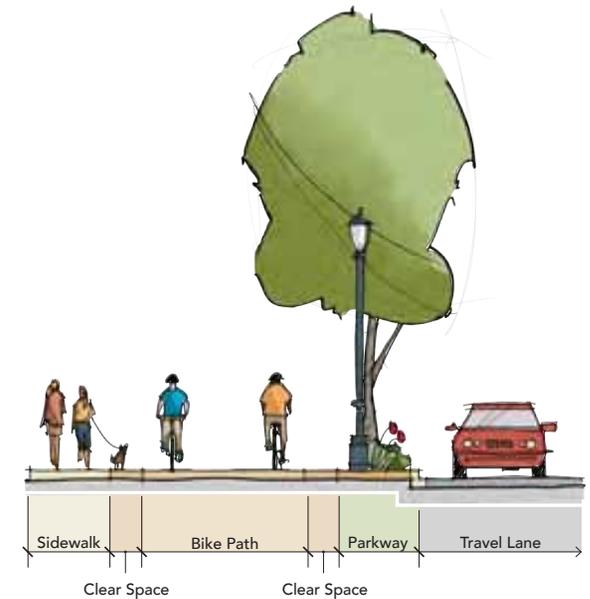


Figure ES-4: Bicycle Facilities (continued)

Class II Bike Lanes



Class III Bike Routes



Class IV Cycle Tracks

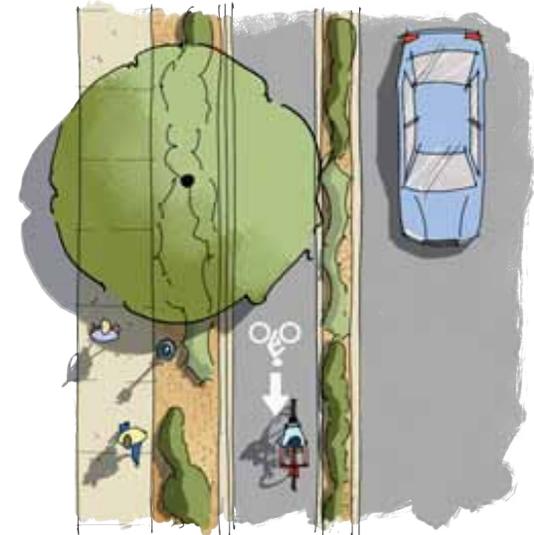
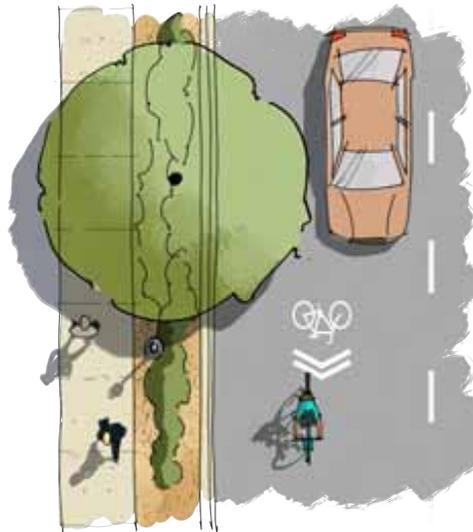
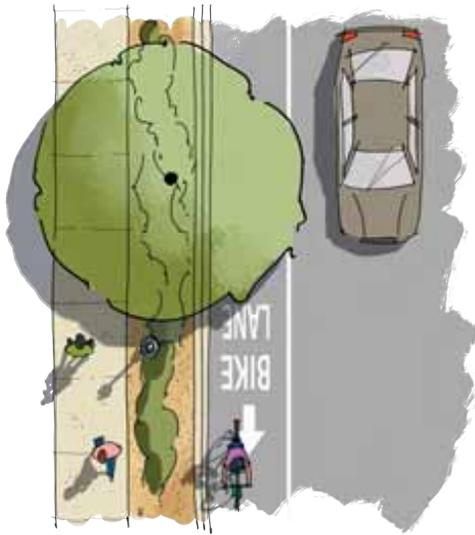
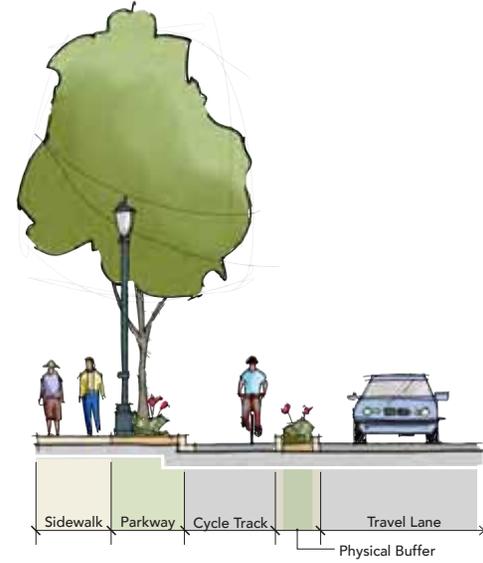


Figure ES-5: Planned Bicycle Network

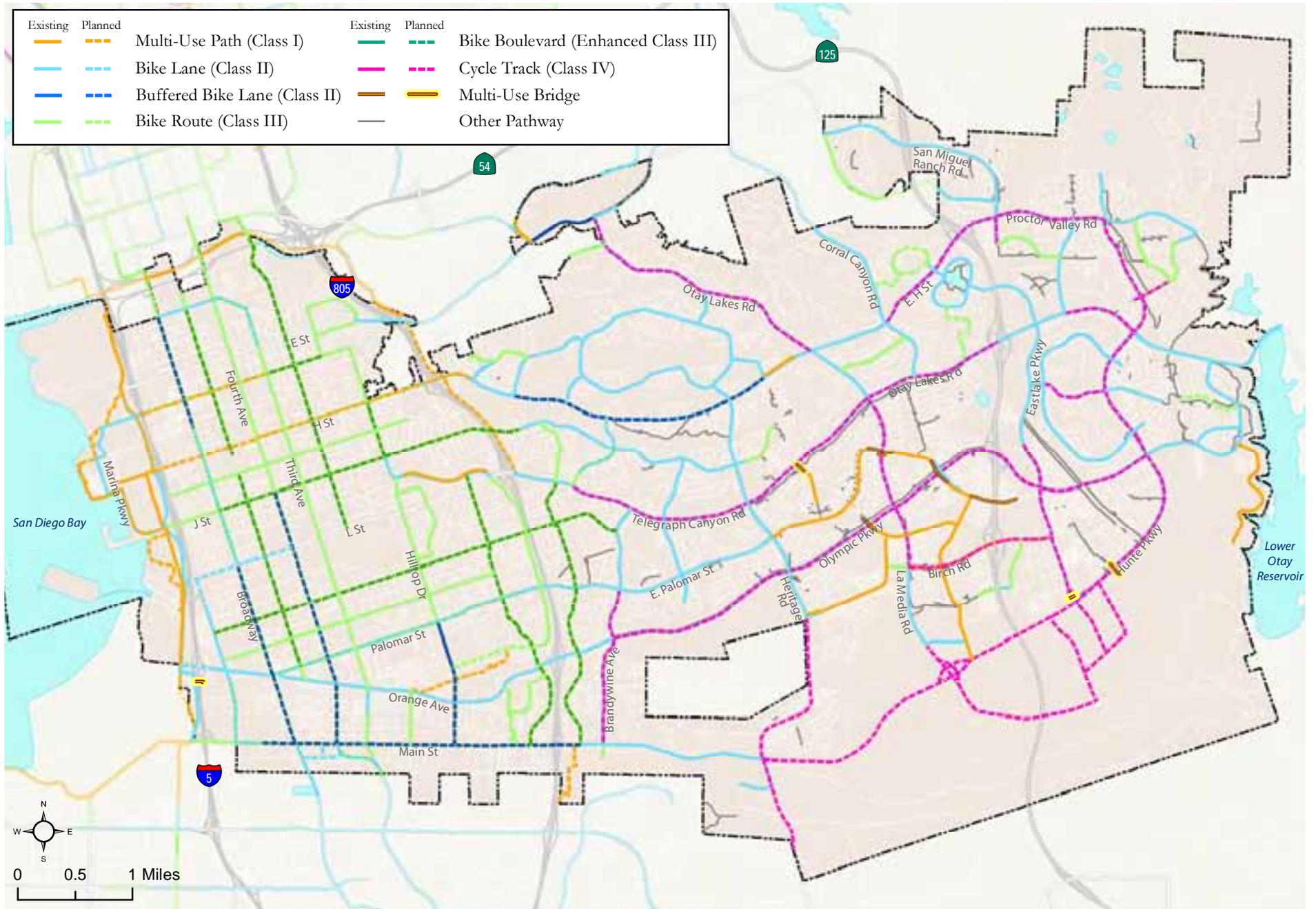


Table ES-1: Top 10 Sidewalk Infill Projects

Prioritization Process

A prioritization process was established as a means to objectively rank the planned bicycle facilities and sidewalk infill project. Prioritization criteria consists of inputs related to demand and safety. Within the demand-related prioritization criteria, projects were assigned point values based on school proximity, active transportation propensity, regional significance, and public comment. Within the safety-related prioritization criteria, projects were assigned point values based on number of collisions, CalEnviroScreen, gap closure, and staff input.

Table ES-1 presents the 10 highest ranking sidewalk infill projects. **Table ES-2** presents the 10 highest ranking bicycle facilities. High priority project sheets and cost estimates were created to support each of the 10 highest ranking sidewalk infill projects and bicycle facilities.

Rank	Street	From	To	Side of Street	Length (Ft)
1	Industrial Blvd	Ada St	Anita St	West	894
2	Main St	Del Monte Ave	Albany Ave	North	1,270
				South	359
3	Main St	Reed Ct	Mace St	South	647
4	Palomar St	Bay Blvd	I-5 NB On/Off-Ramp	North	554
				South	270
5	F St	I-5	Woodlawn Ave	North	225
6	Orange Ave	300' west of Crann Ave	100' east of Crann Ave	South	367
7	Anita St	400' east of Jayken Way	Silvas St	South	648
8	Main St	350' west of Date St	200' west of Melrose Ave	North	1,996
				South	1,248
9	Moss St	Third Ave	1st Ave	North	3,040
				South	562
10	Beyer Way	Main St	4th Ave	East	524

Table ES-2: Top 10 Bicycle Projects

Rank	Street	From	To	Facility
1	H Street / East H Street	Bay Boulevard	Third Avenue	Multi-Use Path (both sides)
		Third Avenue	Hilltop Drive	Multi-Use Path (south side)
		Hilltop Drive	I-805 SB Ramps	Multi-Use Path (south side)
		I-805 SB Ramps	Hidden Vista Drive	Multi-Use Path (south side)
2	Main Street	Jacqua Street	Oleander Avenue	Buffered Bike Lane
3	J Street / East J Street	Broadway	Floyd Avenue	Bike Boulevard
4	"Palomar Street / East Palomar Street"	Broadway	Fourth Avenue	Bike Lane
		Fourth Avenue	Hilltop Drive	Bike Lane
		Hilltop Drive	Nolan Avenue	Bike Lane
5	Fourth Avenue	J Street	South City Limit	Buffered Bike Lane
6	Bay Boulevard	E Street	H Street	Multi-Use Path
7	F Street	Bay Boulevard	Third Avenue	Multi-Use Path
8	5th Avenue	C Street	H Street	Bike Boulevard
9	Bay Boulevard	Palomar Street	Anita Street	Multi-Use Path
10	L Street	Bay Boulevard	Broadway	Bike Lane
		Broadway	Fourth Avenue	Bike Lane

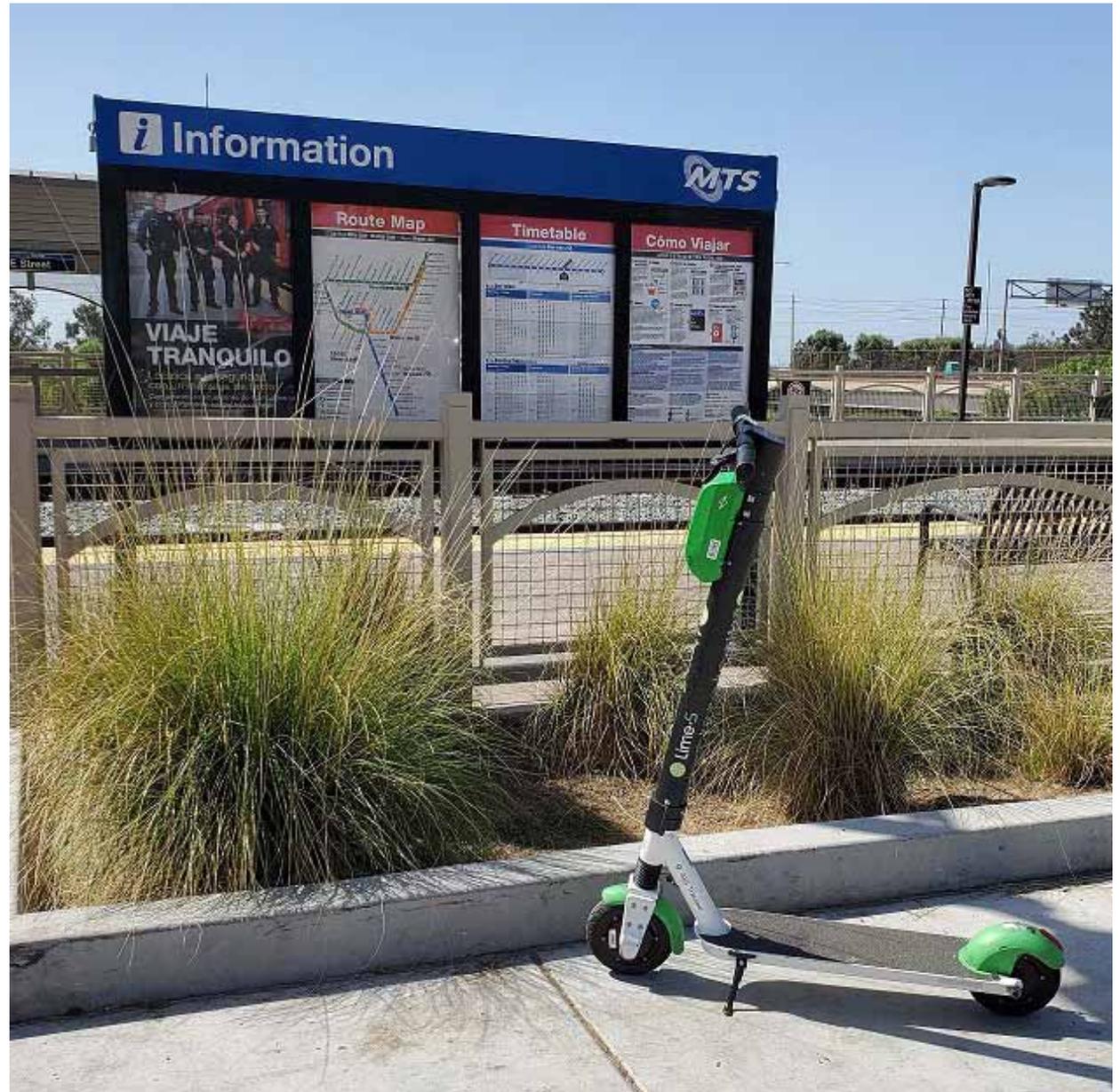
Supporting Programs & Emerging Mobility

This ATP also includes recommended programs to support the infrastructure. Active transportation plans frequently discuss proposed changes through the lens of the “5 E’s” – Engineering, Education, Encouragement, Enforcement, and Evaluation. Engineering is covered through the proposed infrastructure projects. The remaining four E’s – Education, Encouragement, Enforcement, and Evaluation – are addressed through supporting programming.

The supporting program section includes Education Programs such as Safety Messaging Campaigns, Adult Bicycle Education, and Safe Routes to School programming. In addition, the supporting programs section includes Encouragement Programs such as Bike to Work Day/Month, Open Streets Events, and Pop-Up Neighborhood Event. Two other important programmatic considerations are Enforcement Programs and Evaluation Programs. Evaluation Programs are intended to strengthen City staff and community member understanding of behaviors, active travel patterns, and related responses to investments in cycling and walking infrastructure and programmatic efforts. These types of programs include continued evaluation of pedestrian and bicycle collisions and continued collection of pedestrian and bicycle counts.

The emerging mobility section includes information on shared micro-mobility as well as trends in mobility. Shared micro-mobility devices are transportation devices intended for short point-to-point trips; this includes bicycles, electric bicycles as well as electric and motorized scooters. These vehicles are generally rented through a mobile app or a kiosk and are picked up and dropped off in the public right-of-way. This chapter looks at shared micro-mobility both as First/Last Mile Access to Transit and as Transportation for Short Trips, in addition the chapter presents information on Transportation Data, Low Impact Transportation, Equity as well as Parking and Riding shared mobility devices. The Chapter looks more closely at Advisory Bicycle Lanes and Neighborhood Electric Vehicles.

The document concludes with case studies describing potential activity responses related to the planned facility enhancements as well as discussions on facility maintenance and potential funding sources to consider pursuing.







1.0

Introduction



1.1 Background & Legislative Context

The City of Chula Vista Active Transportation Plan (ATP) lays the foundation for bicycle and pedestrian improvements within the City of Chula Vista public right-of-way for the foreseeable future. This plan focuses on enhancing the safety and comfort of existing pedestrian and bicycle facilities as well as increasing connectivity to key attracting land uses such as schools, employment centers, retail districts, and recreational areas.

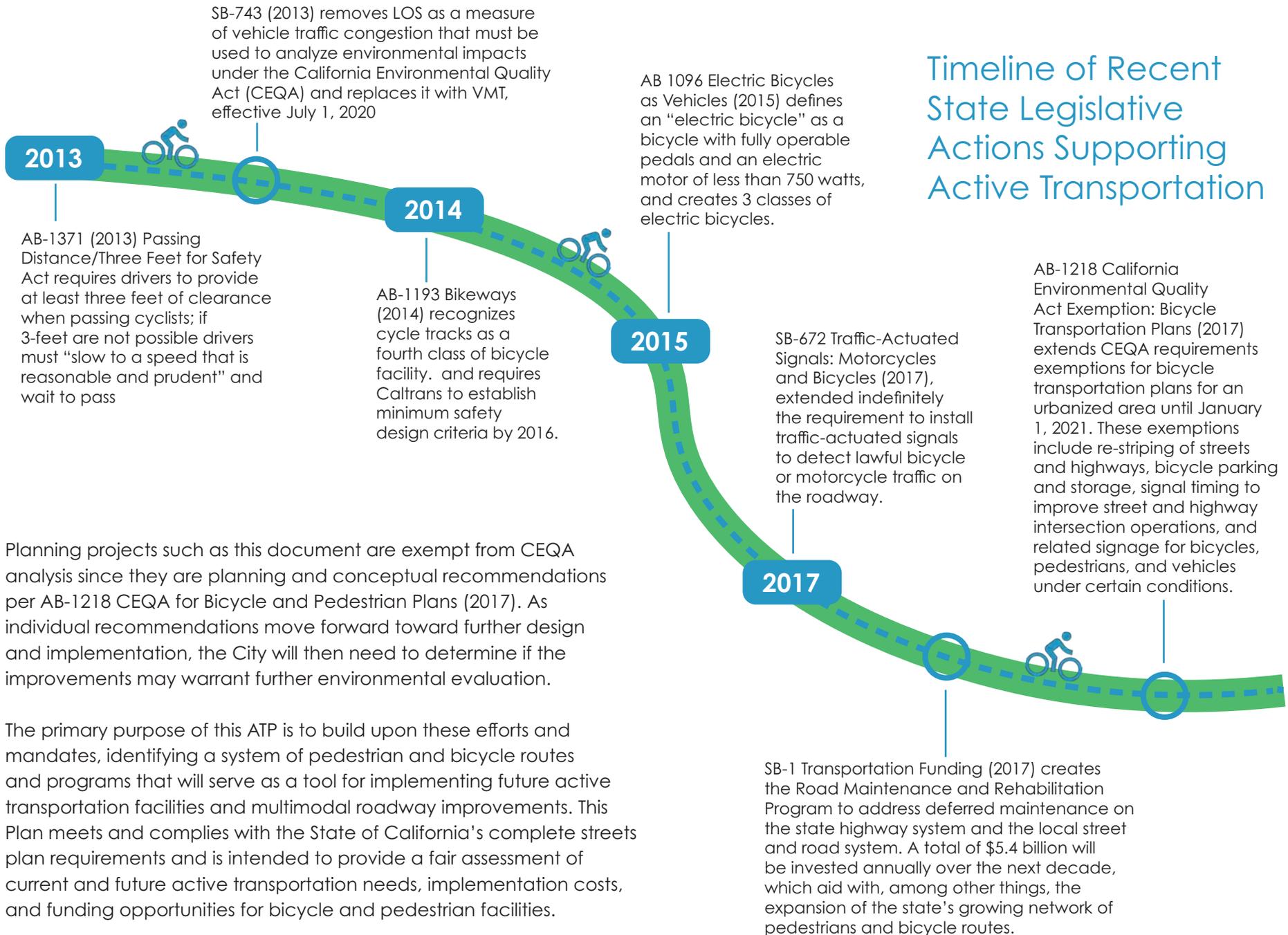
This represents the City's inaugural ATP. The City was recently successful in pursuing Active Transportation Grant Program funding from the San Diego Association of Governments (SANDAG) for the development of this Plan. This ATP will build upon and unify recommendations set forth in the plans proceeding this effort: the adopted Bikeway Master Plan (2011) and the adopted Pedestrian Master Plan (2010).

This Plan embodies a "Complete Streets" mindset that is compatible with the State of California's Complete Streets Act, California Assembly Bill 1358, which went into effect on January 1, 2011. The act requires the legislative body of a city or a county to plan for a balanced, multimodal transportation network that meets the needs of all roadway users, defined to include motorists,

pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban, or urban context of the general plan. Consistent with the Complete Streets Act, and to formalize their commitment to users of all modes and abilities, the City of Chula Vista adopted its own Complete Streets Policy, effective August 18, 2015.

The Complete Streets Act set the mandate to plan for a multimodal transportation system and since that time, the state of California has passed several pieces of legislation making it easier to not only plan for active transportation users, but to implement plans and create safer conditions.

Timeline of Recent State Legislative Actions Supporting Active Transportation



Planning projects such as this document are exempt from CEQA analysis since they are planning and conceptual recommendations per AB-1218 CEQA for Bicycle and Pedestrian Plans (2017). As individual recommendations move forward toward further design and implementation, the City will then need to determine if the improvements may warrant further environmental evaluation.

The primary purpose of this ATP is to build upon these efforts and mandates, identifying a system of pedestrian and bicycle routes and programs that will serve as a tool for implementing future active transportation facilities and multimodal roadway improvements. This Plan meets and complies with the State of California's complete streets plan requirements and is intended to provide a fair assessment of current and future active transportation needs, implementation costs, and funding opportunities for bicycle and pedestrian facilities.

In 2015, the City of Chula Vista Complete Streets Policy went into effect.

“

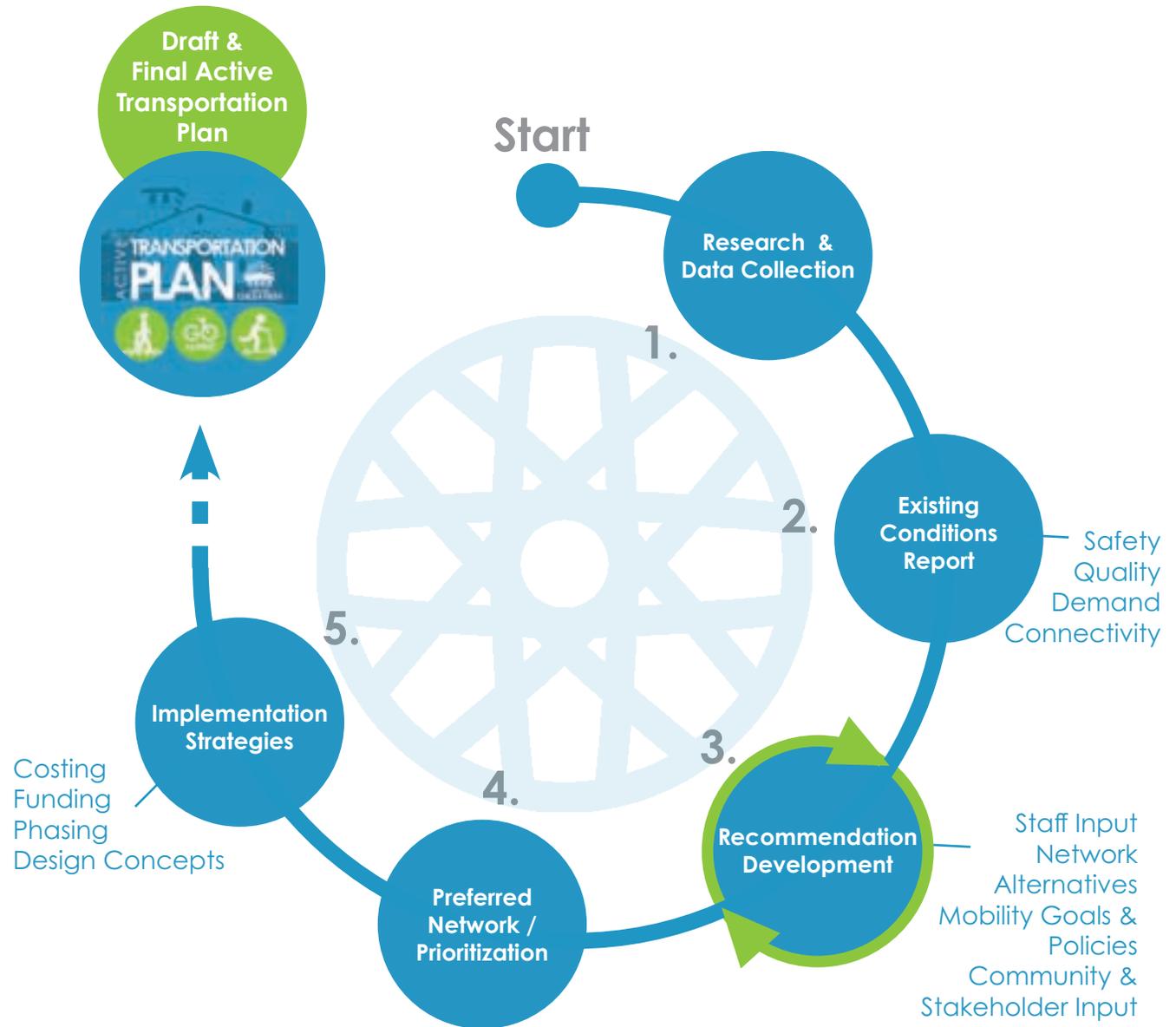
The Complete Streets Policy outlines how the City will integrate “Complete Streets” design considerations and best practices into its community planning and municipal operations. The City of Chula Vista will ensure that all future roadway projects accommodate the safety, access, and convenience of all users of the transportation systems such as motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation.”



1.2 Plan Development Process

The Chula Vista ATP process included extensive public input. Public input was solicited through outreach activities as well as through an empaneled Stakeholder Working Group.

Alongside the public input, the plan development process included a series of steps which included, research and data collection to establish a baseline of existing conditions, developing recommendations based off of the existing goals and policies contained in the adopted Bikeway Master Plan and Pedestrian Master Plan, refining the recommendations based on community and City staff input, and then drafting the ATP.



1.3 How to Use This Plan (Purpose)

This plan unifies all the goals, objectives, policies and recommendations from the proceeding plans. This allows the City to stay current in meeting the needs of its residents and visitors in light of development and changes that have taken place in the City over the last decade. Additionally, it identifies projects for the City's Capital Improvement Program (CIP), as well as, makes Chula Vista competitive for grant funding.

This plan responds to the provisions of the State of California Active Transportation Program (ATP) administered by California Department of Transportation (Caltrans), which defines specific requirements that an active transportation plan must comply with in order to be eligible for ATP grant funds for construction of active transportation facilities. The criteria are provided as

Appendix A: Caltrans Checklist.

1.4 Compatibility with Local and Regional Plan

This ATP is intended to be complimentary to many of the foregoing planning efforts undertaken by the City of Chula Vista as well as regional efforts by incorporating the recommendations and aligning with the goals and policies previously set forth.

The following documents were reviewed:

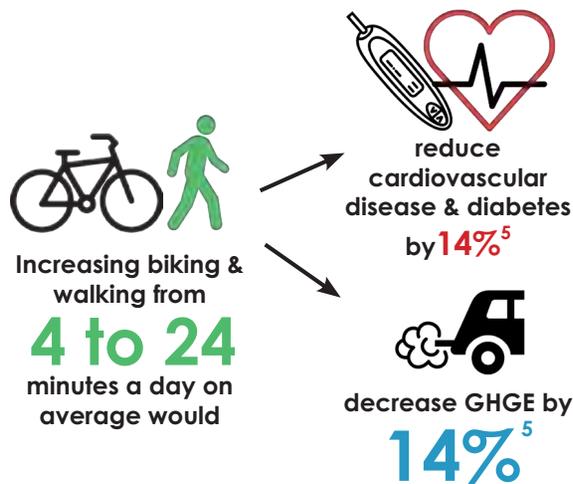
- Bicycle Friendly Community Report Card (2018)
- Pedestrian Connectivity Plan (2018)
- Active CIP Projects List (2018)
- Parks & Recreation Master Plan Update (2018)
- F Street Promenade Streetscape Master Plan (2018)
- Chula Vista Complete Streets Safety Assessment (2017)
- Chula Vista Elementary School District Safe Routes to School Master Plan (2017)
- Otay Valley Regional Park Concept Plan Update (2017)
- Bike Lanes on Broadway Feasibility Study (2016)
- Main Street Streetscape Master Plan (2016)
- SANDAG's 2050 Revenue Constrained Regional Bike Network (2015)
- Seniors, Sidewalks and the Centennial (2012)
- Bikeway Master Plan (2011)
- I-805 Managed Lanes South FEIR EA (2011)
- Pedestrian Master Plan (2010)
- Urban Core Specific Plan (2007)
- General Plan Land Use and Transportation Element (2005)
- Greenbelt Master Plan (2003)

The complete document review can be found in **Appendix B: Existing Conditions Report.**

1.5 Benefits of Active Transportation

As previously discussed, recent planning legislation mandates a more balanced, multimodal transportation system with an emphasis on walking and biking. This has been, in part, due to the physical and environmental benefits that walking and biking provide.

Areas with increased levels of bicycling and walking experience improved public health, reduced traffic congestion, reduced emissions, and enhance economic growth. The following points present a snapshot of recent research performed regarding the potential benefits of walking and bicycling.



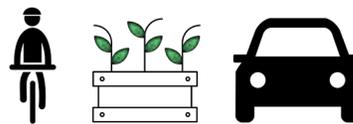
Bicycling reduces transportation emissions & reduces traffic congestion¹



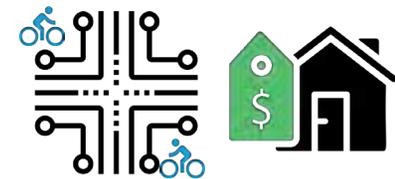
High bicycling rates tend to have lower crash rates²



Protected bike lanes increase bicycle ridership,

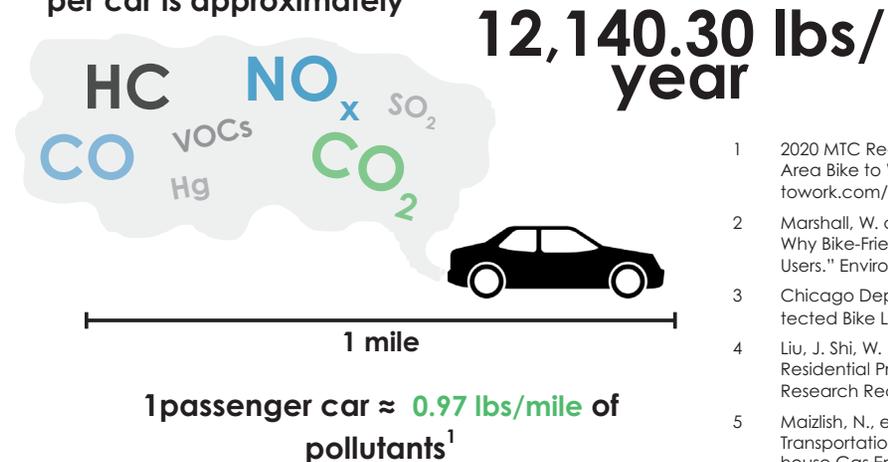


reduce vehicular speed, reduce crashes and improve safety³



Proximity to a network of **high-quality bike facilities** is associated with an increase in property values⁴

The total number of pounds of **pollutants** emitted per year per car is approximately



- 2020 MTC Regional Campaigns. "2020 Bay Area Bike to Work Day." <https://bayareabike-towork.com/environmental-benefits/> (2020)
- Marshall, W. and N. Garrick. "Evidence on Why Bike-Friendly Cities are Safer for all Road Users." *Environmental Practice*, 13, 1 (2011).
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- Liu, J. Shi, W. "Impact of Bike Facilities on Residential Property Prices." *Transportation Research Record*, 2662.1(2017): 50-58.
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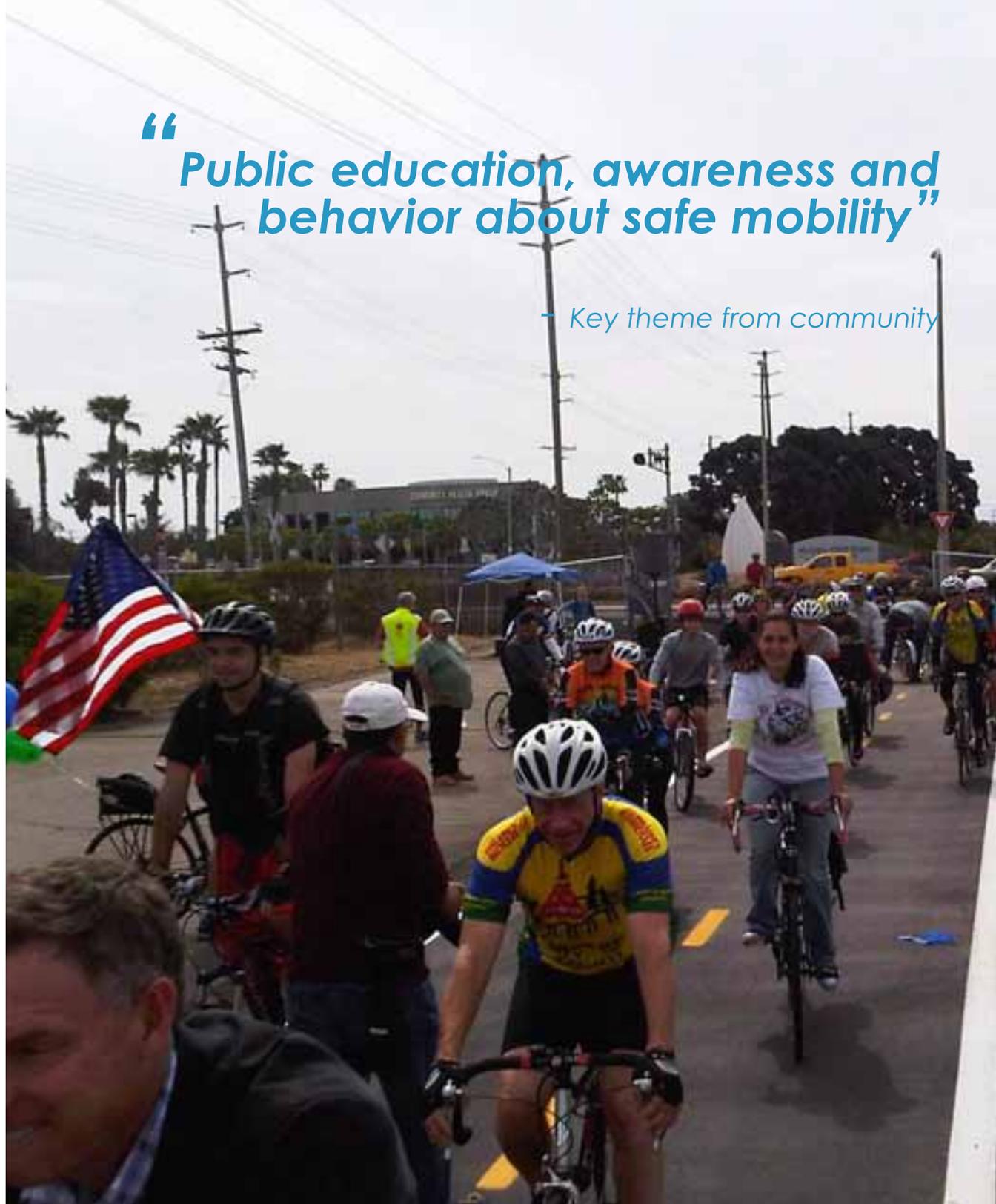
1.6 Organization of the Plan

Following this introductory chapter, the remainder of the Active Transportation Plan is organized into the following chapters:

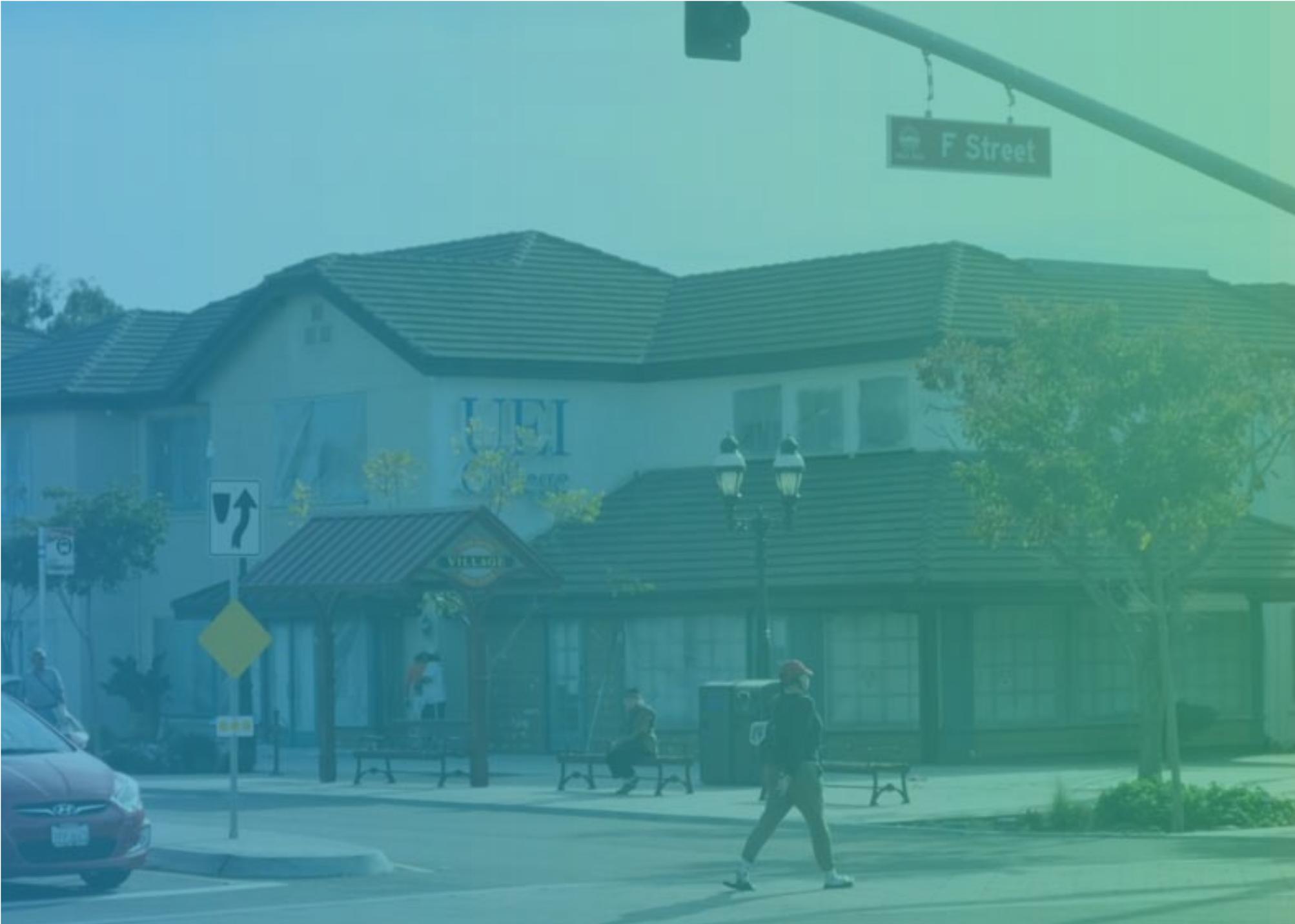
- **Chapter 2 Community Profile** provides a snapshot of existing conditions, demographics and the current commuter trends, as well as, active transportation demand.
- **Chapter 3 Community Engagement** provides a summary of the outreach process and establishes the link between the Community's vision and the infrastructure, programs, and plans set forth in this document.
- **Chapter 4 Chula Vista Tomorrow** identifies recommended pedestrian and bicycle networks, support facilities and programs for people who walk and bike.
- **Chapter 5 Implementation** details implementation factors and considerations, such as project prioritization, costing, phasing, and funding sources.

“**Public education, awareness and behavior about safe mobility**”

– *Key theme from community*



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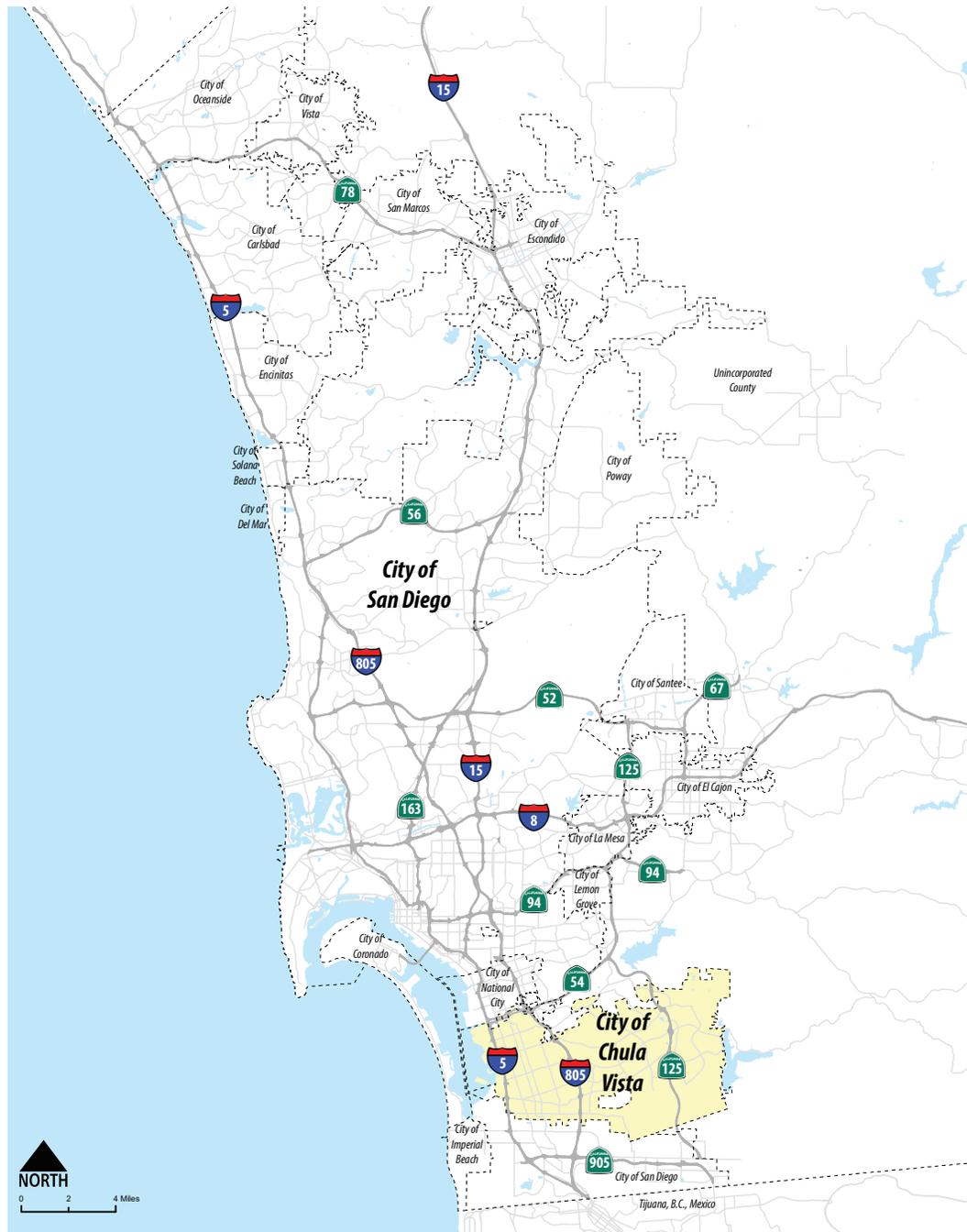




2.0

Community
Profile

Figure 2-1: Chula Vista's Location within the Region



In developing an Active Transportation Plan, one of the initial steps is preparing an Existing Conditions Report (ECR). The ECR serves to examine the current physical infrastructure connectivity, the quality of walking and biking facilities, user safety, and the potential for demand. The information presented in this Chapter is drawn from the ECR, which is provided in its entirety in **Appendix B: Existing Conditions Report.**

The data from the ECR was used to identify areas of high demand and high deficiency to inform the network development process and understand where improvements are most needed.

2.1 Chula Vista Regional Location

The City of Chula Vista is located in south-western San Diego County in Southern California, approximately 7.5 miles south of Downtown San Diego and 3.5 miles north of the International Border with Mexico.



The City encompasses approximate 50-square miles of land area. The US Census estimates the 2018 Chula Vista population at 271,651 residents. Chula Vista is bordered to the north by National City, to the east by unincorporated San Diego County, to the south by the City of San Diego Otay Mesa-Nestor community, and to the west by the San Diego Bay. Interstate 5, Interstate 805 and State Route 125 traverse the City in a north-south direction, a section of State Route 54 traverses the City east-west on the northern end of Chula Vista. Chula Vista's location within the region can be seen in **Figure 2-1**.

The existing land uses are displayed in **Figure 2-2**. Like most cities in the region, Chula Vista is largely comprised of residential land uses, with commercial and industrial related uses concentrated amongst several corridors, such as Broadway, Third Avenue, H Street, Eastlake Parkway, and Main Street. Open space, parks, and recreational land uses are prominent east of Interstate 805 and along the San Diego Bayfront, with additional established park sites located throughout the western part of the City.

Figure 2-3 displays the roadway network, identifying number of lanes and median presence. In all, the City has more than 475 miles of roadways. The road network in western Chula Vista is characterized by a

strong street grid, maximizing connections for all transportation modes. This pattern is common in older, more established communities. In the eastern portion of Chula Vista, the network is more circuitous, however, many bicycle and pedestrian connections have been incorporated into the master planned subdivisions, removing the barriers traditionally associated with suburban development.

Figure 2-4 identifies posted speed limits. Many of the roadways comprising the street grid within the western part of the City are 30 and 35 MPH, which can be comfortable for cyclists and pedestrians if traffic volumes are low and dedicated facilities are provided. The eastern area includes many 4-lane and 6-lane arterials with speeds of 45 and 50 MPH. These arterials are the backbone of the roadway network in the eastern part of the City, and can be the only option for cyclists and pedestrians to reach their destinations due to their direct nature.

“**Third Avenue Village**”

- Favorite Place from community questionnaire

Figure 2-2: Existing Land Uses

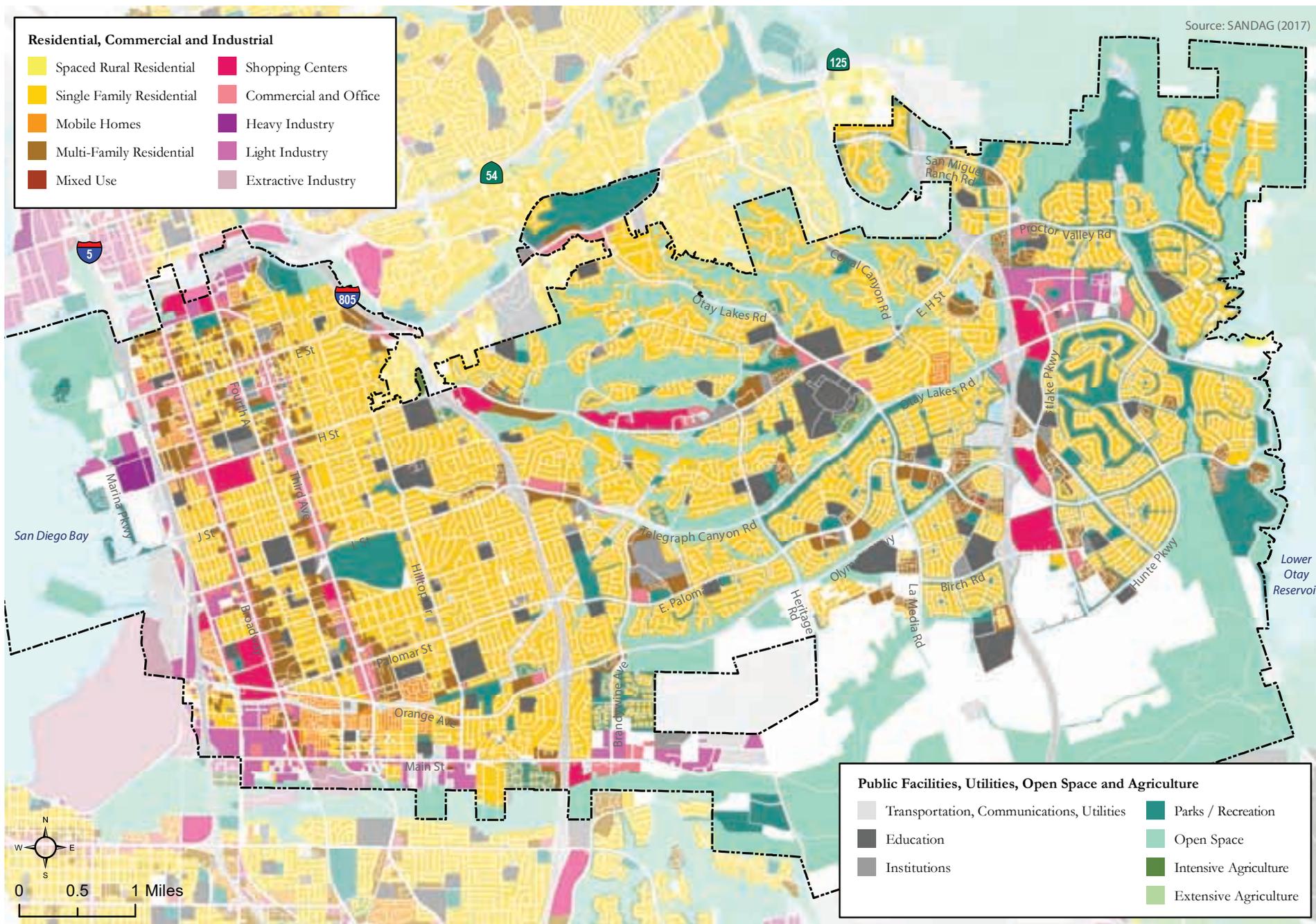


Figure 2-3: Roadway Network

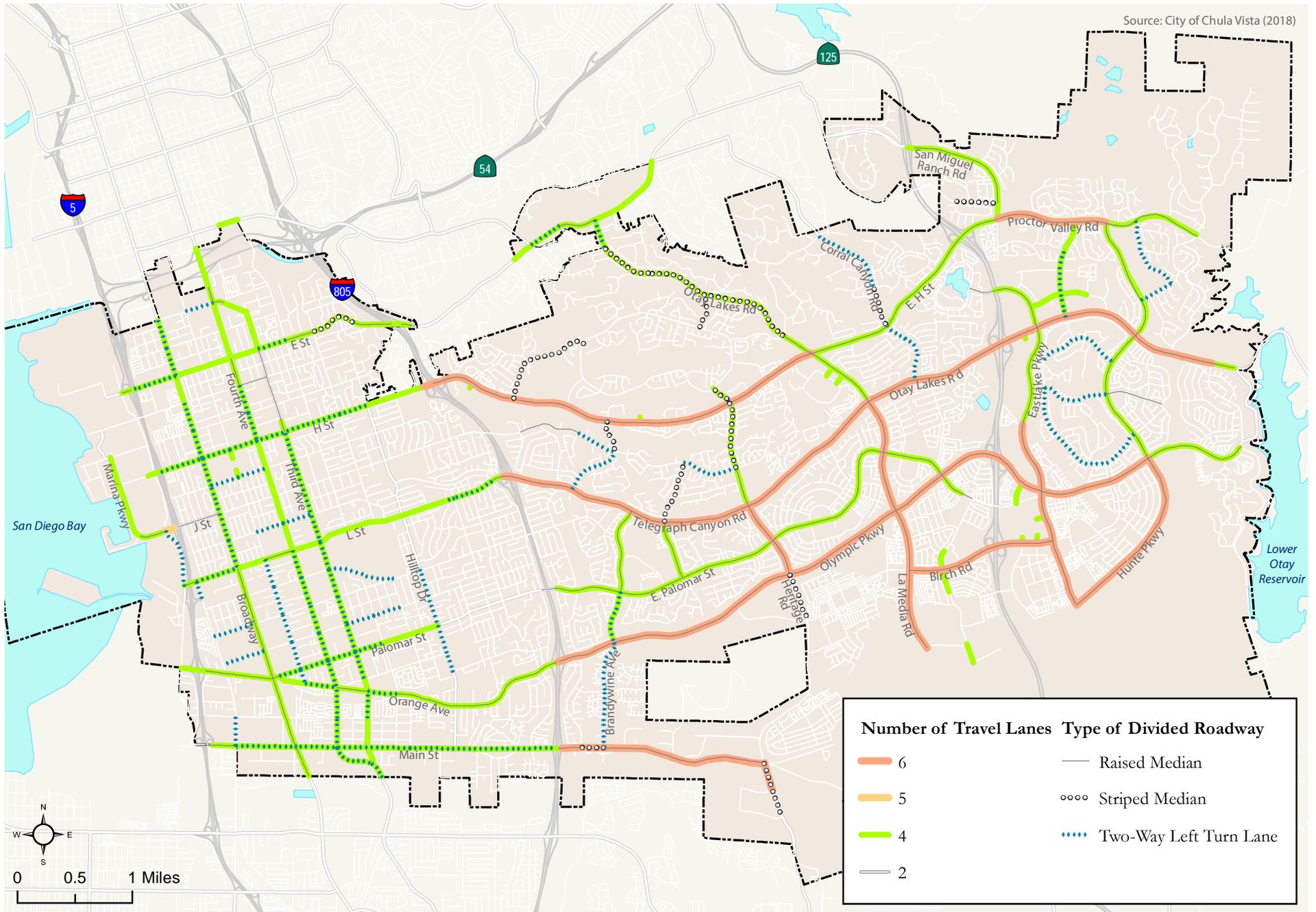
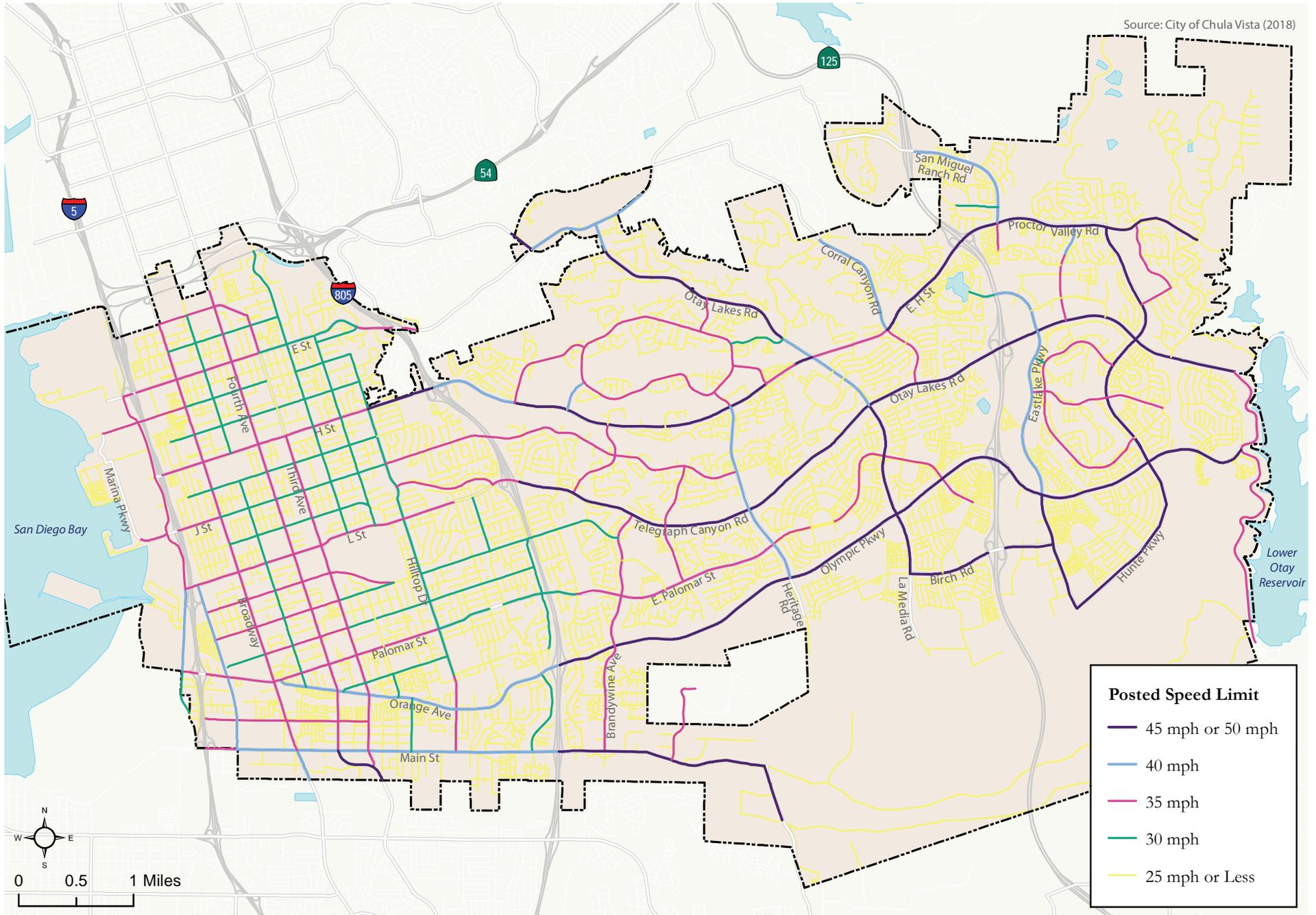


Figure 2-4: Posted Speed Limits



2.2 Demographic Summary

Demographic information is used to understand the people who live and work in Chula Vista today. Population and employment density, age groups, and vehicle ownership are described. Data was obtained from the US Census 2013-2017 American Community Survey 5-Year Estimates.

Population and Employment Density

Residential and employment concentrations, or locations where people live and work, are important considerations in the planning process. Walking and bicycling trips frequently start from – or are generated from – residences. These trips commonly end at places of employment, or destinations such as parks, schools, retail centers, and civic uses. Determining where higher concentrations of these land uses are can help build an understanding of travel behavior.

Figure 2-5 displays residential population density by Census Block Group within Chula Vista. There are several distinct clusters of higher density, predominately located in the western portion of the City between Interstate 5 and 805, as well as the area between Telegraph Canyon Road and Olympic Parkway.

Figure 2-6 presents employment density by Census Block Group. As shown, the City's main clusters of employment density are in close proximity to the areas of higher residential population density. The mixture of these higher density land uses give

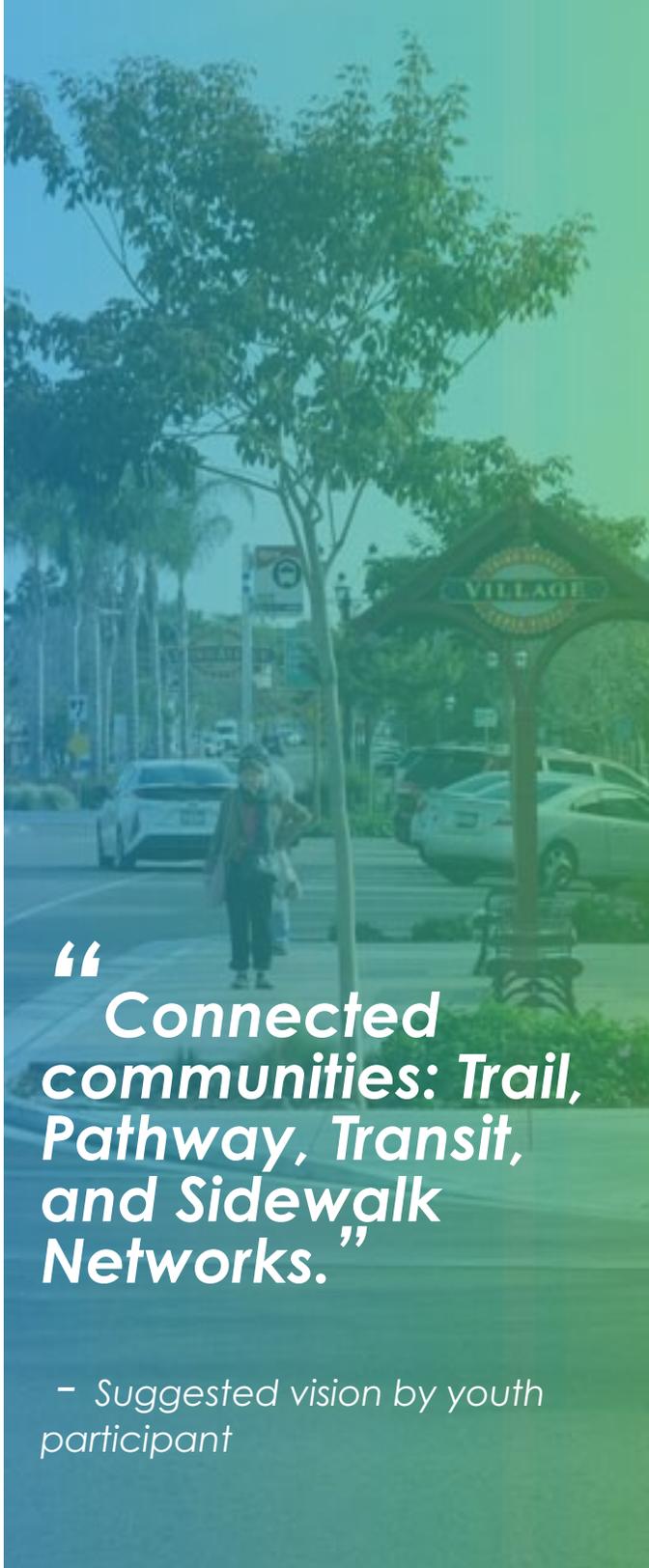
potential for conversion of vehicular trips to active transportation trips for commute purposes with the provision of supporting infrastructure. However, another challenge to growing active transportation commute mode share is the high percentage of Chula Vista residents that work outside of the City.

Youth and Senior Populations

Youth and senior populations have more limited mobility options than the general adult population, making them more reliant on alternative transportation modes and infrastructure, and potentially more vulnerable since they may be moving through the city without the protection of a car. For this reason, youth and senior populations require additional consideration when planning transportation networks.

The goal of this plan is to create an “8-to-80” network within the City. “8-to-80” networks accommodate the potentially specialized needs of eight- and eighty-year-old members of the community when planning. The intent of this approach is to produce planning outcomes that ensure a city functions properly and equitably for everyone's ability.

Figure 2-7 summarizes the percent of youth and senior populations for Chula Vista and San Diego County. Combined, the youth and senior populations make up a little more than one-third (37.8%) of the City of Chula Vista's residents. The youth population in Chula Vista is 4% higher than the County as a whole.



“**Connected communities: Trail, Pathway, Transit, and Sidewalk Networks.**”

– Suggested vision by youth participant

Figure 2-5: Population Density by Census Block Group

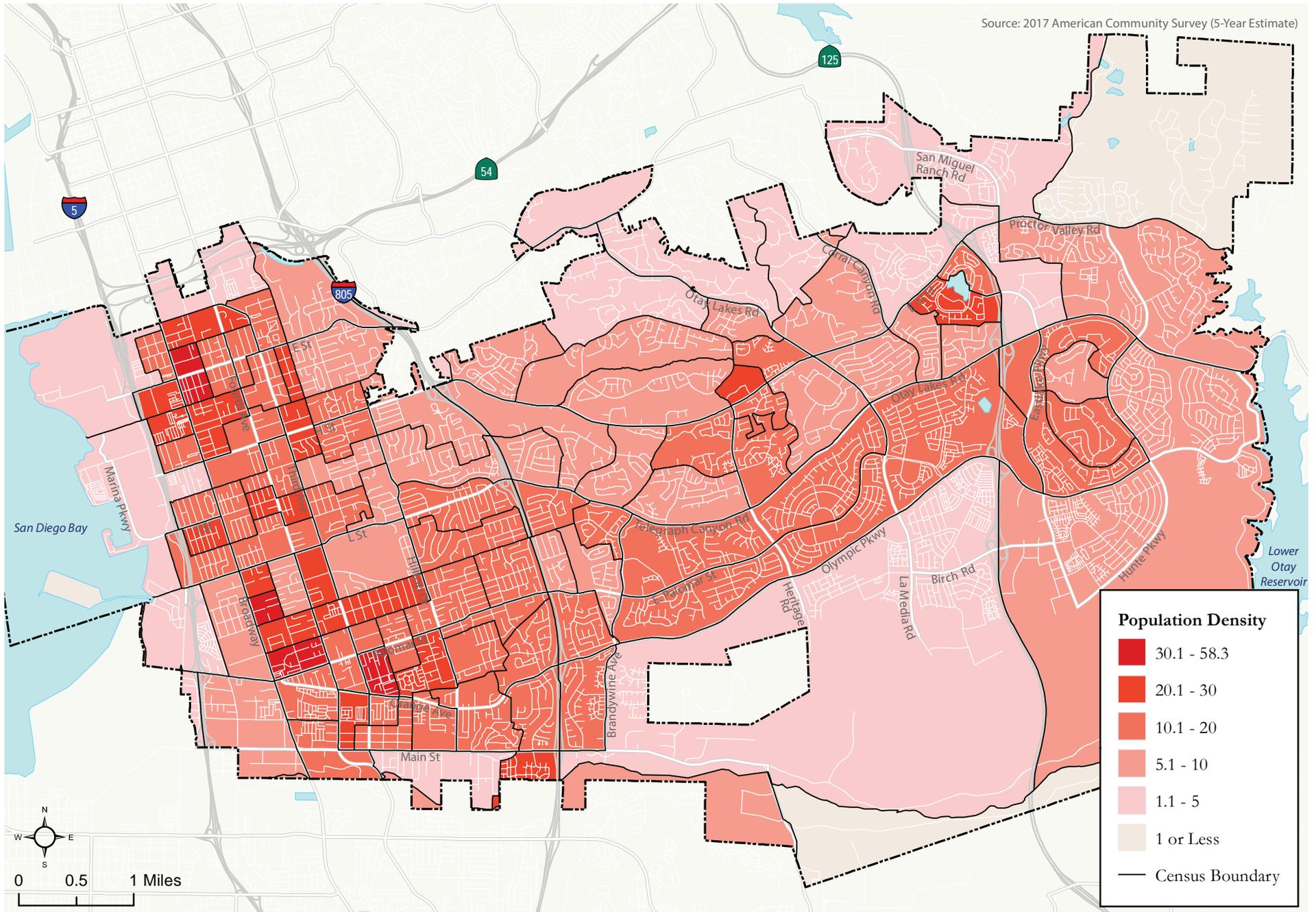


Figure 2-6: Employment Density by Census Block Group

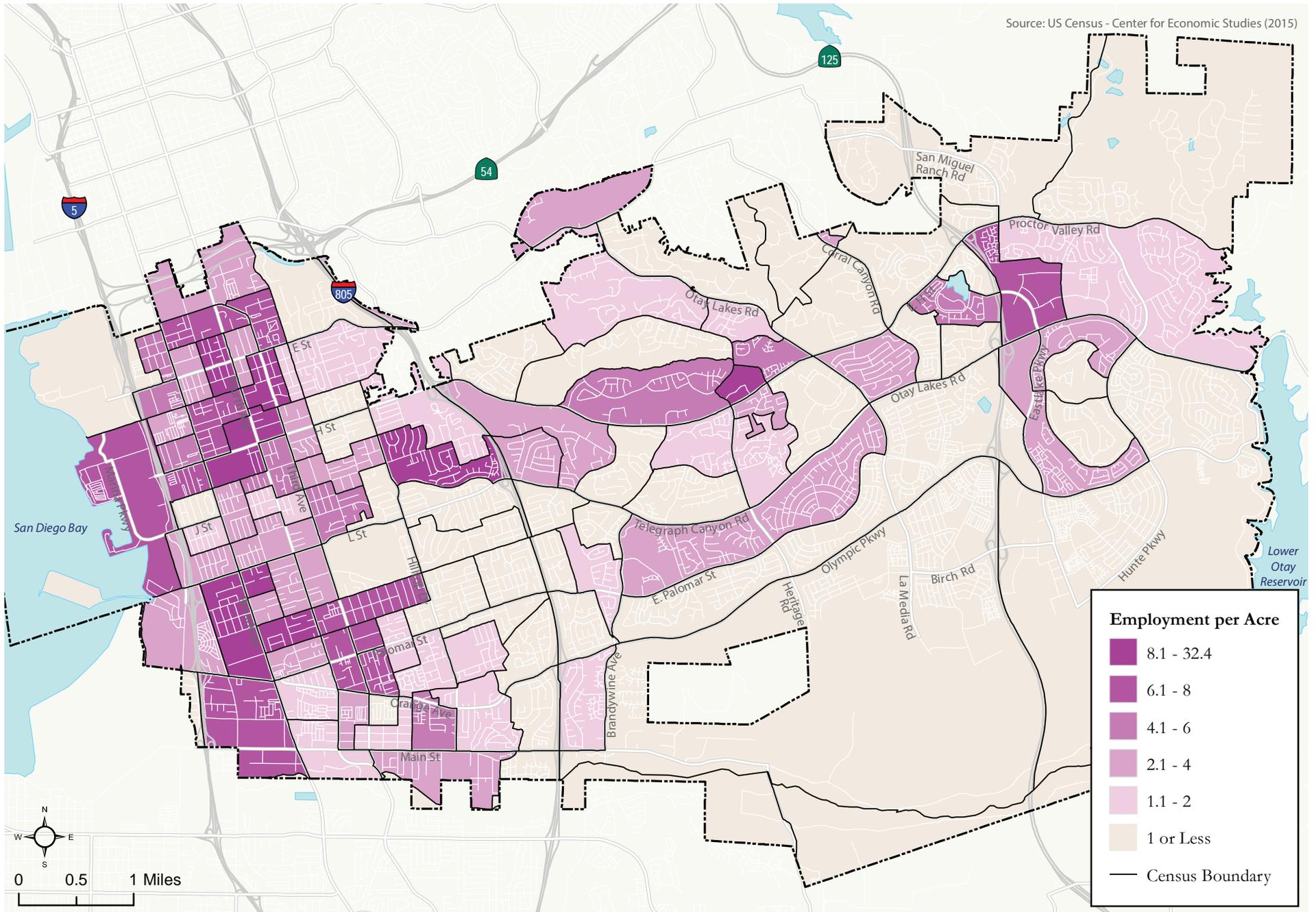
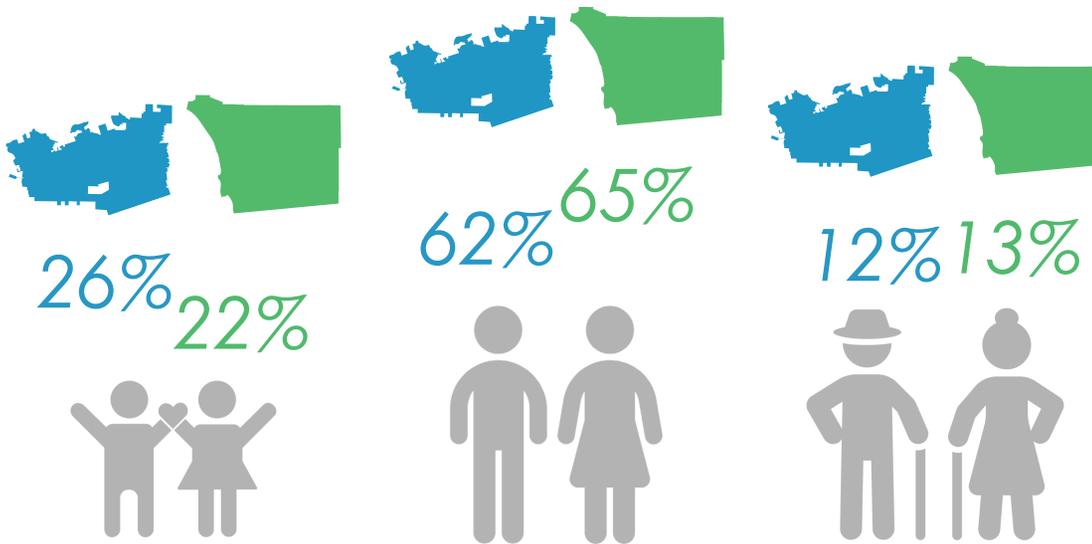


Figure 2-7: Population by Age Group: City of Chula Vista and San Diego County (2013-2017)



One of the most common trip attractors for youth are schools. Many students walk or bike to school, resulting in high walking and bicycling activity during the school arrival and dismissal periods. **Figure 2-8** displays the location of Chula Vista Schools.

Additionally, there are multiple facilities that generate or attract trips by seniors. Examples include senior housing and various health care facilities. **Figure 2-9** displays the locations of a number of these facilities within Chula Vista.

Zero Household Vehicles

A well-considered multimodal mobility network serves the needs of all users, regardless of age, ability and socio-economic class. An indicator of social equity is access to vehicles. As can be seen in **Table 2-1**, 5.3% of households in Chula Vista are zero-vehicle households. This approximately equates to slightly more than 4,000 households.

As shown in **Figure 2-10**, there are a number of Census Block Groups west of Interstate 805 where more than 20% of households are without a vehicle, as well as several census block groups with 15.1% - 20% of zero-vehicle households. Several of these high zero-vehicle household Census Block Groups align with those exhibiting higher percentages of seniors (Figure 2-9). These areas may indicate greater population concentrations that are more reliant on transit and active transportation modes.

Table 2-1: Vehicle Availability by Household (2013-2017)

Vehicles Available	Households	Percent of Total
No Vehicles Available	4,167	5.3%
1 Vehicle Available	20,717	26.4%
2 Vehicles Available	32,885	41.9%
3 or More Vehicles Available	20,707	26.4%
Total Occupied Household Units	78,476	100.0%

Figure 2-8: Location of Schools in Chula Vista

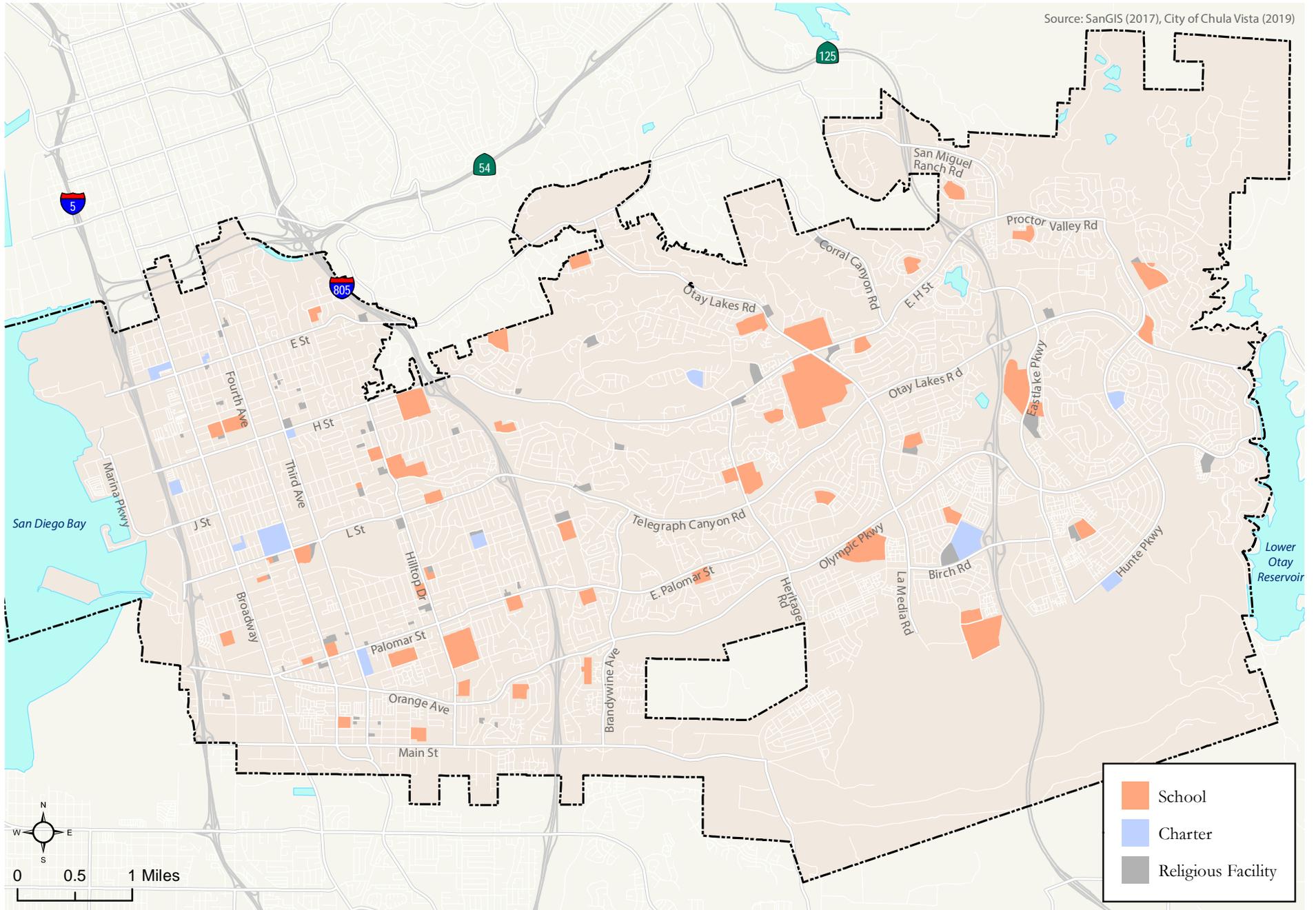


Figure 2-9: Location of Senior Facilities in Chula Vista

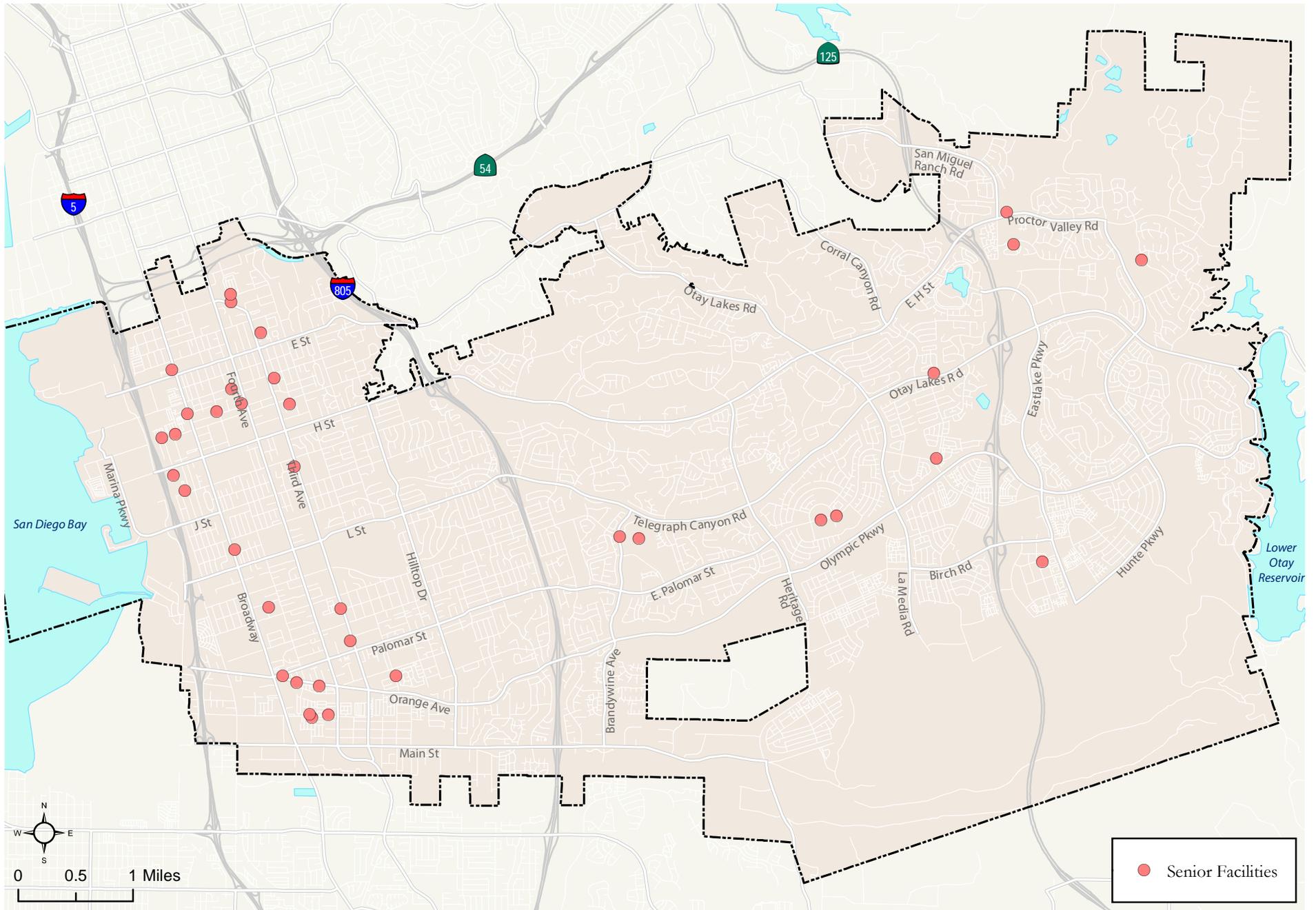
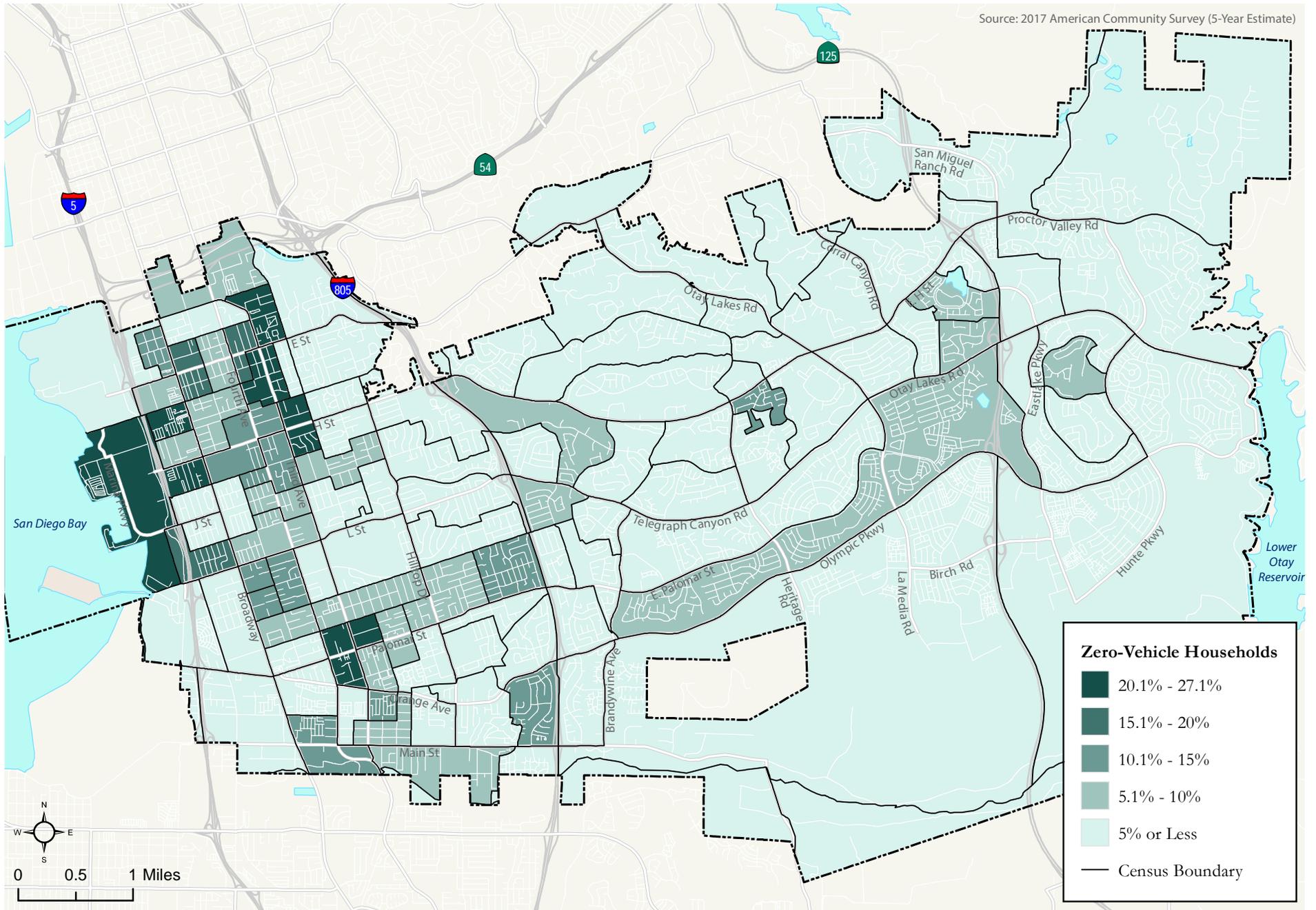


Figure 2-10: Zero Vehicle Households by Census Block Group



2.3 Commuter Profile

Examining the existing commute patterns of Chula Vista residents and employees provides a deeper understanding of how people travel, and in turn, informs the level of active transportation demand or the latent demand. US Census data indicates approximately 40% of the working population that resides in Chula Vista are employed within 10 miles of their home Census Block. Similarly, approximately one-third of people that work within Chula Vista also reside within the City. These commute trips have potential for active transportation and/or public transportation commute trips due to the relatively short distance between commuter origins (residences in Chula Vista) and destinations (places of employment).

Means of Transportation to Work

Table 2-2 compares means of transportation to work for the City of Chula Vista and San Diego County. “Drove alone” rates are comparable. Chula Vista has a higher percentage of people that carpooled compared to San Diego County (10.4% vs. 8.9%, respectively). Public transportation use is also higher in Chula Vista than the County (3.3% vs. 3.1%, respectively). It should be noted, the South Bay *Rapid* began service in January 2019, providing residents an expedited public transportation option between eastern Chula Vista and Downtown San Diego, which may result in increased public transportation ridership. Active transportation commute trips in Chula Vista are approximately half of that reported for the County (1.8% vs. 3.6%, respectively, when combining those that walked and rode a bike).

Table 2-2: Means of Transportation to Work (2013-2017)

Means of Transportation	Chula Vista	San Diego County
Drove Alone	78.3%	76.0%
Carpooled	10.4%	8.9%
Public Transportation	3.3%	3.1%
Walked	1.5%	2.9%
Bicycle	0.3%	0.7%
Other	1.6%	1.5%
Worked at Home	4.6%	7.0%

Source: US Census, 2013-2017 American Community Survey 5-Year Estimate (2019)

2.4 Active Transportation Demand

A common analysis technique used to understand latent demand – or the potential demand – for walking and bicycling trips is through an assessment of population and land use characteristics. This latent demand is modeled by examining the location and intensity of walk and bike trip generators – population, employment, senior facilities, zero-vehicle households, pedestrian commuters, and bicycle commuters – with walk and bike trip attractors – schools, retail, parks, recreational spaces, and transit stations. When combined, the active transportation generators and attractors result in a propensity model that provides a foundation for understanding the potential active transportation demand across the City of Chula Vista.

The Active Transportation Propensity Model results are displayed as **Figure 2-11**. Higher propensity is indicative of areas with increased potential for active transportation due to relatively higher levels of trip attractors and trip generators. The greatest propensity levels are shown in the northwestern and southwestern portions of Chula Vista, where employment and residential density are relatively greater, along with a diverse mix of land uses and the presence of trolley stations and more civic uses. Additional concentrations are present in the southeastern quadrant of the City and in the vicinity of Southwestern College.

2.5 Existing Networks

Network for People on Foot

The network for people on foot is made up of sidewalks, curb ramps and crosswalks. **Figure 2-12** displays the location of missing sidewalks along public roadways, totaling approximately 3.2 centerline miles. Sidewalks may be missing along one or both sides of the identified roadways. In some instances, such as portions of Bay Boulevard, a sidewalk along one side of the roadway was deemed sufficient due to active land uses only present along the one side. As can be seen, most of the missing sidewalks are located within the older, more westerly portion of the City.

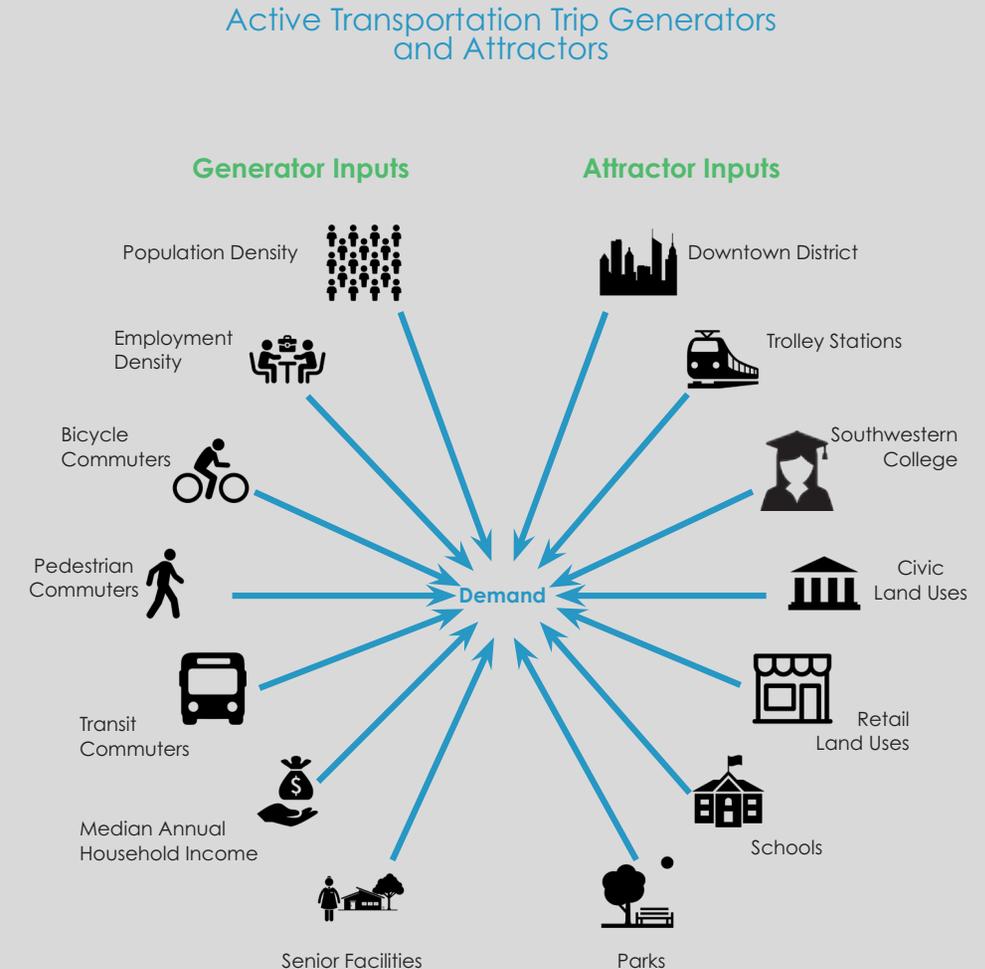


Figure 2-11: Active Transportation Propensity Model Results

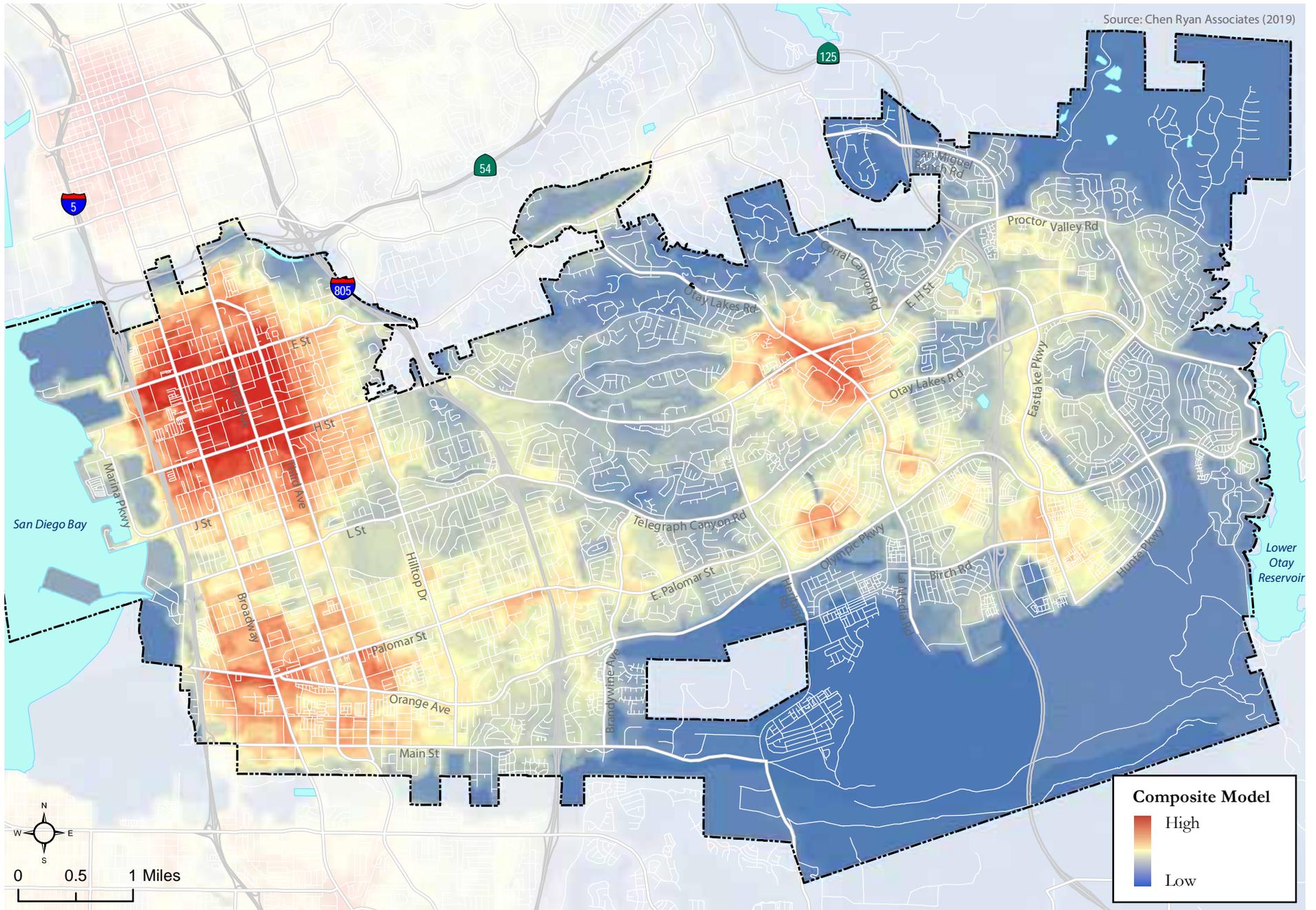
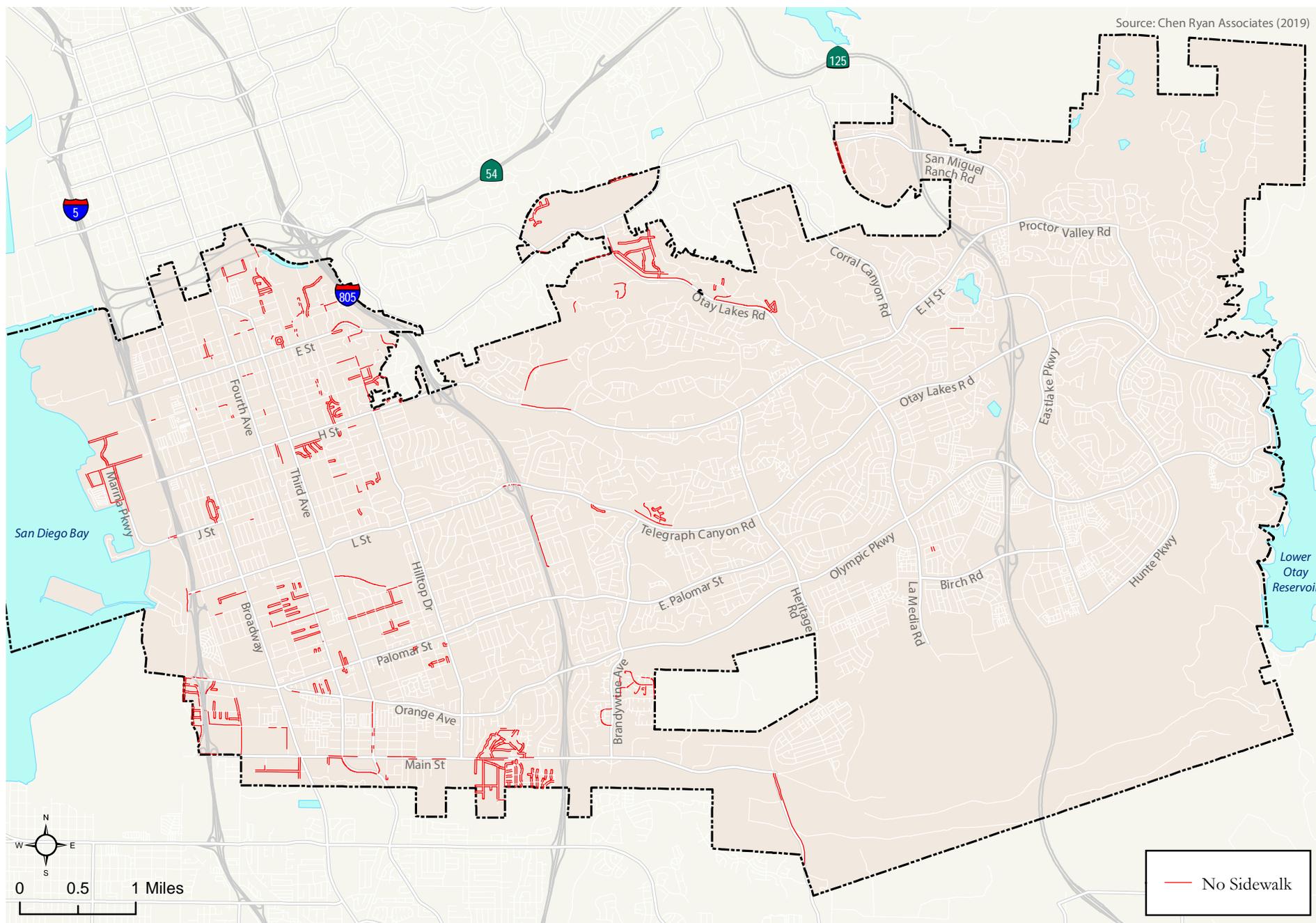


Figure 2-12: Locations of Missing Sidewalks along Public Roadways



“**Safe and secure public spaces:
crime and collision prevention.**”

– *Emerging theme from community events*

Figure 2-13 identifies the locations of missing curb ramps. The City will use this inventory to prioritize curb ramp construction based on location need and consistency with future capital projects.

In addition to the presence of curb ramps, the City undertook an extensive, citywide curb ramp data collection effort as part of the Pedestrian Connectivity Study. One component of the study involved examining a number of characteristics to determine if existing curb ramps met current Americans with Disability Act (ADA) standards. Examples of the curb ramp data collected include ramp width, slope, cross slope, and presence of detectable warning pads. The City will use this information moving forward to ensure pedestrian facilities are accessible for all users.

Figure 2-14 displays the locations of pathways and grade separated multi-use bridges. The pathways are generally unpaved, decomposed granite (DG) trails, and are located in the eastern half of Chula Vista, where most of the master planned communities can be found. These pathways provide unique connections for people on foot or bicycle, NEV or other modes, greatly improving connectivity considering some of the circuitous street patterns in the newer, suburban communities.

Figure 2-13: Locations of Missing Curb Ramps

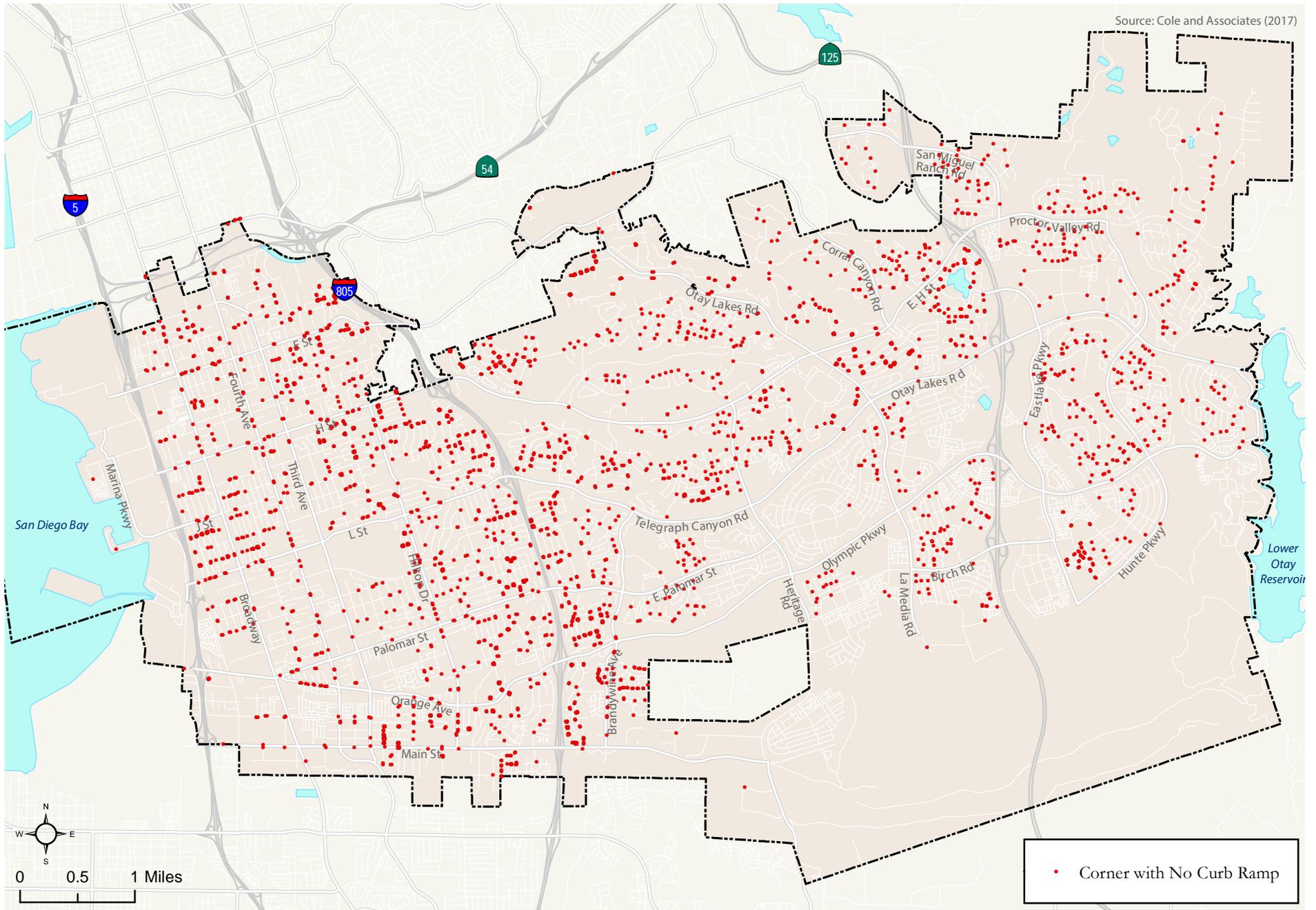
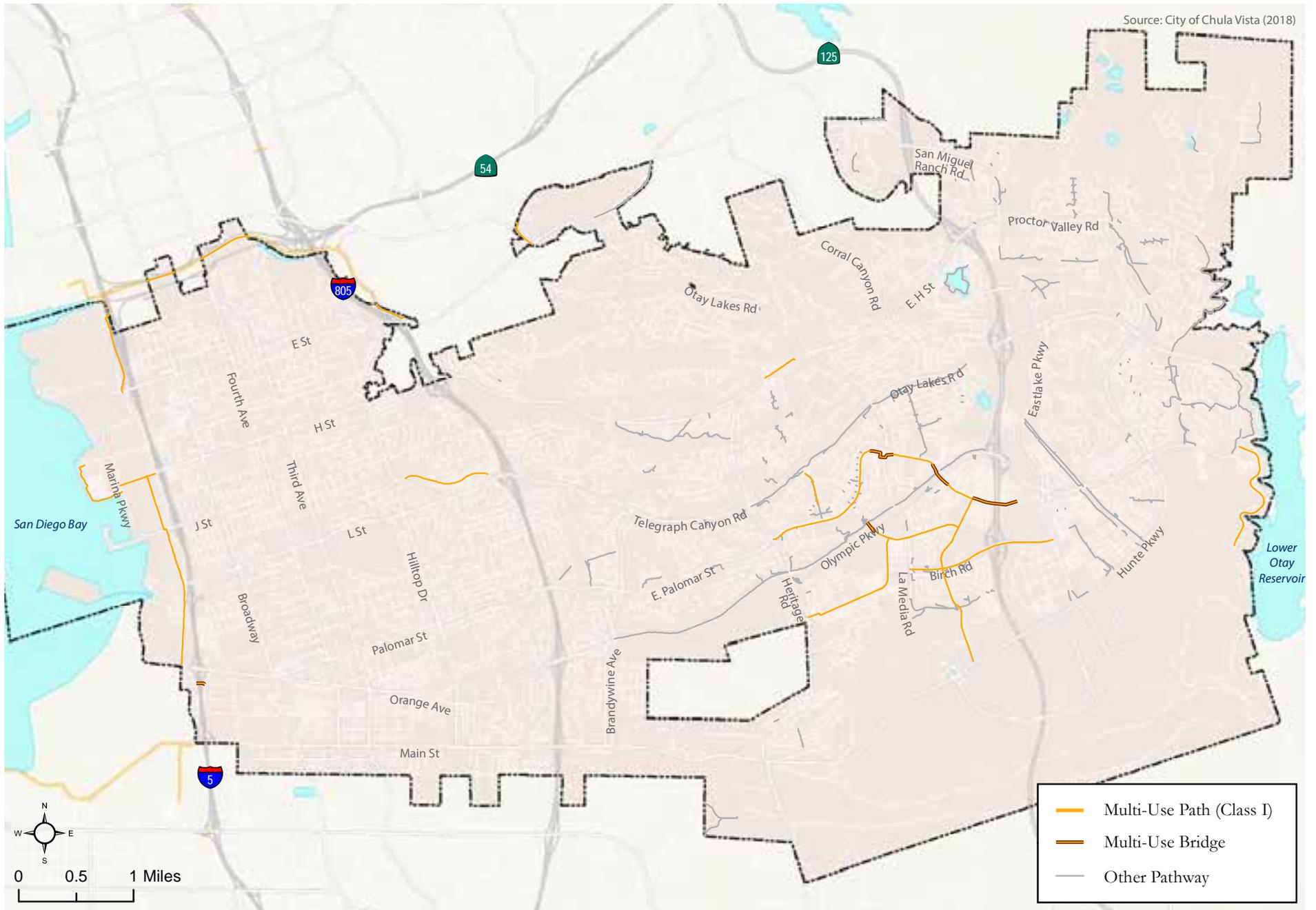


Figure 2-14: Existing Pathways and Multi-Use Bridges



Network for People on Bicycles

Existing bicycle facilities are displayed in **Figure 2-15**. The network is comprised of Class I, II, and III facilities, defined in greater detail in Chapter 4. The west side of the City has an extensive network, largely comprised of bike routes, while the east side primarily consists of bike lanes along major roadways. There are multiple existing facilities within the City of Chula Vista that are a hybrid of Class I bike paths and Class IV cycle tracks. These facilities exhibit characteristics of each classification. Examples include H Street east of Bay Boulevard, and East Palomar Street east of Heritage Road. For the purposes of this ATP, these facilities are identified as Class I bike paths.

Many of the facilities planned in the 2011 Bikeway Master Plan have been implemented, including the Class III bike routes in western Chula Vista and Class II bike lanes to the east as well as a bike lane crossing Interstate 805 at East H Street. However, some key connections still need to be implemented, such as the bike lanes on Telegraph Canyon across Interstate 805, along Main Street east of Interstate 805, and Industrial Boulevard south of Ada Street.

Freeways are a common barrier to active transportation travel, and Chula Vista is no exception. Interstates 5, 805, and State Route 125 cut north-south through the entire City. Freeways generally have limited opportunities to cross. Where present, freeway crossings are often located along

roadways with high volumes of vehicles, high traffic speeds and multiple on- and off-ramps. Freeways, on- and off-ramps and intersections controlling the ramps generally fall within Caltrans' right-of-way, adding an additional layer of coordination that is required when planning improvements to these facilities.

Interstate 5 has typical tight diamond interchanges with access provided by local streets that may not have sufficient roadway width to implement bicycle facilities. Interstate 805 has typical sweep ramps that make bike lanes more challenging. The City of Chula Vista recently collaborated with Caltrans and the Federal Highway Administration on the Interstate 805 Managed Lanes South project to identify multimodal improvements at on- and off-ramps. State Route 125 was more recently constructed and designed with a greater emphasis on pedestrians and bicyclists. Note that even when facilities are provided across freeways, cyclists can face challenges. For example, cyclists must cross uncontrolled on-ramp lanes (J Street at I-5, East H Street at I-805) or the bike lane can become interrupted by a right-turn only lane providing on-ramp access (Bonita Road at I-805).

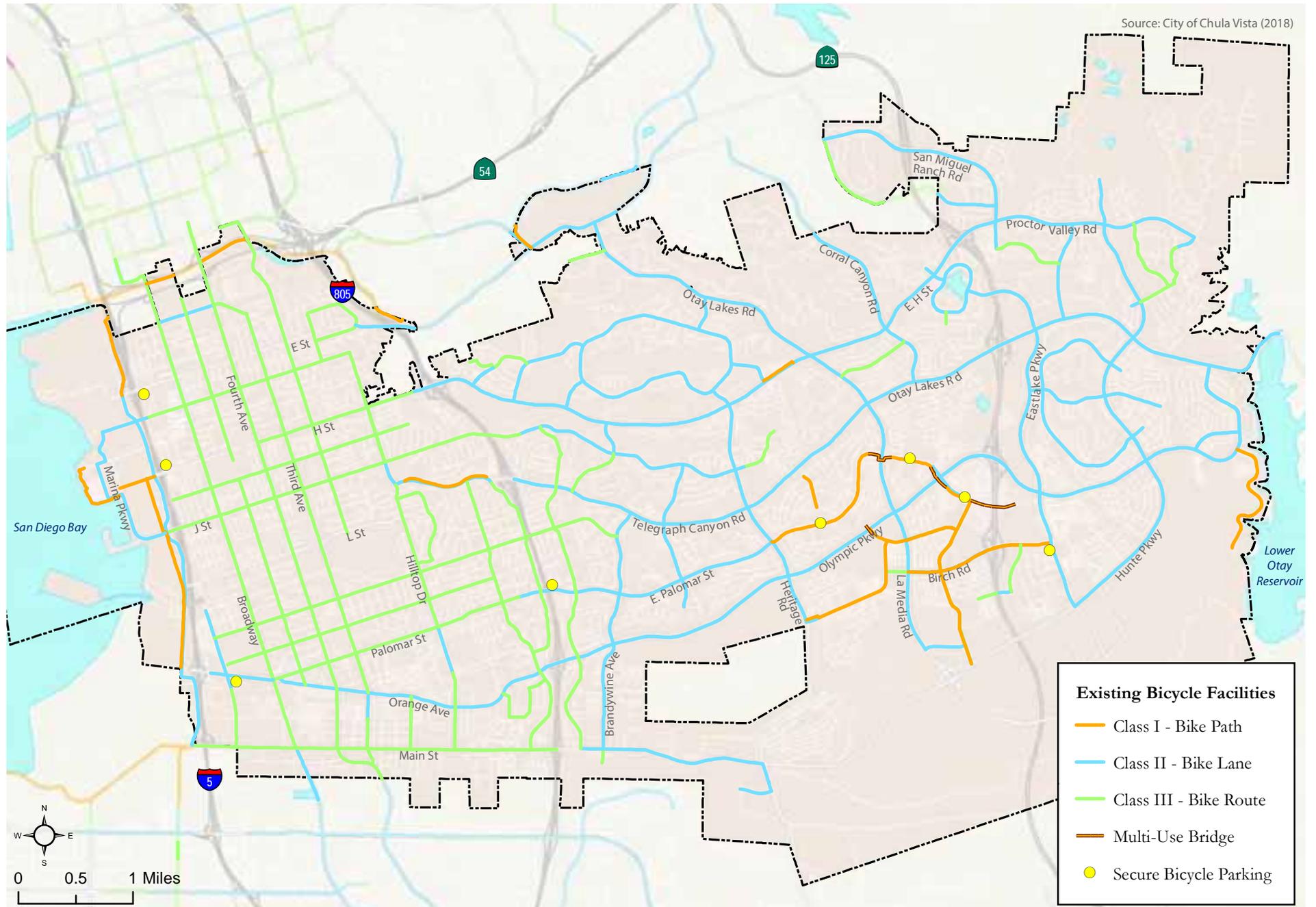
Existing bicycle network centerline mileage is summarized by facility type in **Table 2-3**. As shown, 161 miles are currently built in Chula Vista.

“
The Bayshore
Bikeway is
pleasant
because it is a
calm, beautiful,
dedicated
pathway with
little traffic and
provides places to
play”

- Chula Vista
resident



Figure 2-15: Existing Bicycle Facilities



“
Bonita Road is safe
and the trail around
the golf course is
pleasant.”

- Chula Vista Community
Collaborative

**Table 2-3: Existing Bicycle Network
(Centerline Mileage)**

Classification	Existing Mileage	Percent of Total
Class I Multi-Use Path	14.5	9.0%
Class II Bike Lane	81.2	50.4%
Class III Bike Route	65.5	40.6%
Class IV Cycle Track	-	-
Total Mileage	161.2	100.0%





3.0

Community Engagement



3.1 Engagement Methods

The Chula Vista ATP Community engagement process was conducted in two Phases. During Phase 1, the outreach focused on existing conditions. Phase II focused on soliciting feedback on the proposed networks and community priorities.

A variety of engagement methods were used, including a fact sheet, a website, an online questionnaire including a mapping exercise, attendance at community events and a Stakeholder Working Group.

In addition, the project team went to the community to host pop-up events on five different occasions: Day of the Child, Earth Day, Chula Vista HarborFest and twice at the Otay Ranch Town Center.

Fact Sheet

The fact sheet gave an overview of the ATP's purpose, the planning process and a timeline. The fact sheet was made available at public events and facilities, posted online on the project's website, and distributed through the communication databases of the City and Stakeholder Working Group members. The fact sheet was available in English and Spanish.



Webpage

The City of Chula Vista hosted a webpage dedicated to the Active Transportation Plan. In addition to giving an overview of the project, it listed opportunities to get involved, posted documents and provided the project manager's contact information.



Stakeholder Working Group

A Stakeholder Working Group (SWG) was formed with a diverse group of Chula Vista community residents and stakeholders who advised the process through-out.

The SWG met three times throughout the life of this project. Each meeting had a particular focus:

- SWG #1 (January 30, 2019) – Discussed SWG member priorities, finalized the outreach approach, reviewed initial existing conditions findings
- SWG #2 (June 27, 2019) – Refined draft goals and strategies, discussed initial network concepts
- SWG #3 (November 7, 2019) – Refined the networks and prioritization inputs

Summaries. The purpose of the Phase 1 outreach activities was to review the ATP purpose, background and planning process, and facilitate input about areas of the city that are desirable places to walk and ride bicycles, as well as locations with significant barriers. Additionally, the activities provided the opportunity to educate residents about the classes of bicycle facilities that may be included as recommendations in the ATP.

Stakeholder Working Group Meeting #1

On January 30, 2019, the City of Chula Vista convened the first meeting of the SWG as part of the ATP development process. The purpose of the meeting was to review the ATP purpose, background and planning process, including the role of the SWG, preliminary existing conditions findings, potential “mobility toolbox” items, the public outreach strategy, and the draft online questionnaire. Additionally, the meeting focused on answering SWG members’ questions and hearing their desired outcomes from the ATP.

The SWG told the project team of possible outreach events to attend and shared their desired outcomes and priorities for the ATP. The outcomes and priorities included safety, community and stakeholder engagement, agency collaboration, education surrounding scooters, connectivity and gap closure, Safe Routes to School, and the

“**Love the progress being made along Third Avenue”**

- Chula Vista Resident

3.2 What We Heard – Phase I

The initial outreach phase consisted of two SWG meetings, three pop-up outreach events, and a questionnaire. A description of each activity is provided within this section, while a more detailed summary can be found in **Appendix C: Outreach**

City's status as a bicycle-friendly community. Additionally, SWG members stressed the importance of reaching diverse, low-income community members, particularly in the older urban core of the City.

In Person Outreach

As part of the outreach efforts which took place during Phase I, the project team hosted "pop-up" events at Earth Day, Day of the Child and the Otay Ranch Farmers Market. Project team members spoke to residents about conditions, routes and locations for walking and biking. Additionally, the project team asked children for their input about desirable bicycle and walking improvements in their neighborhoods.

The following emerged as visions and themes suggested by participants:

- Calmer, safer traffic conditions: speeds, turns, crossings, and volume
- Safe and secure public spaces: crime and collision prevention
- Connected communities: trail, pathway, transit and sidewalk networks
- Comprehensive street lighting
- Safe routes to school
- Facilities that serve all ages
- Public education, awareness and behavior: driving, walking, biking, scooter riding
- New technologies and modes
- Beautified and improved infrastructure



Stakeholder Working Group Meeting #2

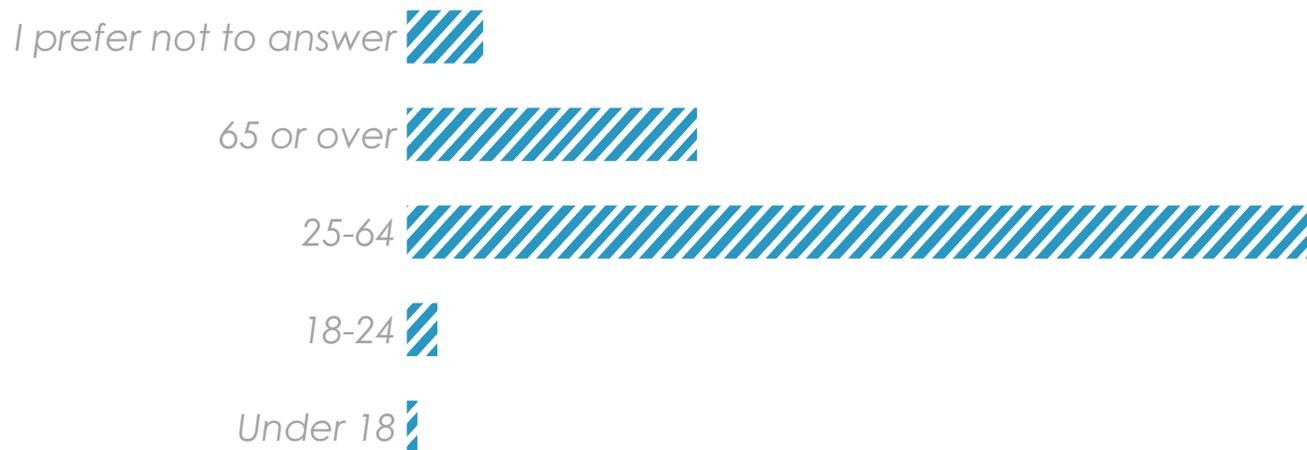
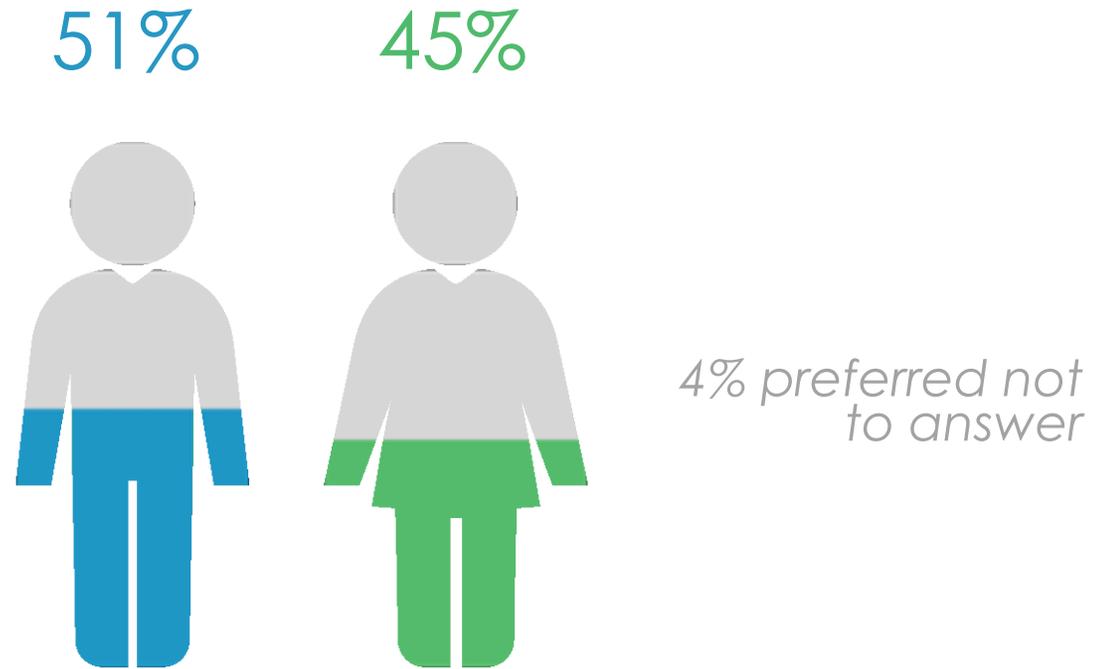
On June 27, 2019, the City of Chula Vista convened the second meeting of the SWG as part of the ATP development process. The meeting served to review the draft project goals and discuss the initial bicycle network and proposed pedestrian route typology system. The proposed approach to conducting the second phase of public outreach was also discussed.

SWG members provided comments and questions about the draft goals, as well as on the pedestrian and bicycle networks. With regard to the draft goals the comments ranged from including more flexibility for new and evolving modes of transportation, to integrating more plans into the ATP and emphasizing stronger east-west connectivity, among other things. The comments on the pedestrian and bicycle networks were more detailed and site specific. Additionally, the SWG suggested community networks to utilize in informing the public about Phase 2.

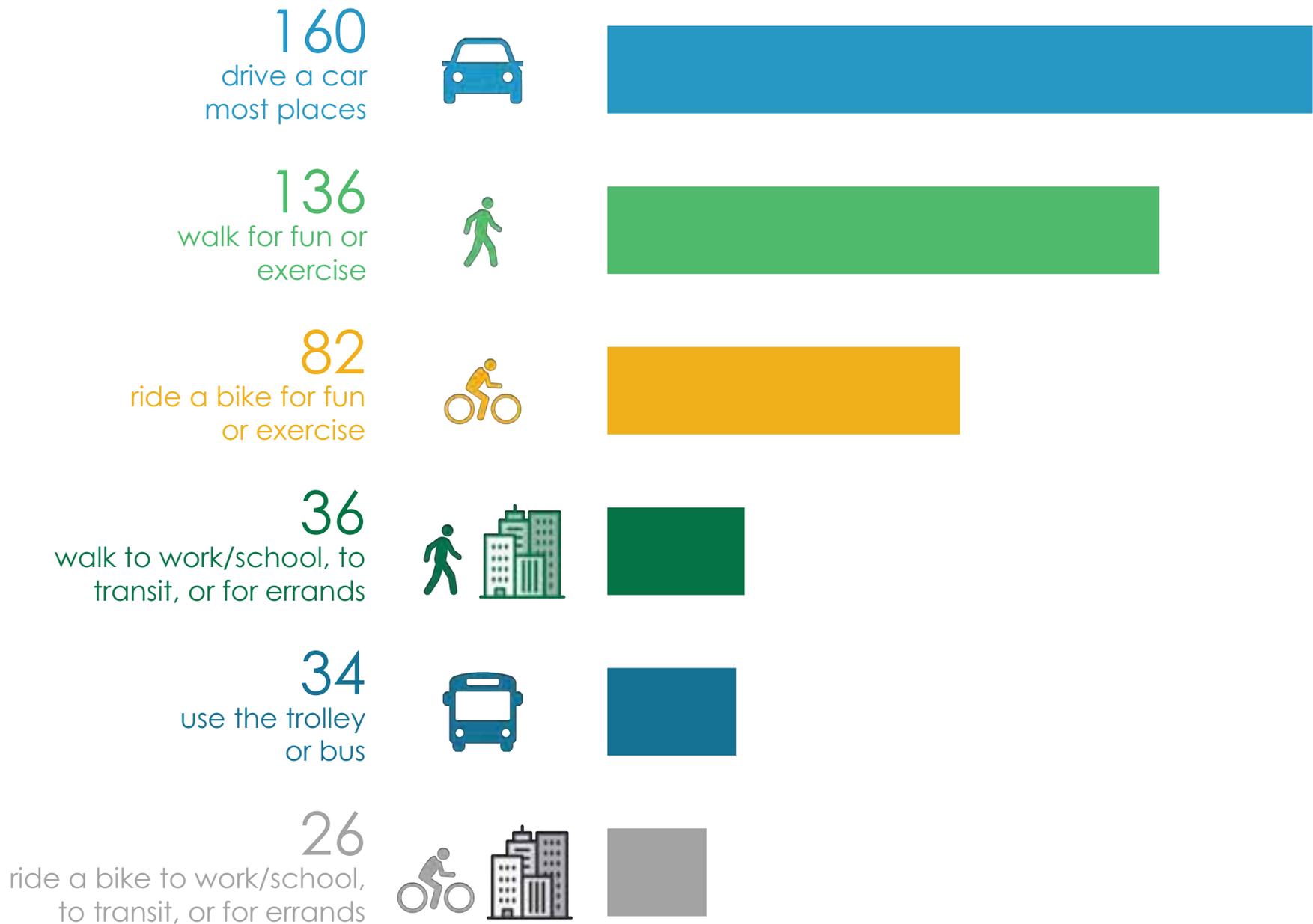


Questionnaire

A web-based and map-based questionnaire was open from April through the end of June 2019. The questionnaire was comprised of 10 questions, ranging from questions about commute and exercise trips, comfortable/uncomfortable places to walk and ride a bicycle and opinions about electric scooter share. The questionnaire received 226 unique responses. For the online mapping component, there were 1354 pins placed on the map, most of which included additional input/comments. The complete questionnaire summary is provided as **Appendix D: Questionnaire Results**.



Which of the following describes your typical week? (check all that apply)

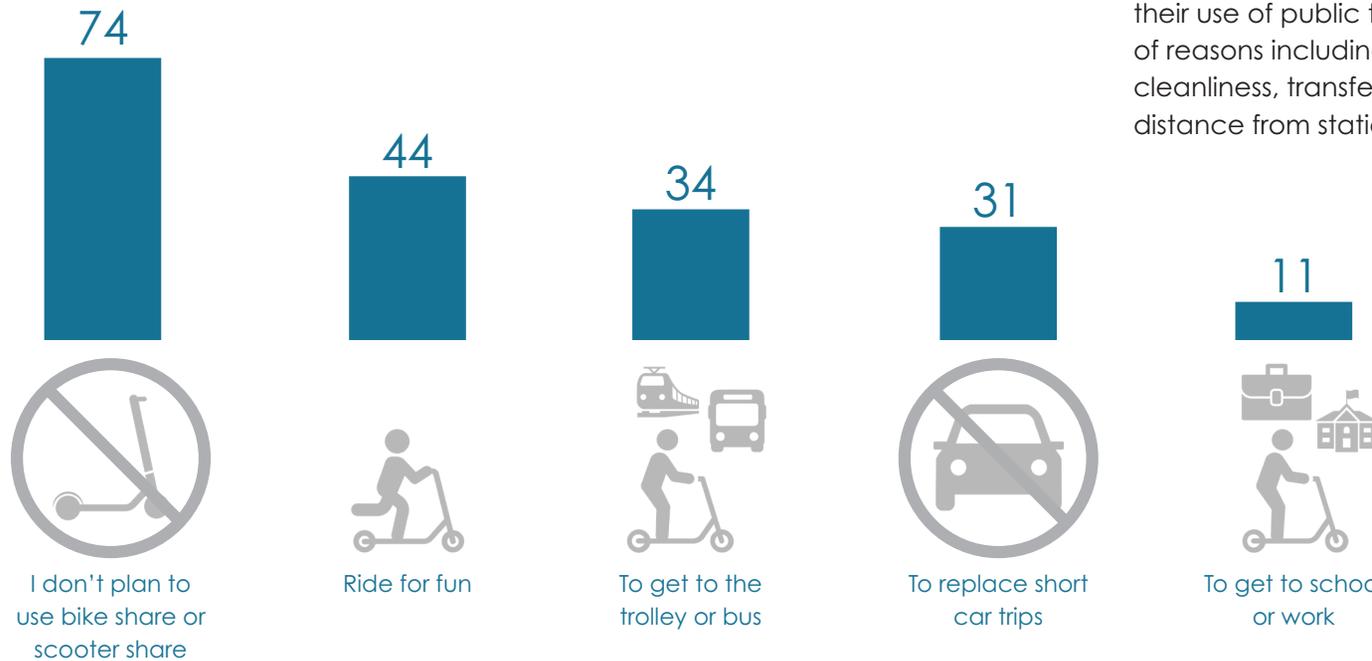


Have you ever used public transportation in Chula Vista?



61% Yes
39% No

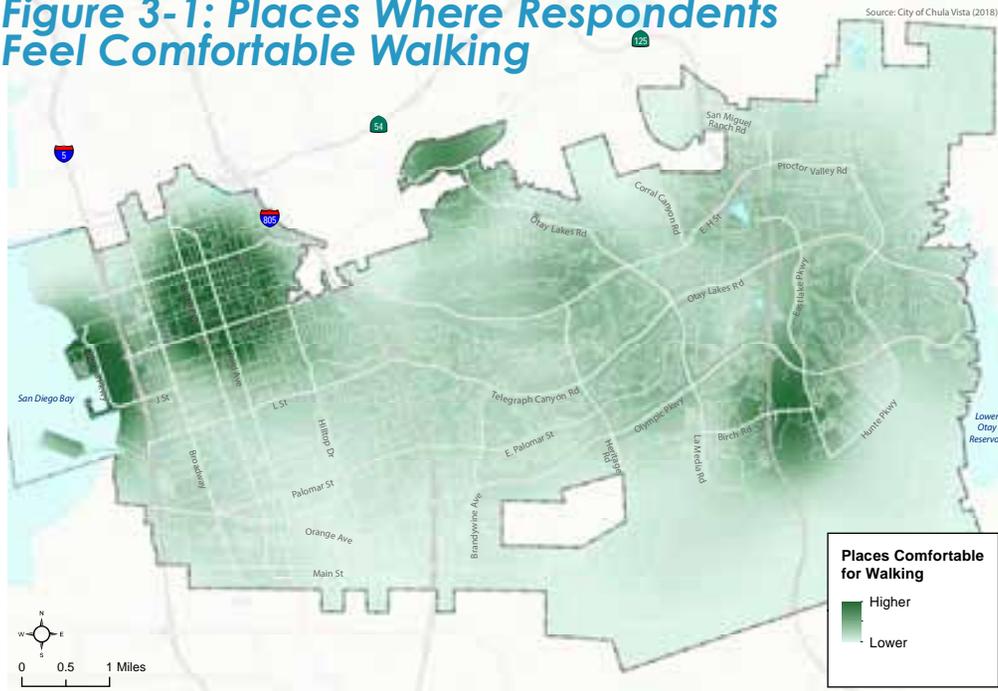
Please check all of the ways you think you will use bike share or scooter share:



Respondents who indicated “Yes” to having used public transportation in Chula Vista responded to a follow-up question about (a.) a trolley station/bus stop where they've encountered problems, and (b.) the type of challenge encountered getting to that location. Respondents placed a total of 16 pins on the map to indicate a station/stop location, with most indicating the transit station at H Street Trolley Station. Respondents indicated inadequate parking, lighting and security at this station. Other reasons indicated for other stations/stops included transit/connection times between bus and trolley, service infrequency, and inadequate parking.

Respondents who indicated “No” responded to a follow-up question about obstacles preventing their use of public transit, and provided a range of reasons including: service infrequency, security, cleanliness, transfer requirements, travel times, and distance from station/stop.

Figure 3-1: Places Where Respondents Feel Comfortable Walking



Respondents also placed pins on the map to indicate places they feel most comfortable walking and biking in Chula Vista, as well as locations where they feel uncomfortable walking and biking.

Walking

Figure 3-1 shows concentration of places where respondents feel most comfortable walking. Respondents placed pins on the map to indicate places they feel most comfortable walking. Higher concentrations of places are represented by darker green colors of the heat map. Popular places include Third Avenue Village, Bayshore Bikeway and Bayfront, Rohr Park, and Otay Ranch Town Center. Frequently mentioned reasons included: the surrounding areas; good quality sidewalks; traffic separation; comfortable crossings, good lighting; exercise; safe and secure; natural beauty; and dog walking.

Figure 3-2: Places Where Respondents Feel Uncomfortable Walking

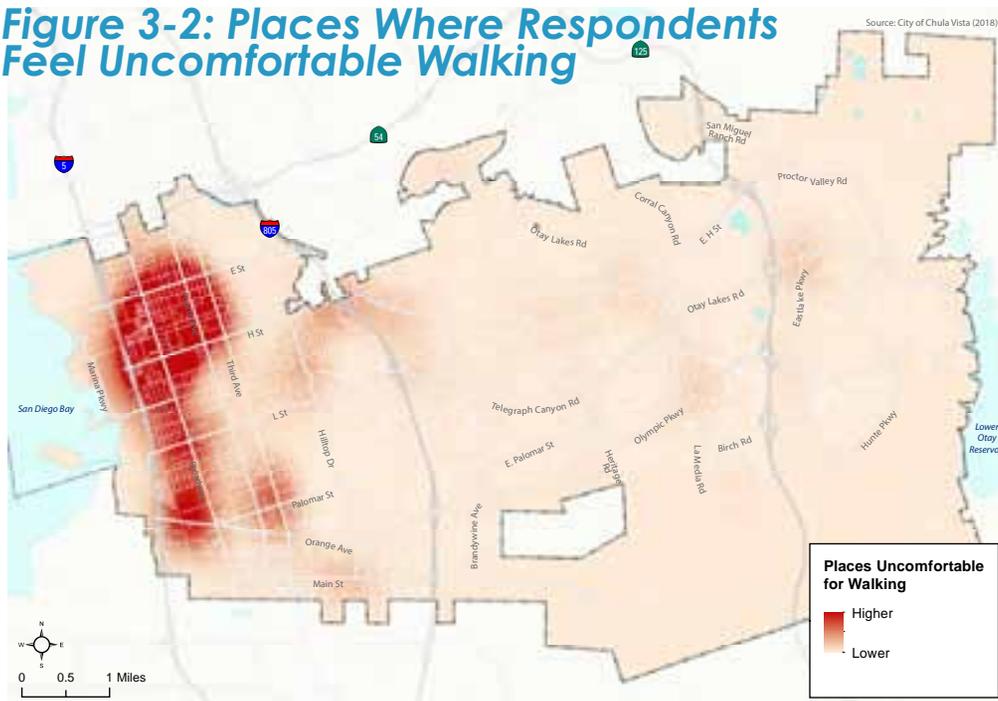
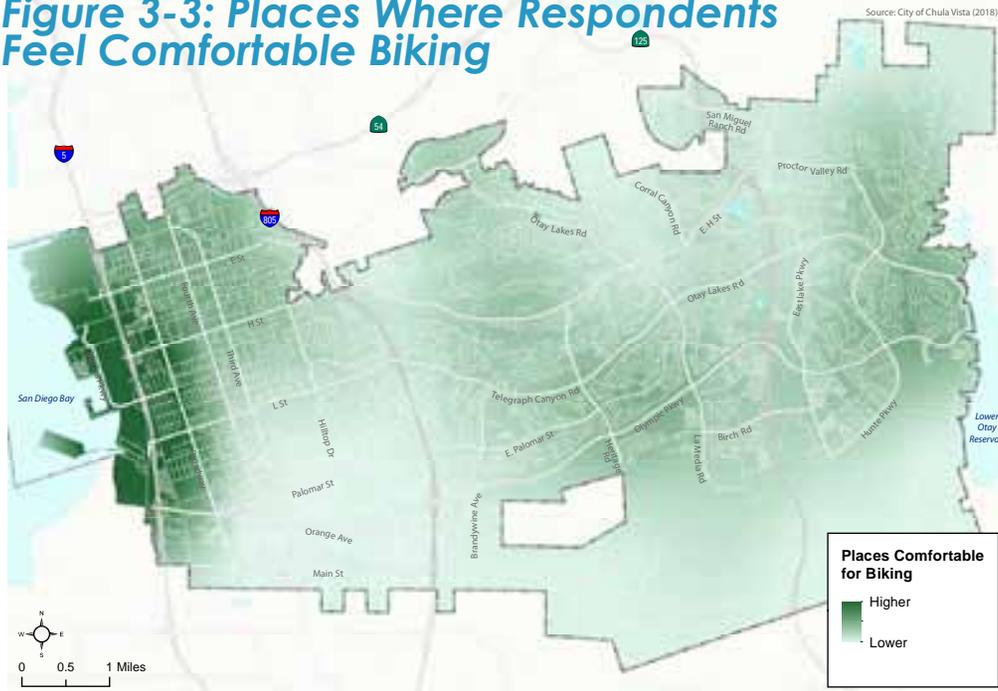


Figure 3-2 shows concentration of places where respondents feel most uncomfortable walking. Respondents also placed pins on the map to indicate places they feel most uncomfortable walking in Chula Vista. Higher concentrations of places are represented by red and orange colors of the heat map. Neighborhoods in the western portion of the City received the most pins, generally along Fourth Avenue between Flower and H Streets, and portions of Broadway. Frequently mentioned reasons included: traffic safety, volume and congestion; dangerous crossings; poor/missing sidewalks; lack of lighting; security; and homelessness.

Figure 3-3: Places Where Respondents Feel Comfortable Biking



Biking

Figure 3-3 shows concentration of places where respondents feel most comfortable biking. Respondents placed pins on the map to indicate places they feel most comfortable biking in Chula Vista. Higher concentrations of comfortable locations identified by participants are represented by darker colors. The most frequently indicated place is Bayshore Bikeway and Bayfront, with many respondents indicating the dedicated pathway and lack of traffic as their reasons.

Figure 3-4: Places Where Respondents Feel Uncomfortable Biking

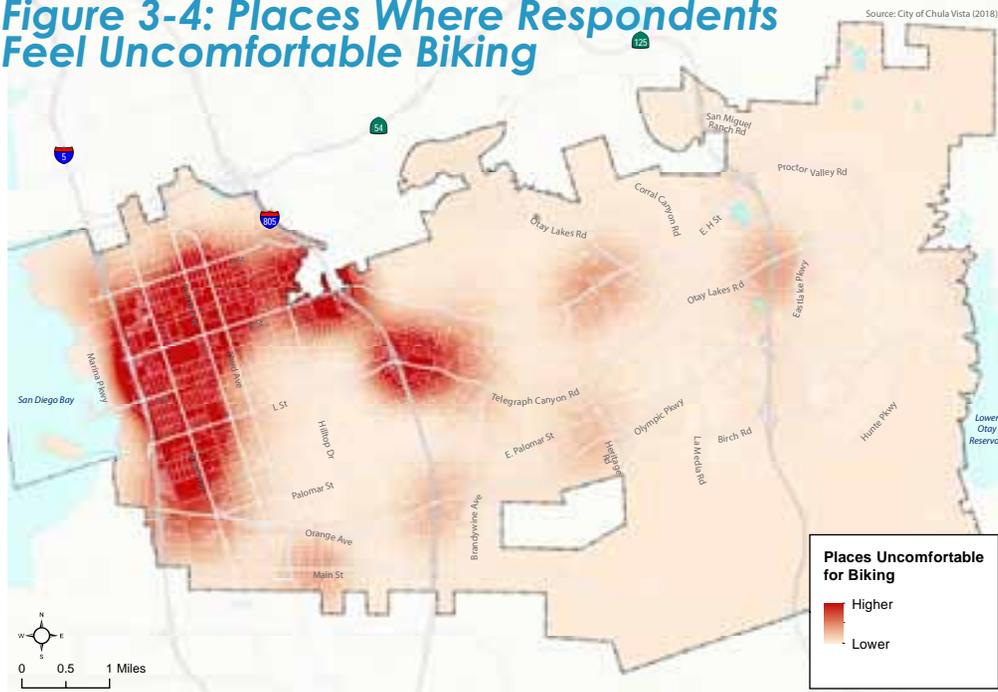
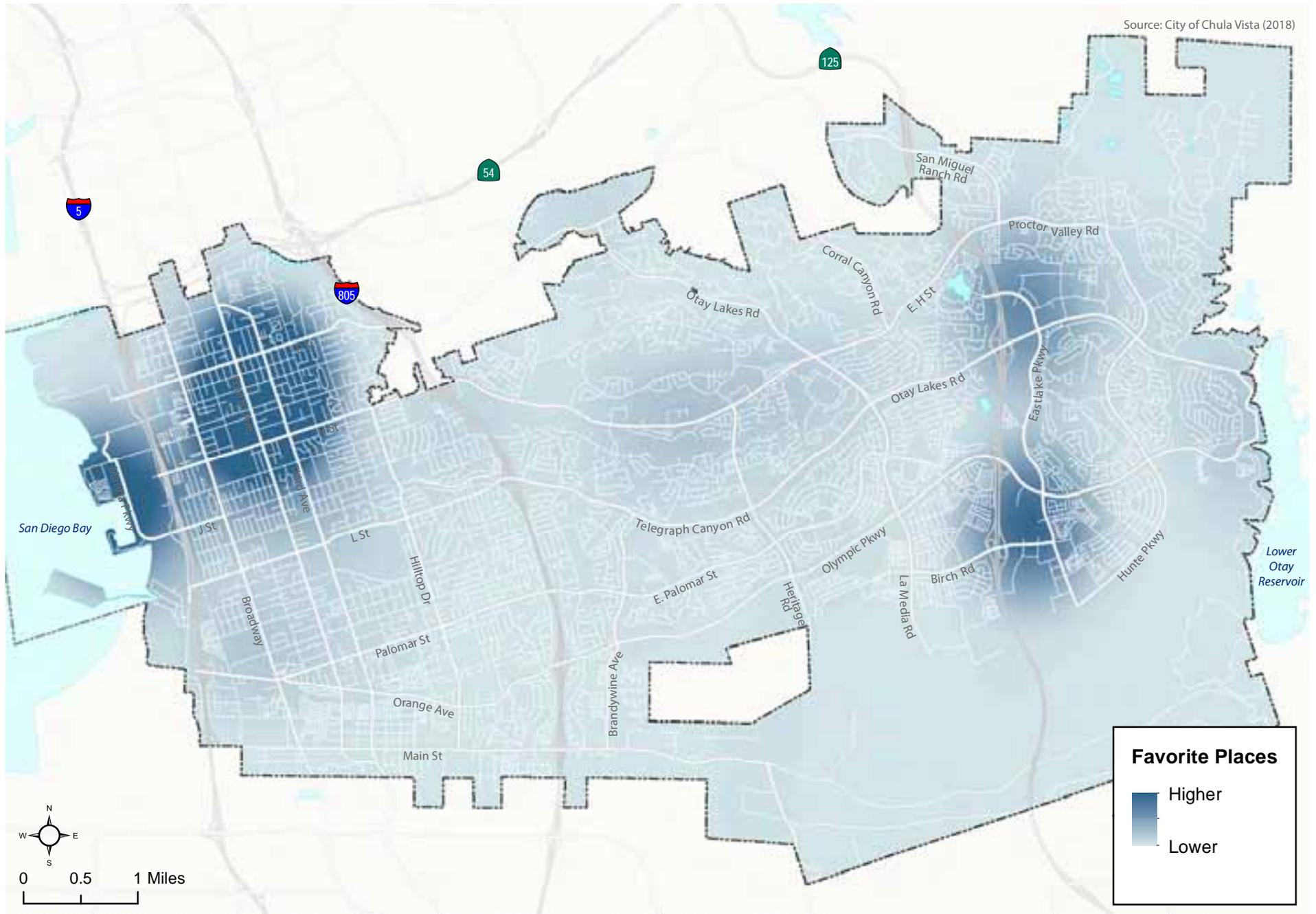


Figure 3-4 shows concentration of places where respondents feel most uncomfortable biking. Respondents placed pins on the map to indicate places they feel most uncomfortable biking in Chula Vista. Higher concentrations of places are represented by red and orange colors of the heat map. Neighborhoods in the western portion of the City received the most pins, generally along the H Street and Broadway corridors, as well as the I-805 crossings at Telegraph Canyon and Olympic Parkway, and the I-5 crossings at H Street and Palomar Street. Frequently mentioned reasons included: traffic proximity and safety; unsafe configurations of the overcrossings and freeway ramps; lack of bikeways/lanes; and traffic safety.

Lastly, **Figure 3-5** shows concentration of respondents' favorite places in Chula Vista. Respondents also placed pins on the map to indicate their favorite places to go in Chula Vista. Higher concentrations of favorite locations identified by participants are represented by darker colors. Popular places include the Third Avenue Village, Bayshore Bikeway and Bayfront, Eastlake Village Marketplace/ Village Center, and Otay Ranch Center.

Figure 3-5: Respondents' Favorite Places in Chula Vista



“Create bicycle facilities that serve all ages and abilities.”

- Community Member

3.3 What We Heard – Phase II

The purpose of the Phase II outreach activities was to review the ATP purpose, background and planning process, and facilitate input about emerging network concepts for pedestrian and bicycle modes. Additionally, the activities were an opportunity to provide input on prioritization criteria for future implementation of ATP projects.

Stakeholder Working Group #3

The SWG met for a third and final time on November 7, 2019. In this final meeting the SWG focused on reviewing the final pedestrian and bicycle networks, the project prioritization process and results, as well as a few top priority project sheet examples. In addition, the SWG reviewed the Final ATP outline.

In Person Outreach

Phase II of outreach included the project team deploying “pop-up” events at HarborFest and the Otay Ranch Farmers Market.

For Phase II the following Visions and Themes emerged:

- Create calmer and safer traffic conditions, particularly in the western part of the City and on major streets
- Focus on safety at locations with high pedestrian traffic
- Emphasize safe routes to school
- Locate protected bikeways on high-speed streets, and with features that improve safety for older adults and children
- Educate the public on safety, including driver awareness and safety at turns
- Connect existing and future trails throughout the City
- Improve maintenance of existing and future infrastructure, including streets, sidewalks, bikeways and roadway cleanliness
- Improve bicycle and pedestrian connections to transit
- Enhance the design of shared bicycle/pedestrian pathways
- Encourage use of bicycle routes that could be commute corridors
- Create spaces that encourage social gathering and play
- Improve programs that reduce bicycle crime

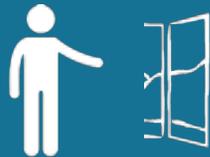


Summary of Community Engagement

- Development of and on-going consultation with a 28-member Project Working Group meeting
- Hosted five pop-up workshops: Day of the Child, Earth Day, HarborFest, and two events at the Otay Ranch Town Center
- Published an interactive online map which had 1354 pins placed
- Circulated an online questionnaire which received 226 responses
- Maintained project website



Project Working Group



Pop-Up Workshops



Interactive Online Map

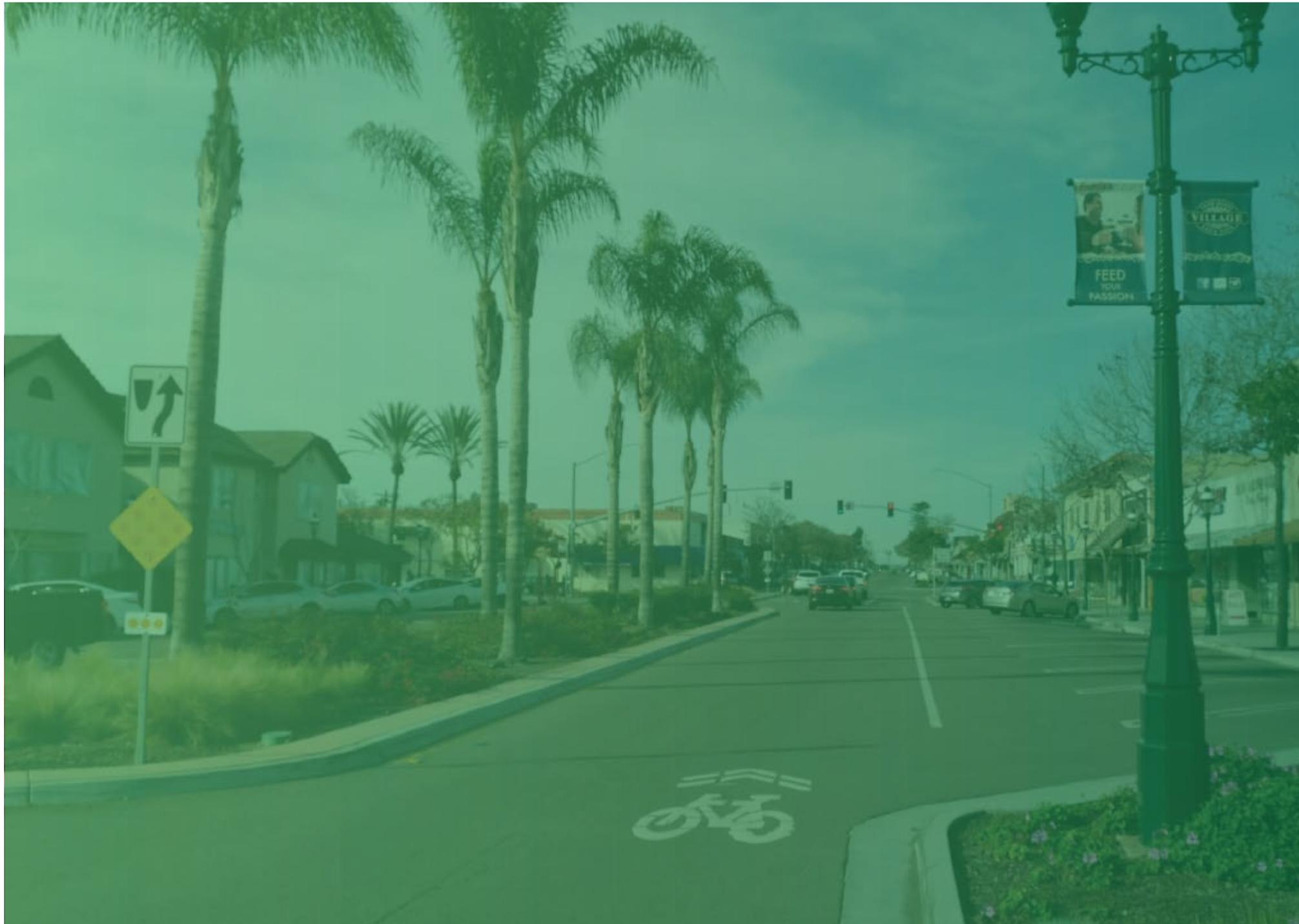


Online Questionnaire



Project Website







4.0

Chula Vista
Tomorrow



4.1 Chula Vista Tomorrow

As Chula Vista continues to grow and seeks strategies to reduce greenhouse gas emissions, investments are needed in the public realm and transportation infrastructure to make trips by foot and by bike viable and comfortable options for all. Reducing trips by vehicle – more specifically the average vehicle miles travelled – is one tool identified in the City’s Climate Action Plan that will help reduce greenhouse gas emissions. Increasing the share of short trips made by walking and bicycling is one strategy commonly used to reduce vehicle trips. To facilitate these trips, a high-quality transportation network is needed so users of all skill levels and abilities feel comfortable accessing their desired destinations.

The City has worked extensively to ensure new developments and new roadways incorporate connections for people that walk and ride bicycles. Similarly, the City continues to retrofit older communities and roadways with new and improved infrastructure. Still, opportunities remain for enhancements that expand mobility options and further encourage community members to consider trips by foot or by bike.

This Chapter identifies themes and recommendations to improve walking and bicycling conditions throughout Chula Vista. The recommendations are intended to not only accommodate existing and future demand, but to provide true mobility options that will help foster a healthier and more sustainable Chula Vista. The recommendations outlined throughout this chapter were informed by the existing conditions analysis summarized in Chapter 2, and the community engagement efforts discussed in Chapter 3.

A set of project goals and strategies were established in the early project stages, to help guide the development of the Active Transportation Plan. Physical improvement recommendations were developed with focus on enhancing safety and experiences for people walking and bicycling in Chula Vista, considering sidewalk infill locations, a pedestrian route type designation system, and a robust bike network. A discussion regarding shared mobility use and curbside management for shared mobility devices is also provided, followed by a toolkit of programs for consideration. This chapter is further supported by Chapter 5 which provides information related to implementation.

4.2 Goals and Strategies

Project goals identify the desired stated outcome or end results, while strategies identify supporting actions to be taken as steps towards achieving the goals. The City of Chula Vista's currently adopted Bicycle Master Plan (2011), Pedestrian Master Plan (2010), Land Use and Transportation Element of the General Plan (2005), and the Chula Vista Elementary School District's Safe Routes to School Master Plan (2017) provide goals, objectives and strategies related to active transportation. These were used as a starting point for formulating the following goals and strategies and, in some cases, carried forward into this Active Transportation Plan. The findings from the Existing Conditions Report and the public outreach efforts were also referenced throughout the development.

Four overarching goals are identified as desired outcomes for active transportation within Chula Vista:

- A mobility network that provides safe and convenient travel for pedestrian, bicycle and micro-mobility modes between residential areas, activity centers, recreational resources, schools, transit, and neighboring areas.
- An accessible mobility network that meets the needs of travelers of all ages and abilities and is supported by programs and high-quality infrastructure.
- An environment that allows for school aged children to safely walk and ride their bicycles to school on convenient and connected routes.
- A mobility network that is well-integrated with the City's land uses, is flexible and adaptable to change, and aligned with the Climate Action Plan which seeks to reduce greenhouse gas emissions.



A series of strategies were developed as supporting mechanisms, intended to aid the City in working towards the goals. The strategies are divided amongst Engineering, Education, Encouragement, Enforcement and Evaluation – each playing an important part of a successful multimodal program.



Engineering Strategies

- 1.1 The City shall continue to provide, improve, and maintain a safe and efficient system of sidewalks, trails and pedestrian crossings.
- 1.2 The City shall continue to expand the network of sidewalks and pedestrian facilities, with an emphasis on infill locations and other high priority projects identified in Figure 5-1.
- 1.3 The City should implement the planned bicycle network as shown in the Active Transportation Plan Figure 4-3.
- 1.4 The City will use its Pedestrian Connectivity and Infrastructure Improvement Plan, in conjunction with its Americans with Disabilities Act (ADA) Transition Plan to ensure sidewalks, curb ramps and crossing are ADA compliant and provide a complete network.
- 1.5 The City should coordinate with Caltrans and SANDAG to enhance pedestrian and bicycle mobility at interchanges along the Interstate 5, Interstate 805, State Route 54, and State Route 125 corridors.
- 1.6 The City shall consider the full spectrum of design enhancements – including innovative facility types, traffic calming features and enhanced crossings – to improve pedestrian, bicycle, and micro-mobility user's safety and movability.
- 1.7 The City will support the development of emerging mobility technologies by providing innovative mobility treatments and collaborating with technology vendors.
- 1.8 The City should coordinate with MTS and SANDAG to improve multimodal access to transit centers and stops through the provision of safe and convenient facilities and access points.
- 1.9 The City shall coordinate internally to ensure cohesive connections between pedestrian and bicycle networks outside of the public right-of-way and in public open space areas.
- 1.10 The City shall coordinate with SANDAG, MTS, Caltrans, National City, City of San Diego, County of San Diego and the Port of San Diego, to ensure cohesive connections between Chula Vista's pedestrian and bicycle networks and roadway facilities owned and managed by other jurisdictions.
- 1.11 The City should provide – or coordinate with appropriate entities to provide – U-lock compatible bicycle parking at major destinations such as parks, schools, civic locations (libraries, City Hall, etc.) and commercial centers.
- 1.12 The City shall consider enhancing lighting along select routes to increase visibility and safety.



- 1.13 The City should consider establishing a wayfinding plan to direct users to high quality active transportation routes and corridors.
- 1.14 As utilities are undergrounded, the City should evaluate the potential for repurposing landscaped parkways as expanded active transportation facilities.
- 1.15 Infill sidewalk locations fronting commercial, industrial, or educational uses, or are along Circulation Element roadways should be prioritized.
- 1.16 Residents may petition to establish an assessment district to implement infill sidewalks.

Education Strategies

- 2.1 In collaboration with the City's Safety Commission and partner organizations such as BikeWalk Chula Vista, the City should facilitate educational programs to teach children and adults safe walking and bicycling behaviors, and educate motorists on sharing the road.
- 2.2 The City will coordinate with shared mobility vendors to educate users how and where to properly ride shared micro-mobility devices.
- 2.3 The City will coordinate with shared mobility vendors on addressing pressing safety concerns stemming from the use of micro-mobility devices.
- 2.4 The City will continue to coordinate with the Chula Vista Elementary School District's Safe Routes to School Coordinator regarding safety and policy issues, infrastructure and city-wide active transportation educational programming, as well as, funding opportunities.

Encouragement Strategies

- 3.1 The City will emphasize the health, environmental, educational, and social benefits of walking and bicycling by supporting school and city-wide activities, contests, and incentives.
- 3.2 The City may provide pedestrian and bicycle wayfinding signs around major transit stops, which may involve coordination with MTS, SANDAG, and/or other property owners.
- 3.3 The City will continue to coordinate with shared mobility vendors to increase accessibility to alternative transportation options.
- 3.4 The City will continue to participate and promote regional activities (Bike to Work Day) and available resources (iCommute Program) intended to encourage walking and bicycling as viable forms of transportation.

Enforcement Strategies

- 4.1 The police department will use targeted enforcement to educate motorists, students, pedestrians and cyclists of traffic laws and to share the road.
- 4.2 The City should designate a police department liaison for the bicycling and walking communities.
- 4.3 The City's Engineering and CIP Projects Department will continue to coordinate with the police department to identify safety concerns that can be addressed through education, enforcement, or engineering solutions.

Evaluation Strategies

- 5.1 To support project implementation, pursuit of grant funds, and/or to better understand travel behaviors, the City will conduct pedestrian and bicycle counts, as funding permits.
- 5.2 The City will continue to review and analyze pedestrian and bicycle crash data to identify deficiencies or trends, measure progress and develop solutions that minimize conflict and improve safety.
- 5.3 The City will continue to support the school districts in conducting annual student travel tallies and parent surveys for schools actively participating in SRTS programs.
- 5.4 The City will continue to regularly collaborate with local and regional organizations, such as BikeWalk Chula Vista and the San Diego County Bike Coalition, to identify educational opportunities, as well as, safety and/or infrastructure improvements.
- 5.5 The City may review data from the shared micro-mobility devices to gain insight into usage patterns to help guide permanent regulation development and potential future infrastructure investments.
- 5.6 The City will conduct before and after safety and utilization evaluations for major active transportation improvements.
- 5.7 The City will establish a monitoring program to actively track implementation of this Active Transportation Plan.
- 5.8 The City will seek funding sources to implement the recommendations set forth in this Active Transportation Plan.
- 5.9 The City will encourage completion of the Bayshore Bikeway and connecting facilities to the north and south of J Street with collaboration from the Port of San Diego and other partners.

4.3 Improvements for People that Walk

The key planning considerations driving the pedestrian recommendation development process include prioritizing sidewalk gap closures, focusing treatment and safe crossings within high pedestrian activity areas, and establishing a mechanism for identifying future site-specific improvements citywide. These considerations resulted in a hierarchy process to prioritize where to construct missing sidewalks and a pedestrian route type classification system used to designate different roadways based on the existing or potential levels of pedestrian demand. The hierarchy may also be used to determine suitable, high-use locations where wider sidewalks should be encouraged or provided.

In addition to these, the City recently completed an extensive curb ramp inventory process which detailed the location of each existing and missing curb ramp, as well as ADA requirements such as ramp slope, the presence of detectable warning pads, and other characteristics. Curb ramps will continue to be constructed or replaced with adjacent sidewalk infill projects, site redevelopment and as future capital improvement projects.

Sidewalk Infill Hierarchy

Current City Municipal Code mandates new developments – or redevelopment of existing properties – to construct sidewalks along their frontage in accordance with the City’s adopted standards as identified in the City’s Department of Engineering and Capital Projects Design and Construction Standard Drawings. However, areas of the City, particularly in western Chula Vista, were developed prior to the sidewalk requirements, leaving existing gaps in the sidewalk network.

To address the missing sidewalks, an infill hierarchy process was established with the intent of filling gaps where they would provide the greatest safety benefit and also have the potential to benefit the greatest number of users. To address this, the missing sidewalk locations identified citywide (Figure 2-12) were overlaid with the City’s currently adopted Circulation Element. From this subset, missing sidewalks along roads with four or more lanes were identified. These locations are understood to have greater vehicular travel speeds and traffic volumes, while also serving as critical links

in the transportation network, thus justifying their importance for all modes of travel and the need to complete the sidewalks. **Figure 4.1** displays the locations of the priority missing sidewalks.

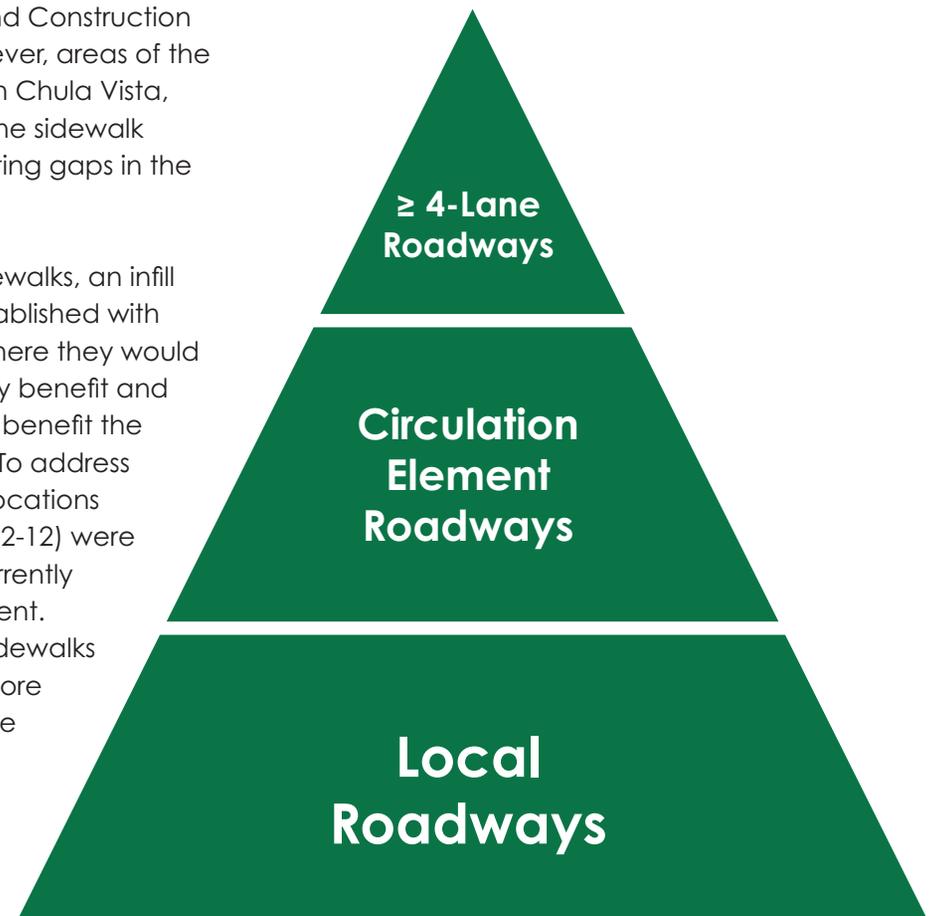
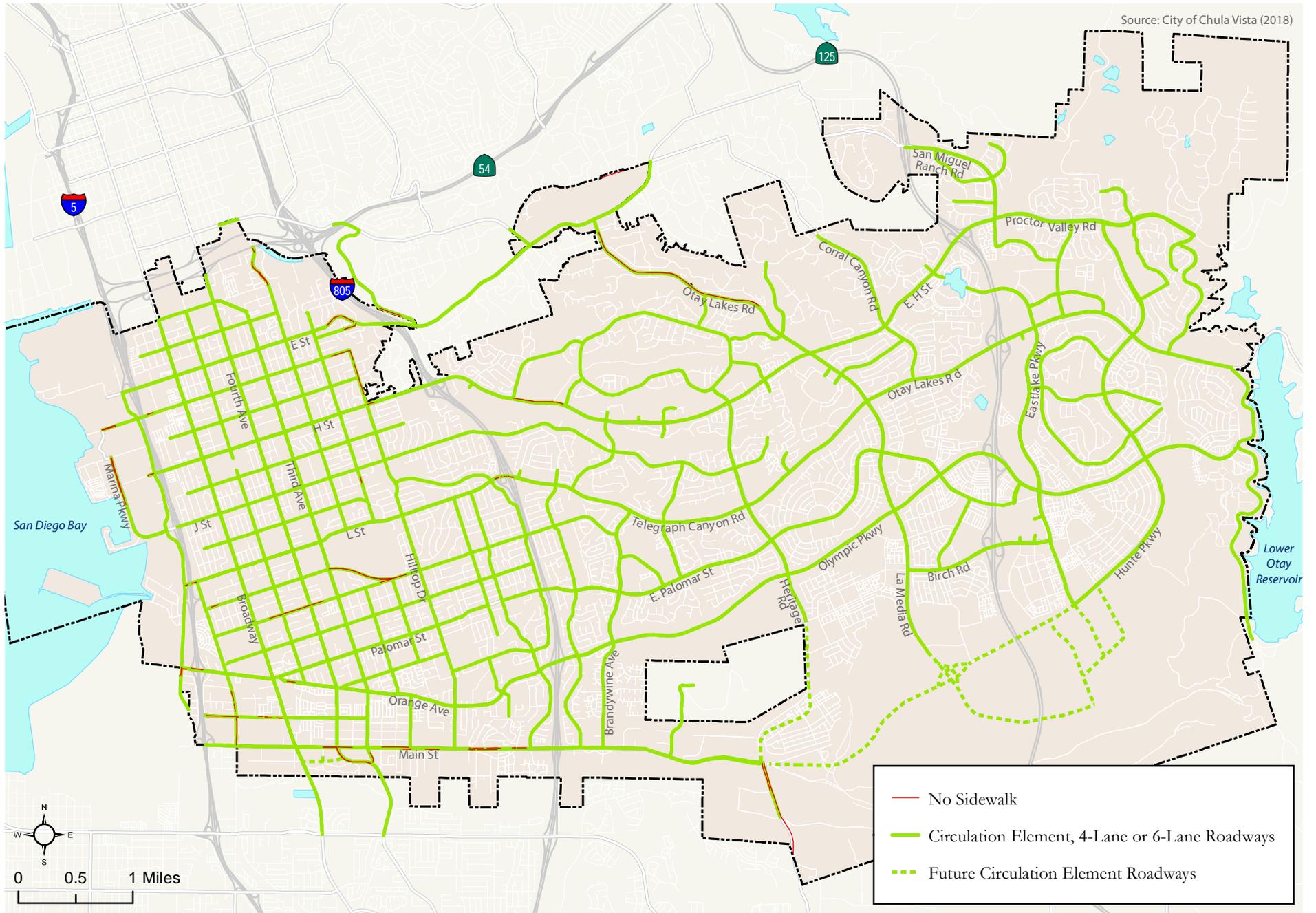


Figure 4-1: Priority Missing Sidewalks



Chula Vista Municipal Code 12.24.040 – Installation of Improvements – Required.

A. Subject to the exceptions and limitations in CVMC 12.24.080, every person causing development in the City, the cost of which exceeds \$50,000, shall install, prior to the completion of such development, the following:

1. Sidewalks, curbs and gutters; pavement in streets, highways and alleys from the gutter or edge of travelway, if no gutters have been required, to the centerline or such portion of major streets in the same manner and to the extent as that required for subdivisions.

Chula Vista Municipal Code 18.32.090 – Curbs, Sidewalks, and Pedestrian Ways – Principles and Standards.

A. Curbs, gutters and sidewalks shall be required in all subdivisions...

In addition to the locations identified in Figure 4.1, some missing sidewalks along Circulation Element Roadways are currently under construction or funded for construction. Due to their imminent completion, these locations are not depicted. They include:

- D Street, from Third Avenue to Fourth Avenue
- Alpine Avenue, from Naples Street to Emerson Street
- Bay Boulevard, south of Palomar Street
- Third Avenue, from Orange Avenue to Main Street



Local Streets

Following completion of locations specified above and in Figure 4.1, efforts should be focused on the remaining missing sidewalks in the City. In the interim, consistent with City Council Policy No. 505-01, should sidewalks along local streets be desired by surrounding residents, an Assessment District may be established to fund the construction of improvements by assessing property owners. If street right-of-way width is less than 46 feet, property owners within the proposed Assessment District boundaries must unanimously agree to dedicate sufficient property to implement the improvements.

In the event an Assessment District is impractical due to a limited number of effected properties, Council may authorize the City to enter into a reimbursement agreement with an individual property owner to finance the property owner's share of construction costs. Note, Council Policy No. 505-01 is not applicable for improvements to private streets.

Decomposed Granite Pathways

Decomposed granite (DG) pathways are common throughout Eastern Chula Vista and many of these pathways were designed as recreational features for

master planned communities. These soft surface trails provide connections for people on foot while also offering additional recreational benefits for runners due to their softer surface when compared to sidewalks. In some instances, where a paved sidewalk currently exists along one side of the roadway but not on the other, a DG surface or longitudinal gradient may be implemented in place of a standard paved sidewalk to support more recreational uses. Similar treatments currently exist within the City along portions of Telegraph Canyon Road, Hunte Parkway, and Olympic Parkway.

The east side of Otay Lakes Road, extending southwards from Songbird Lane, is one location where a DG pathway is being considered in lieu of a standard sidewalk. An existing sidewalk currently runs along the west side of the roadway. There are no fronting properties along the east side of the segment. Additionally, joggers are commonly observed within the bike lanes, favoring the softer asphalt conditions over the hard sidewalk surface. This location, and others with similar potential, will be reviewed in further detail at the individual project level to determine the appropriate surface type.



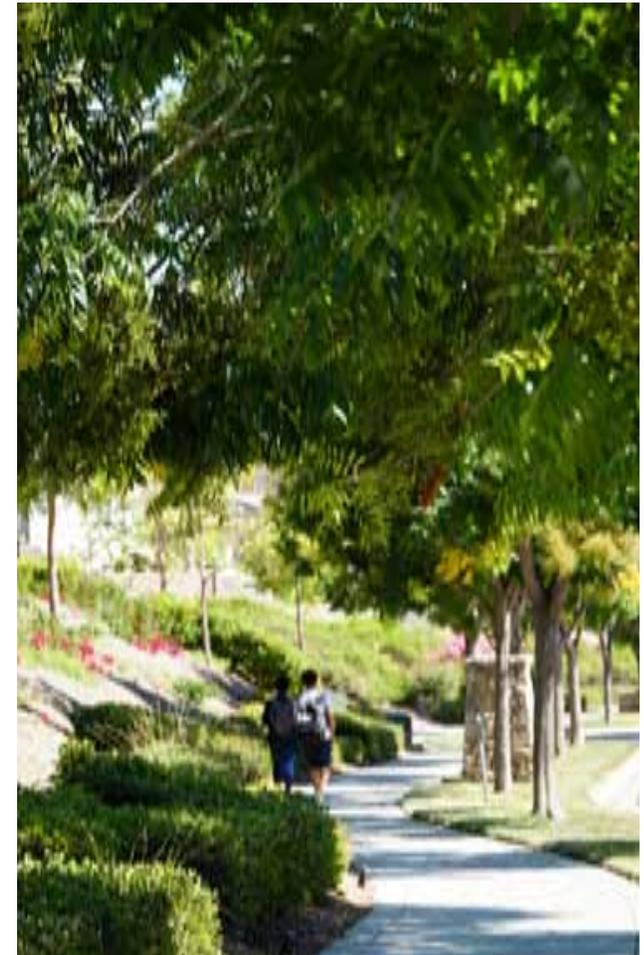
Pedestrian Route Types

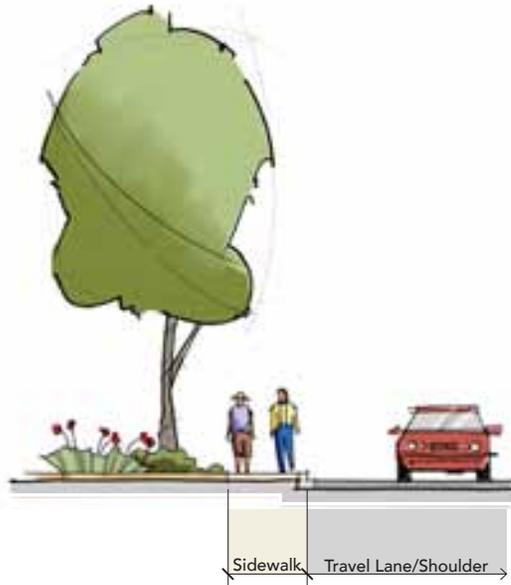
A pedestrian route type classification system is used to categorize roadways based on existing or desired characteristics of the walking environment, adjacent uses, and destinations served. The designations are intended to aid City staff in the selection of pedestrian features and width of sidewalk, based on the level of activity and intent of the route type. Three route type designations are proposed for Chula Vista: Connectors, Corridors, and Districts.

Prototypical illustrations are provided for each of the three pedestrian route types, depicting treatment considerations for each route type. The citywide designations are shown in **Figure 4.2**. Examples of potential design applications of the features are provided in Chapter 5.

Additional pedestrian infrastructure is present throughout Chula Vista that does not fall within the pedestrian route type designations, these include local or neighborhood streets, multi-use paths and bridges, as well as other non-

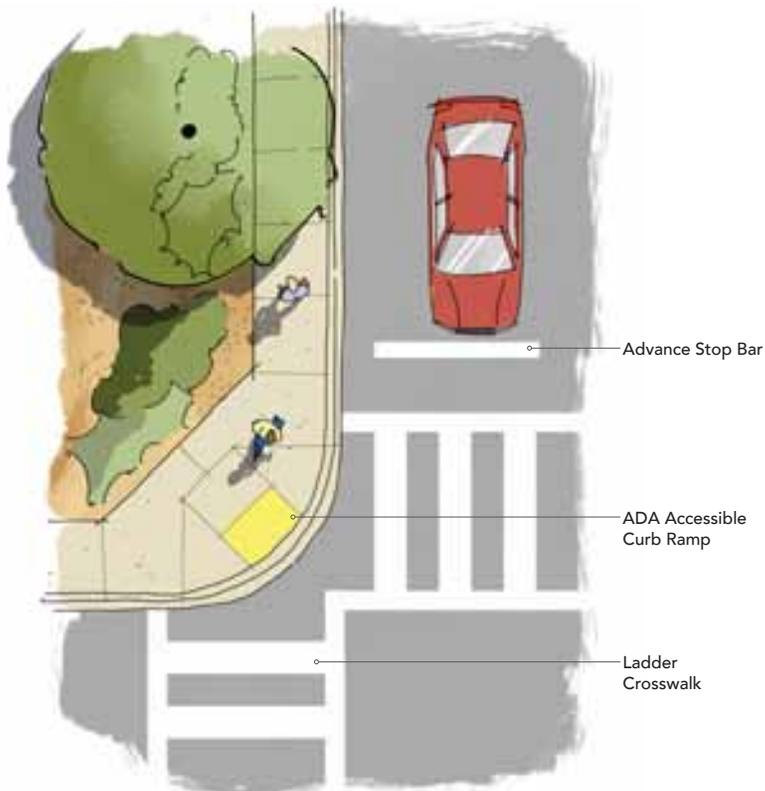
paved pathways typically comprised of decomposed granite surfaces. These facilities are depicted in the route typology map to show the comprehensive network but adhere to supplemental guidance.

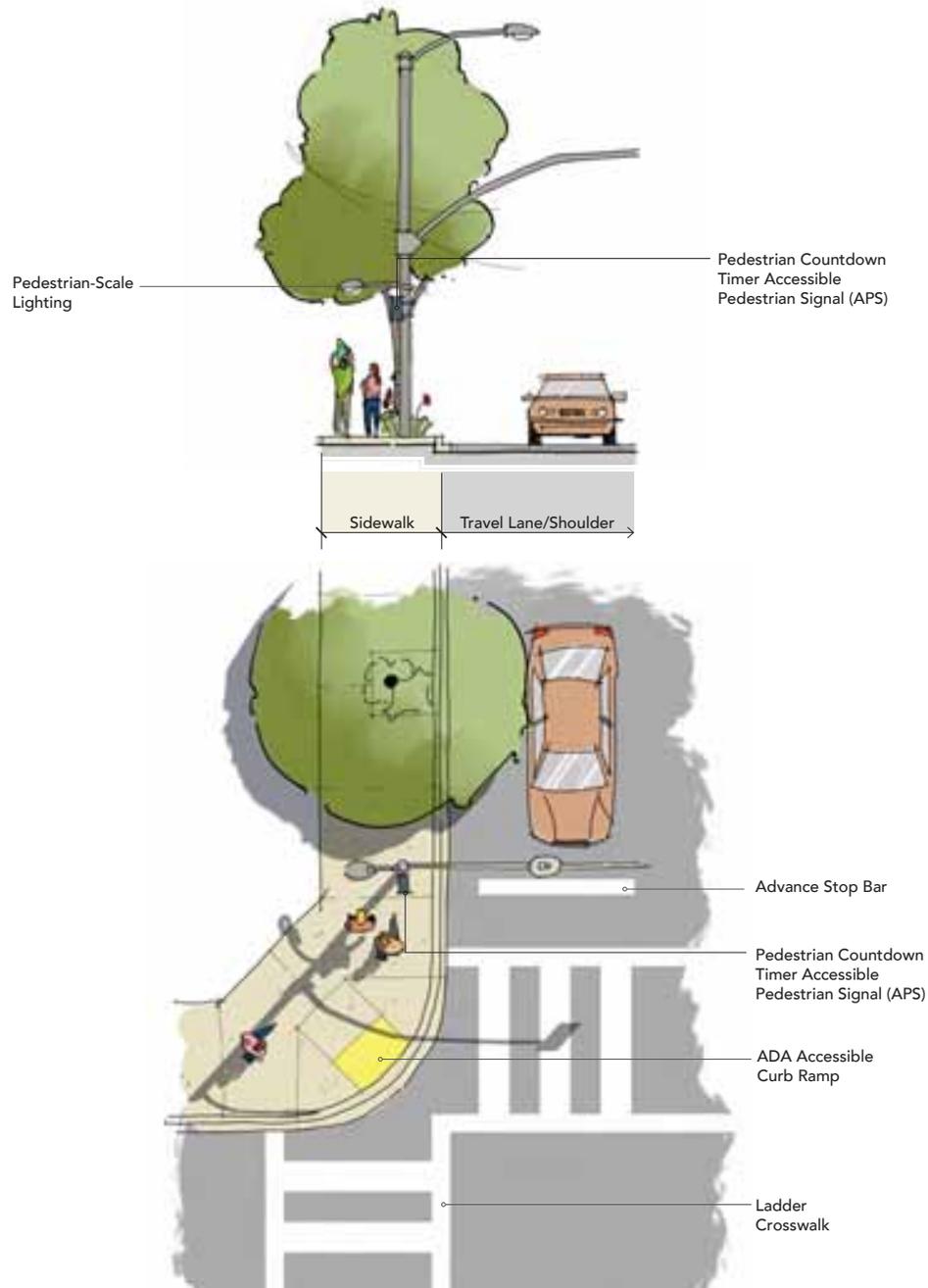




Connectors

Connector route types are designated along roadways with moderate to high levels of vehicular traffic and low pedestrian activity. Connectors commonly bridge the gap between residential neighborhoods and Corridor route types or final destinations, requiring mandatory treatments such as standard sidewalks and accessible curb ramps, as well as marked crosswalks at signalized intersections with advance stop bars.



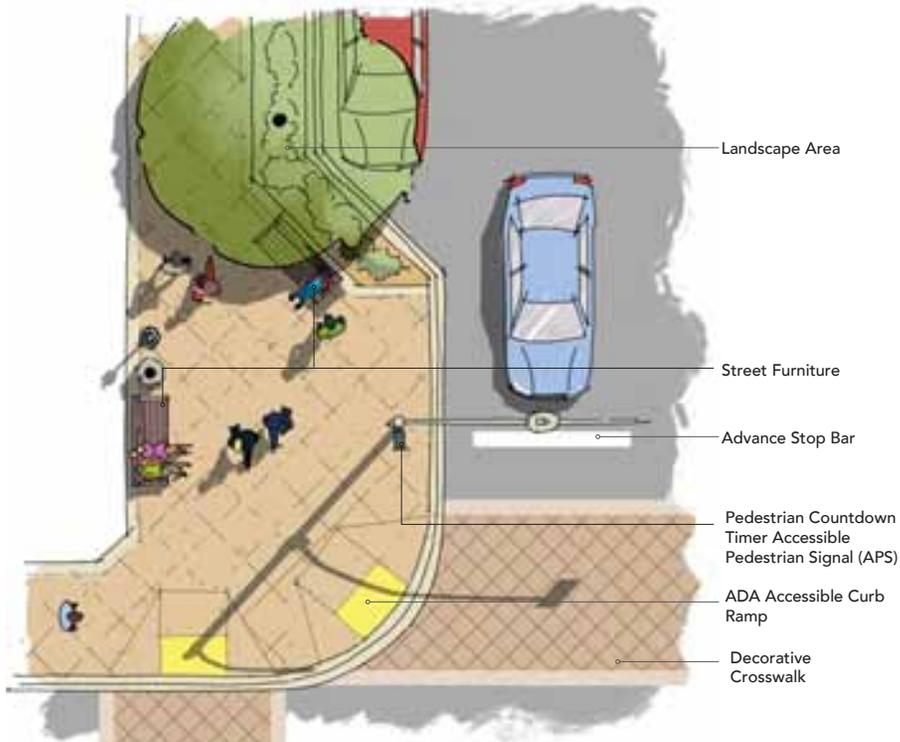
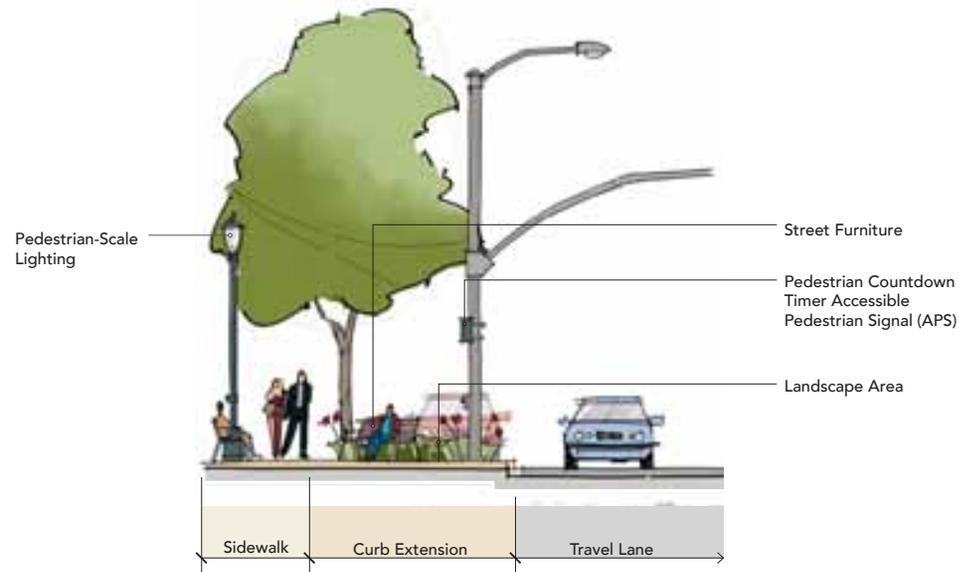


Corridors

Corridor route types are designated along roadways that support businesses, shopping districts, and around schools and parks. Corridors can also serve as a primary route to reach high quality transit stations such as the Blue Line Trolley stations. Moderate pedestrian activity is anticipated in these areas, necessitating more enhanced features to support the additional activity.

Corridor features consist of those identified under Connector route types with the addition of:

- Wider sidewalks (>5')
- Audible pedestrian countdown signal heads at signalized intersections
- Lead pedestrian intervals
- Pedestrian lighting may be used
- High visibility crosswalks



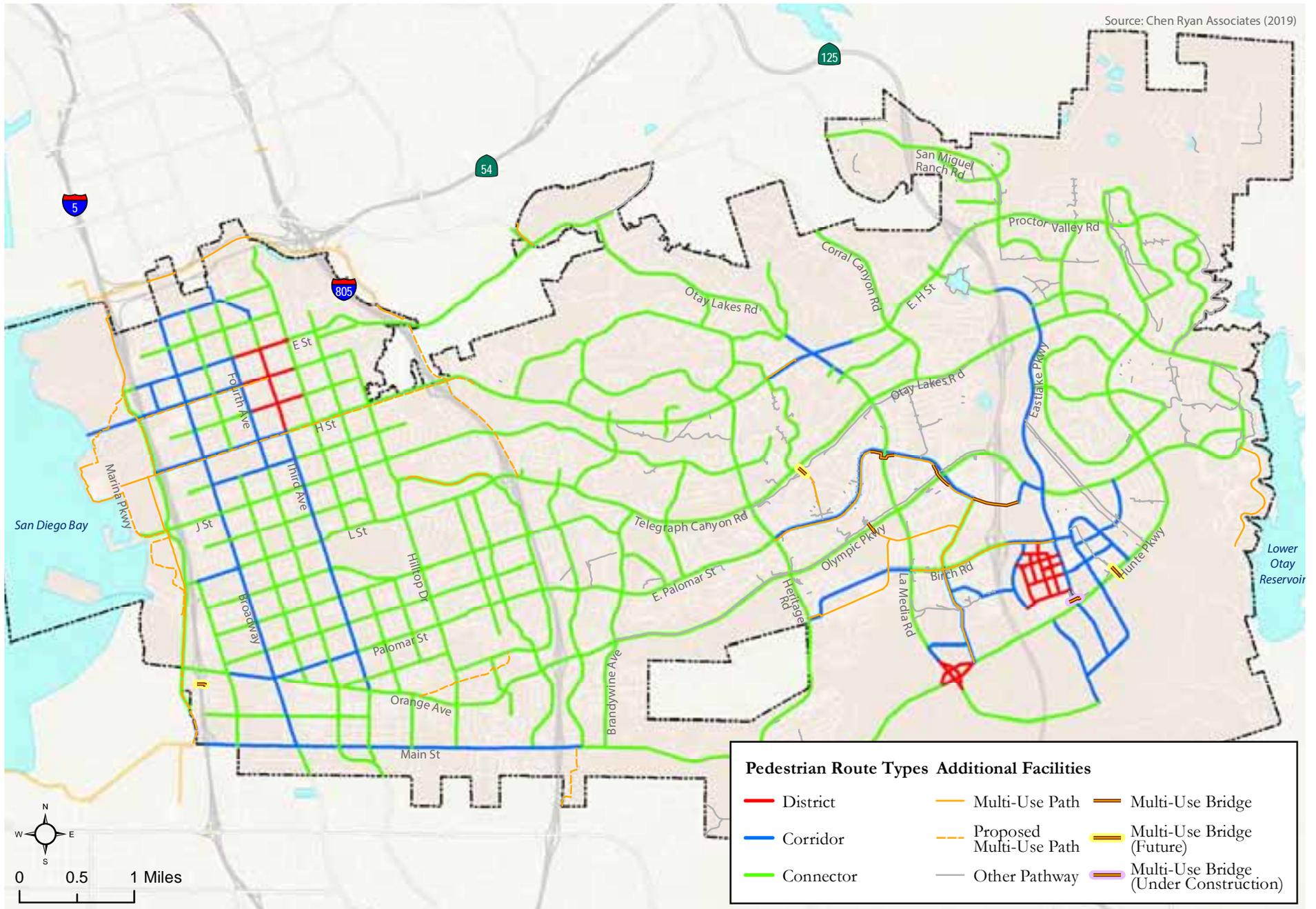
Districts

District route types are intended for areas with the greatest pedestrian activity. This designation is reserved for Third Avenue, areas around downtown and the urban core, as well as the core of the Millenia development and Otay Ranch Town Centers where mixed-use developments are concentrated. In addition to the Connector and Corridor features, Districts are intended to receive more intense improvements that provide optimum comfort and priority for pedestrians.

District features consist of those identified under Connector and Corridor route types with the addition of:

- Increased landscaping and buffers from the roadway
- Decorative crosswalks and/or pavement materials
- Pedestrian street furnishings
- Curb extensions at crossing locations
- Wider sidewalk:
 - consider greater than 8' wide or 10' wide

Figure 4-2: Pedestrian Route Types



4.4 Improvements for People that Bike

Bicycle Network

The bicycle network recommendations were formed in consideration of the key findings from the existing conditions analysis and the public engagement activities conducted over the course of the project. Bicycle-related opportunities consist of the strong street grid in the older, western part of Chula Vista, wide street widths in eastern Chula Vista, and significant transit investments within the City – consisting of the Blue Line Trolley, the South Bay Rapid Bus, and local bus services.

These opportunities are also tied to some of the greatest constraints or challenges facing bicycle network development. The western part of the City is largely built out with limited excess right-of-way. However, the strong street grid is an asset for active transportation modes as it maximizes connection opportunities and offers alternative routes of travel. The wide lane widths in eastern Chula Vista create an opportunity to implement protected facilities, yet they also lead to high vehicle speeds along the limited roadways that connect neighborhoods to destinations. These conditions also result in few locations that are comfortable to cross the freeways, particularly I-805.

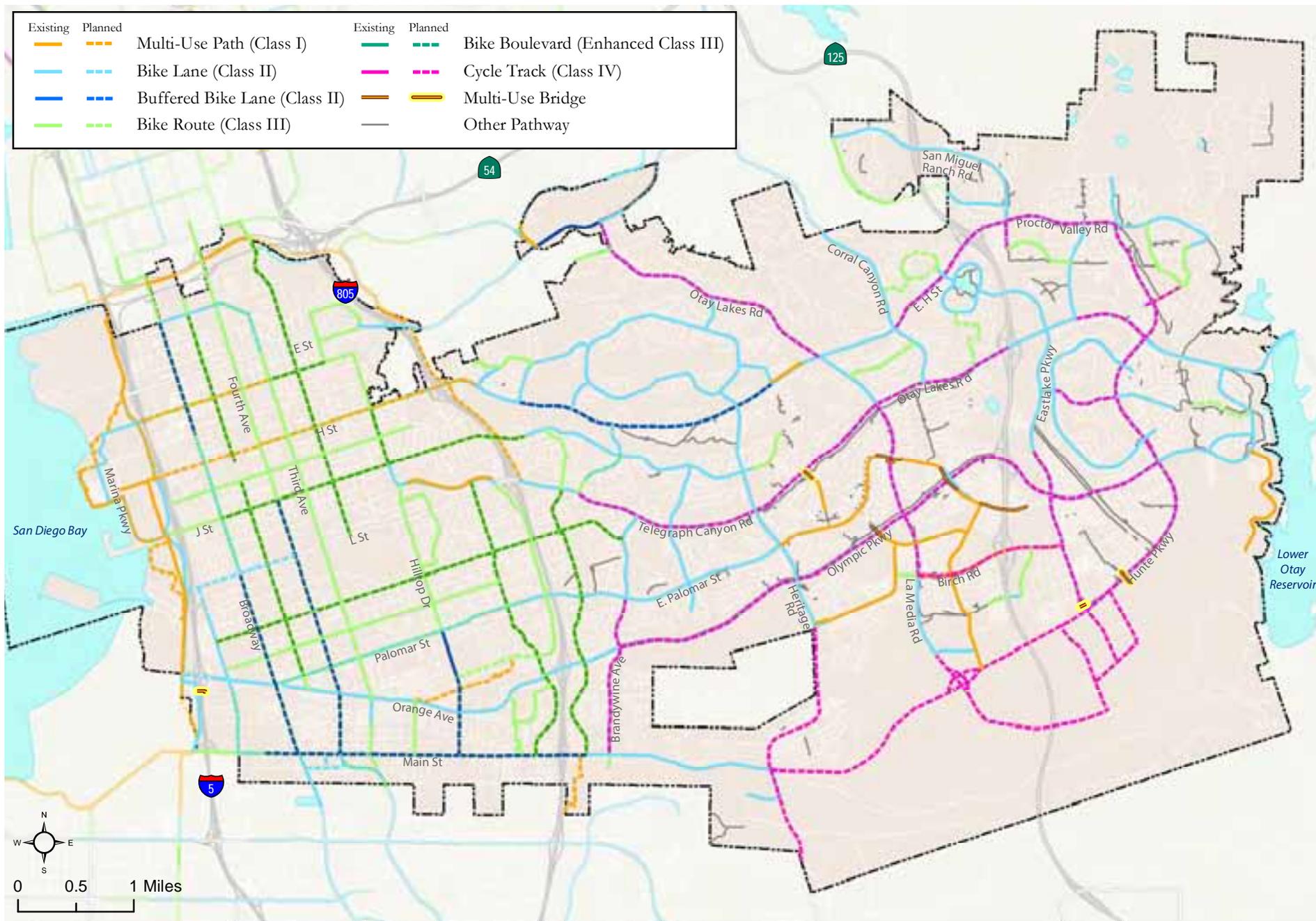
Combined, these opportunities and constraints were used to develop key bicycle network planning considerations. The network development revolved around a desire to strengthen east-west connections, provide protected facilities where possible, create comfortable bicycling environments in constraint conditions, and continue to improve multi-modal connections to transit stations. In western Chula Vista, where existing bicycle facilities are largely comprised of bike routes, the network planning process sought to provide improved connections so comfortable north-south and east-west travel options are widely accessible all throughout this portion of the City. Similarly, in eastern Chula Vista, facility type was

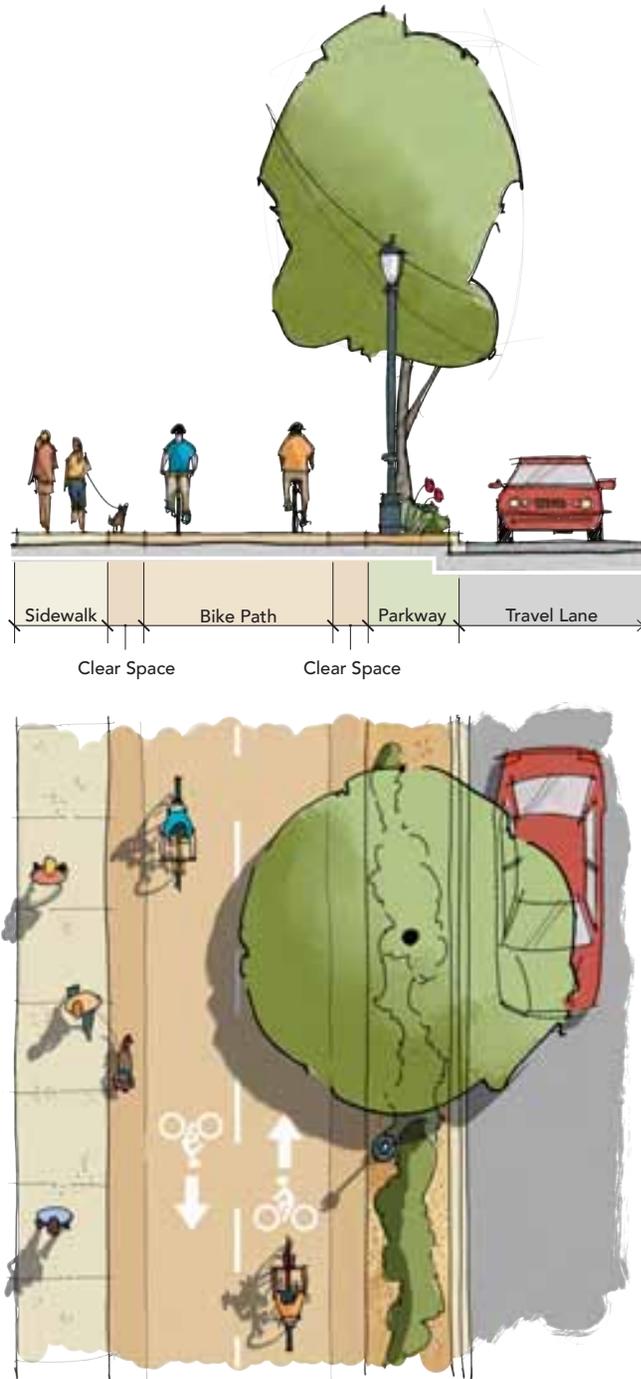
taken into consideration to strengthen the bicycle network through protected facilities along higher-speed roadways where feasible.

Figure 4.3 displays the planned bicycle network, consisting of the Class I multi-use paths, Class II bicycle lanes, and Class III bicycle routes already prominent throughout the City, as well as two facility designations new to Chula Vista: enhanced Class III facilities (bicycle boulevards) and Class IV cycle tracks (protected bike lanes). Chapter 5 provides additional information related to the prioritization and implementation of the facilities.



Figure 4-3: Planned Bicycle Network



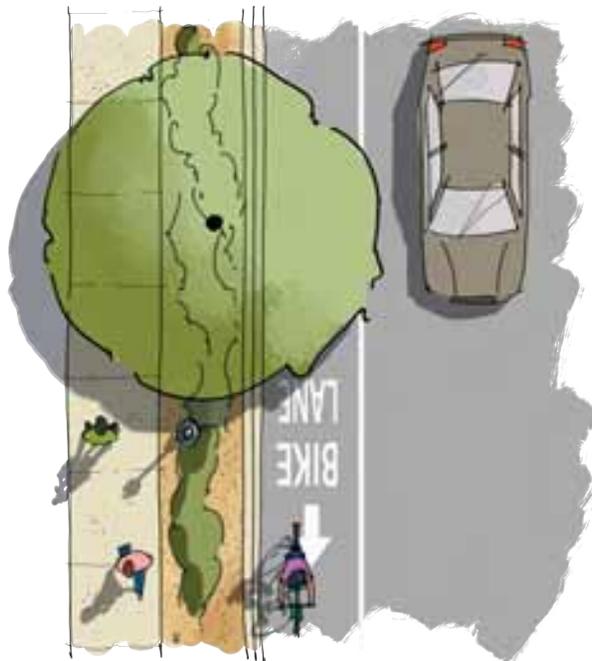
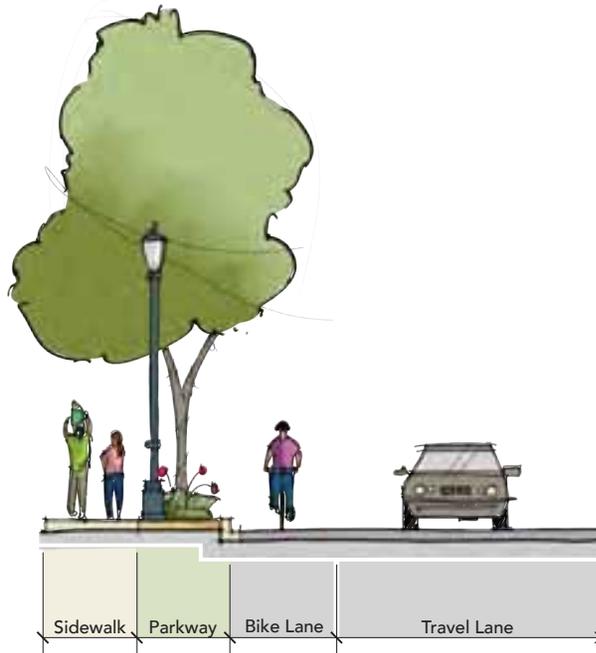


Class I Multi-Use Paths

Multi-use paths are planned as part of two regional facilities: the Bayshore Bikeway and the I-805 Connector. The Bayshore Bikeway runs north-south just west of I-5, while the I-805 Connector runs north-south just east of I-805. Multiple Bayshore Bikeway segments are complete in Chula Vista, as well as a segment abutting the City just to the south. These are significant investments to build upon. Closing gaps between the existing facilities will help realize the true benefits of these investments. Key among the gaps is a stretch between E Street and H Street which would connect two completed projects. The Chula Vista Bayfront project will construct additional multi-use paths, establishing a well-connected network on the City's western edge.

Additional paths are planned along F Street between Bay Boulevard and Third Avenue and H Street from Bay Boulevard to just east of I-805. The F Street facility is consistent with the improvements identified in the F Street Promenade Streetscape Master Plan, while the H Street path builds on the recommendations outlined in the City's Urban Core Specific Plan. These two multi-use paths will provide enhanced connections for residents and visitors alike between the downtown areas, Blue Line Trolley Stations and the Chula Vista Bayfront, while linking to regional bicycle corridors.

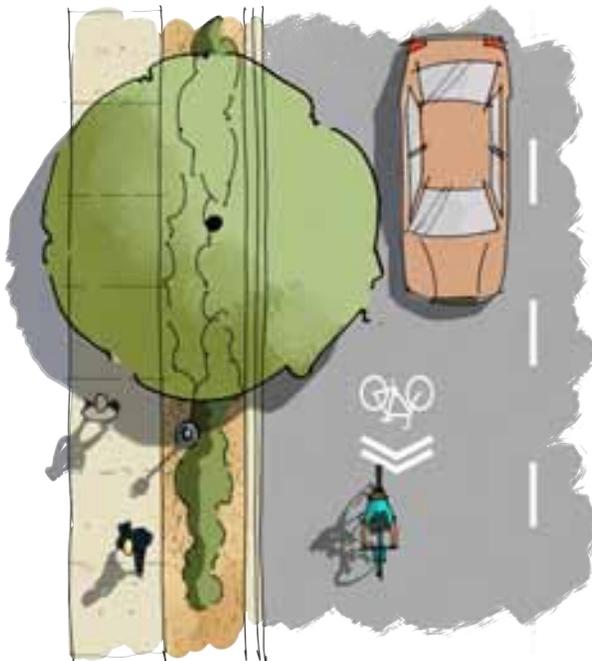
A pathway is also planned within the SDG&E utility corridor that runs just north of Orange Avenue, stretching east from 2nd Avenue passing through or adjacent to the San Diego Gas and Electric Park, Loma Verde Elementary School and Loma Verde Park. Just east of I-805 and south of Main Street, a bike path is planned to provide a comfortable connection between southern Chula Vista and the City of San Diego. This path would originate behind the Chula Vista Crossings shopping center and likely follow the existing unpaved trail southwards to the City of San Diego.



Class II Bike Lanes

Several new bike lanes are planned as enhancements to existing bike routes and to provide facilities along some roadways that are currently lacking. The majority of the planned bike lanes are located in western Chula Vista, and will largely be achieved by narrowing vehicle travel lanes or through road diets where removing a travel lane is not anticipated to create traffic operation issues.

Some of the notable planned bike lanes include Fourth Avenue from J Street to the southern City limit; Palomar Street/East Palomar Street from the existing bike lanes at Broadway to the existing bike lanes near I-805 – consistent with the Palomar Gateway Specific Plan; Main Street from Industrial Boulevard to the existing bike lanes near Oleander Avenue – consistent with the Main Street Streetscape Master Plan; Broadway from C Street to the existing bike lanes at Main Street – consistent with the Bike Lanes on Broadway Feasibility Study. Where feasible, painted buffers will be also be implemented with the new bike lanes.



Class III Bike Routes

The planned bicycle routes are intended to supplement the bike network as short connections between other facility types. The planned bike routes are generally along local roads within neighborhoods that have constrained rights-of-way, limiting the feasibility of other bicycle facilities. However, the planned locations exhibit characteristics suitable for the bicycle route designation in that vehicle speeds and volumes are relatively low. Locations include Walnut Drive/Spruce Road/Maple Drive from Max Avenue to Main Street; East Rienstra Street from Hilltop Drive to Melrose Avenue; Port Renwick east of Corral Canyon Road; and Creekwood Way/Chateau Court/Genevieve Avenue/Marquette Road/St Claire Drive between Lakeshore Drive and Otay Lakes Road.

Enhanced Class III Bicycle Boulevards

Unlike the other bicycle facility classifications, traditional and enhanced Class III facilities do not provide a dedicated space for people on bikes, but rather use in-pavement markings and vertical signage to raise driver awareness to anticipate bicyclists and to demonstrate proper bicycle positioning in the roadway.

Bicycle boulevards function as Class III bicycle routes with enhancements that help keep traffic speeds at or below the posted speed limit. Examples of features common to bicycle boulevards include speed cushions or speed humps, traffic circles, curb extensions, chicanes, diverters to limit cut-through traffic, and speed feedback signs. Bicycle boulevards are commonly branded with signage, murals, or customized in-pavement stencils as a mechanism to further raise awareness of the corridor to bicyclists and motorists alike. As features are implemented, the City should consider conducting speed surveys to determine if it is appropriate to lower posted speed limits along these routes.

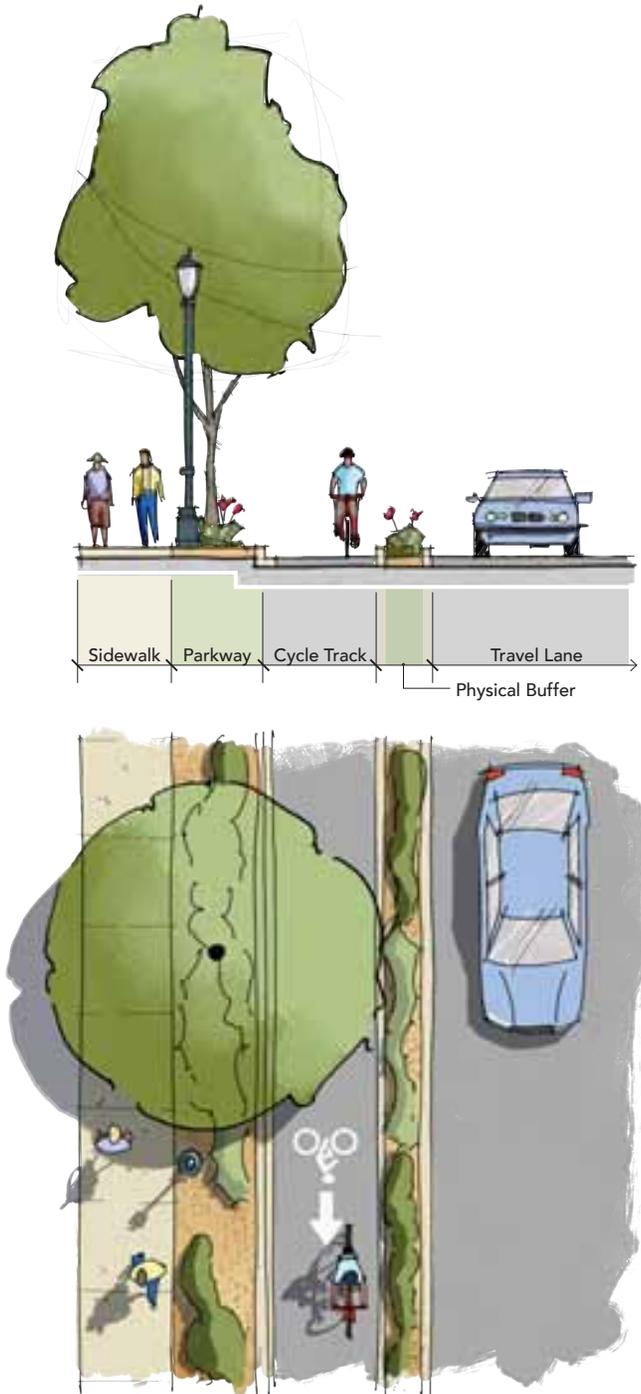


Examples of traffic calming on a bicycle boulevard (NACTO)

Due to their ability to fit within constrained environments without compromising existing features like on-street parking or number of vehicle travel lanes, bicycle boulevards were deemed most appropriate for the western part of the City, where narrow roadways are present and parcels are largely built out. The low speeds facilitated by the traffic calming features should create an environment that is comfortable for various levels of people on bikes and also create a more pleasant walking experience.

Bicycle boulevards are recommended to increase connectivity across I-805 at J Street and Naples Street. These are the only two roadways in Chula Vista that traverse I-805 without on- or off-ramps, making them ideal routes for cyclists. While slowing speeds, the traffic calming enhancements along these roadways could also help discourage cut-through traffic, further improving comfort for people on bicycles. Bicycle boulevards are also recommended for 5th Avenue between C Street and Palomar Street; North 2nd Avenue/2nd Avenue between SR-54 and L Street; Hilltop Drive between H Street and J Street; Melrose Avenue from Telegraph Canyon Road to Main Street; Oleander Avenue from Telegraph Canyon Road to Main Street; and F Street between Third Avenue and 1st Avenue.

The specific traffic calming feature types, locations, and frequency will be dependent upon several factors evaluated at the individual project level. Examples of considerations may include grade, intersection geometry and operations, and observed travel speeds.



Class IV Cycle Tracks

Cycle tracks provide people on bicycles with a dedicated area to ride that is physically separated from vehicular traffic. Cycle tracks are recommended along many of the arterials in eastern Chula Vista, where high travel speeds can make bicycling uncomfortable. Key considerations for citing the cycle tracks involved the presence and frequency of driveways and implementation constraints.

In most cases where a cycle track is recommended, a traditional bike lane is already in place. A buffered area with physical separation will be added to transition the bike lanes to a protected bike lane. The additional width required to implement the buffer, generally 2- to 3-feet, can be acquired by modifying the existing lane striping to create more narrow vehicular travel lanes while still adhering to the City's design standards. The narrowed lanes may also encourage slower driving speeds.

Where feasible, the City will strive to implement cycle tracks that provide a minimum travel-way width of 7-feet which will enable the facility to be shared by bicycles and Neighborhood Electric Vehicles (further discussed in this Chapter). Cycle tracks are planned for Brandywine Avenue from East Palomar Street to Main Street; Heritage Road south of Santa Victoria Road; Otay Lakes Road from Bonita Road to East H Street; La Media Road from Telegraph Canyon Road to Birch Road; Eastlake Parkway south of Corte Vista; Hunte Parkway south of Proctor Valley Road; East H Street/Proctor Valley Road from Corral Canyon Road to Hunte Parkway; Telegraph Canyon Road/Otay Lakes Road from Paseo Del Rey to SR-125; Otay Lakes Road from Lane Avenue to Hunte Parkway; Stone Gate Street from Yosemite Drive to Adirondack Place; Clubhouse Drive from North Greensview Drive to Hunte Parkway; Olympic Parkway from Brandywine Avenue to Hunte Parkway; and Birch Road from La Media Road to Eastlake Parkway. Additional protected facilities are planned for the future roadways in southeastern Chula Vista.

Colored Bike Facilities

Colored pavement can help increase the visibility of bike facilities, identify areas of conflict, and promote safe behaviors. Studies have shown a higher percentage of motorists yield to bicyclists and used a right-turn signal before changing lanes at locations which used green paint. In other instances, an increased number of bicyclists were observed scanning for nearby vehicles after green paint installation.

The intended purpose of colored paint is based on the location it is applied. Typical applications of colored pavement include:

- Across driveways to alert drivers and bicyclists of a potential conflict
- Along the length of a bicycle lane where visibility is of concern or to discourage illegal parking
- At right-turn lanes where drivers cross over a bike lane
- Across wide or complex intersections to guide bicyclists
- At intersections in the form of bike boxes to give priority idling space to bicyclists

Green is the most common color used, as it helps minimize confusion with other markings. Traditional white bike facility lines should be applied to the edges of the green pavement markings to help identify the colored pavement as a component of the bike facility. The white edge lines on the

colored pavement also help to enhance visibility at night. Colored pavement effectiveness is dependent on visibility, emphasizing the importance of maintaining the paint or material.



Bicycle Parking

Providing safe and secure bicycle parking helps encourage individuals to bicycle and makes bicycling more convenient. People are more inclined to ride their bicycle if they know that their bicycle will be safe once they reach their destination.

Different needs are served by short-term and long-term bicycle parking. Short-term parking is bicycle parking that will be used for approximately two-hours or less. This type of bicycle parking should be characterized by convenience and ease and consists of standard bicycle racks that people are able to secure their bicycle to using a personal lock. Long-term parking is parking that will be used for longer than two hours, and

typically a user of this type of parking will place a higher value on security and shelter from weather. Long-term bicycle parking in Chula Vista and the San Diego region typically consists of a bicycle locker into which the bicycle is placed and secured with a key, key card, or access code.



Locations of Existing Bicycle Parking

Several of the major Transit Stations throughout the City of Chula Vista have long-term bicycle parking in the form of bicycle lockers.

- Bayfront/ E Street Trolley Station
- H Street Trolley Station
- Palomar Street Trolley Station
- East Palomar Transit Station
- Heritage Rapid Station
- Lomas Verdes Rapid Station
- Santa Venetia Rapid Station
- Otay Ranch Rapid Station

In addition to the long-term bicycle parking facilities, there are short-term bicycle parking (bicycle racks) facilities throughout the City of Chula Vista at a variety of locations, such as:

- Chula Vista Public Library
- Schools
- Parks
- City Hall
- Third Avenue
- Chula Vista Center
- Otay Ranch Town Center

The City of Chula Vista's Municipal Code 19.85.008(C) contains bicycle parking requirements for office, commercial, recreation and residential in the harbor area.

- Business and professional offices over 20,000 square feet: 5 bicycle parking spaces
- Shopping centers with over 50,000 square feet: 1 bicycle parking space per 33 motor vehicle spaces
- Fast-food, coffee shop or delicatessen: 5 bicycle parking spaces
- Restaurants: 2 bicycle parking spaces
- Commercial recreation: 1 bicycle parking space per 33 motor vehicles spaces
- Residential in harbor: bicycle racks shall be provided for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.

City of Chula Vista Municipal Code

The bicycle parking standards may be augmented by additional requirements identified through specific plans or other guidelines established to direct activities within sub-areas of the City.

With the recent implementation of the Shared Micro-Mobility Device Pilot Program, increased demand for parking within the public right-of-way is anticipated.

Chula Vista Municipal Code 10.72.180 provides additional authority for the City Engineer to establish in-road parking zones – such as a bicycle corral:

“The City Engineer may, by regulation, establish bicycle parking zones in areas adjacent to the curbs, not more than 36 feet in length, as necessary to provide facilities for the temporary parking of bicycles. Whenever a bicycle parking zone is so established, the City Engineer is authorized to place appropriate signs giving notice that parking of other vehicles is prohibited during such hours of such days, and no person shall stop, stand or park any vehicle other than a bicycle in such zone when said signs are in place, contrary to the directions or provisions of such signs.”

Establishing bicycle parking zones as identified under Municipal Code 10.72.180 is one potential solution. As data is derived from the Shared Micro-Mobility Device Pilot Program, the City will have detailed information regarding trip origins and destinations which can be used to inform the selection of appropriate parking type designations. The Share Micro-Mobility Device Pilot Program and recommendations for accommodating shared device use is further discussed within this chapter.

Bicycle Parking Design Guidelines

Short-term and long-term bicycle parking serve different needs and therefore need to be cited and designed in different ways. Short term parking should be close to the entrance of the destination, visible, well-lit and intuitive to use for the first-time user. The bicycle rack should support the bicycle in two places and prevent the wheel from tipping over, as well as, allowing the frame and one or both the wheels to be secured.

In selecting bicycle racks the following criteria should be taken into consideration:

- Supports the bicycle in an upright position
- Rack is intuitive to use even for first time users
- Accommodates a variety of bicycles and attachments
- Allows for the locking of the frame and at least one wheel
- Provides security
- Will last in the intended location (materials are weather proof, tamper-resistant mounting hardware, etc.)

Long-term parking should ensure security and weather protection. Security is the overriding consideration since employees, public-transit users and residents leave their bicycles unattended for long periods of time. Long-term parking can take on a number of different forms, such as a secure enclosure in a parking garage or bicycle lockers.

4.5 Emerging Mobility Trends

The transportation landscape continues to evolve. Technology, facility types, and design treatments are three transportation topics that have experienced notable changes in recent years. The rapid pace of these changes can make it difficult for cities to respond, requiring agencies to maintain a flexible approach and to be in tune with industry shifts. Chula Vista is a “smart city” and is at the forefront of transportation innovation, having participated in a number of pilot projects to test technologies as well as implementing facilities that foster new technologies while also supporting multi-modal travel with high quality infrastructure. Examples include:

- Chula Vista is the only city in the nation federally recognized for both autonomous vehicle (AV) and drone testing in real-world environments
- The City long ago embraced active transportation by creating master planned communities designed around extensive pedestrian and bicycle connections
- The City was involved in a neighborhood electric vehicle (NEV) pilot program in the early 2000’s and is pursuing grant funding to develop a NEV Transportation Plan
- Chula Vista recently implemented smart traffic signals (adaptive traffic signals) that will reduce travel times and emissions and improve safety

Consistent with the smart city approach, this section provides descriptions of three emerging topics relevant to Chula Vista. These include current efforts related to shared micro-mobility devices, NEV’s, and advisory bike lanes which are currently being considered for adoption as a standard treatment at the federal level.

Shared Micro-Mobility

Shared micro-mobility devices are transportation devices intended for short point-to-point trips; this includes bicycles, electric bicycles, as well as, electric and motorized scooters. These vehicles are generally rented through a mobile app or a kiosk and are picked up and dropped off in the public right-of-way. Since this is an evolving field of technology, other types of devices may be offered in the near future.

Micro-mobility services have the potential to solve some big problems confronting cities, and yet they also bring a unique set of challenges. Micro-mobility devices can solve the “first/last-mile” problem, reduce congestion and along with it, reduce a city’s environmental footprint. None-the-less cities must address safety issues, how to accommodate micro-mobility devices on their roadways and parking issues.

First/Last Mile Access to Transit

According to publicly available data, approximately 27% of Lime scooter riders in major urban markets used an e-scooter to connect to or from public transportation during their most recent trip. Given the small, lightweight nature of micro-mobility devices they are useful in increasing access to transit stations.

Transportation for Short Trips

Micro-mobility devices can be used for trips under 5 miles. Statistics show that roughly 60 percent of US trips are under 5 miles and most of the time drivers ride alone (*Forbes*, 2019).





Furthermore, 46 percent of car traffic in the US is caused by cars on trips less than three miles . Data also shows that 30% of e-scooter riders reported using the device to replace a vehicle trip on their most recent trip . Though micro-mobility devices are not for every trip, they can be used to replace several short trips thereby reducing traffic congestion and vehicle emissions.

Transportation Data

Data from shared micro-mobility devices can be a rich source of information for cities. Cities need access to this data so permit compliance can be determined, they can effectively regulate, make

informed decisions about what is happening in the public right-of-way and how it might impact safety, health, equity, environmental outcomes and the distribution of people and resources.

Challenges can present themselves if not addressed on the front end, in particular regarding:

- Data formats and collection methods
- Who collects the data and how often
- How the data will be managed and accessed

Another challenge in this area can be data privacy. As the City develops a privacy policy, consideration should be made to include guidance for shared micro-mobility device providers. This should also involve coordination with all appropriate internal departments to develop and update protocols for how to handle, store and protect data.

Regionally, SANDAG is working to develop solutions and has drafted Regional Micromobility Data Sharing Requirements and make known resources available for local jurisdictions. The site also offers links to peer city policies and regulations as well as guidance from national organizations such as the National Association of City Transportation Officials (NACTO) and the Transportation Research Board (TRB).

Low Impact Transportation

Shared micro-mobility devices have a lower carbon footprint than motor vehicles. Additionally, shared micro-mobility devices make more efficient use of parking and infrastructure compared to an automobile trip.

Equity

Shared micro-mobility device deployment can raise equity issues. Currently, most micro-mobility devices are accessed through an app and registration requires the input of debit or credit card information. This necessitates two things: a mobile phone and a bank account. Lower income people may not have a cell phone or own cell phones that do not have app capabilities and are either unbanked or underbanked.

Companies are working on solutions. Grow Mobility, which operates in Latin America, offers digital wallets and digital payment functionality. These companies allow customers to purchase ride credits in cash. Additionally, ride credits can be used for other purchases and payments, such as, for utility bills, restaurants and money transfers between friends .

Cities should work with shared micro-mobility device operators to address equity issues.

Micro-Mobility Parking and Riding

Parking and riding in improper locations can be a challenge for cities. Clearly delineating parking locations can help. Working with vendors to employ geofencing can also be useful. Geofencing, a communication technology that sets digital boundaries, can be used to alert the rider if they enter a no-go zone or park improperly. In some instances, geofencing can also be used to control device speeds in defined locations.

Chula Vista's Ordinance Regarding Shared Micro-Mobility Devices

The City of Chula Vista adopted an ordinance regarding shared micro-mobility devices in 2019. The ordinance implements a Shared Micro-Mobility Device Pilot Program, requiring any shared micro-mobility device business to obtain a business license and permit to operate within the City of Chula Vista. The ordinance states that any permits issued pursuant to this ordinance will expire within 12 months of the date issued, unless extended by the City.

The ordinance makes it unlawful to abandon or leave a shared micro-mobility device in the public right-of-way in such a way that it obstructs travel, poses a public safety hazard or disrupts any municipal functions or services. In these events, the devices can be impounded.

The ordinance also defines areas where the shared micro-mobility devices may not be operated. Devices may not be used on sidewalks in general, but specifically within the business district or on sidewalks where there is a sign prohibiting riding or operation of such devices. Shared mobility device use is also prohibited outside of a striped bike lane on roadways posted at 40 miles per hour or greater, the prohibition includes roadways which do not have bicycle lanes. However, scooters are allowed to be operated on roadways outside of a bicycle lane if the posted roadway speed is 35 miles per hour or less. The ordinance also gives the City Engineer the authority to establish parking zones for shared micro-mobility devices.

Possible Parking Regulations

Increasingly, cities and operators are encouraging customers to leave the shared micro-mobility devices in designated parking zones or "corrals." Designating parking locations provides cities with more control over device start and end locations, increases the predictability of users and non-users alike, and reduces encroachment of the public right-of-way.

Parking corrals should be marked with neutral, non-branded signage to best inform customers of where devices should be parked. It is recommended that devices



should not be parked immediately adjacent to a crosswalk or curb ramp. Parking corrals are recommended for crowded areas where many trips start and end and sidewalk space is in high demand.

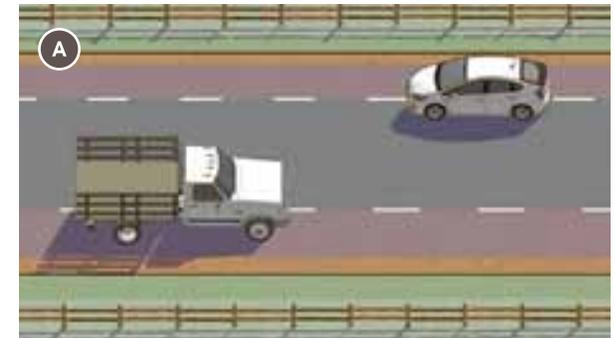
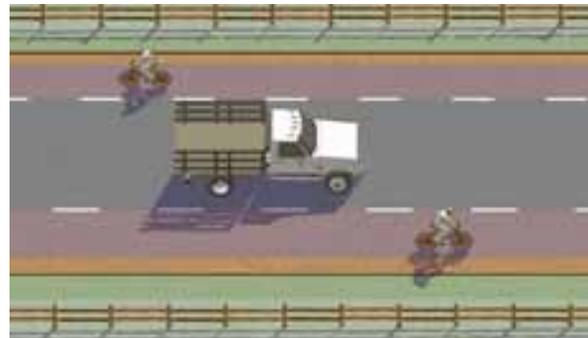
Some in-road locations, where on-street vehicle parking is prohibited, may be suitable to designate for shared device parking. These may include locations where the curb space is too small to accommodate a traditional vehicle, or near

an intersection or driveway locations where vehicular parking is prohibited to provide adequate sight distance.

The City of Chula Vista should maintain a flexible approach to accommodate and regulate shared mobility devices. A safety-first focus should continue to be the priority, while also providing a regulatory environment that does not deter device deployment or utilization. The technology, data, and user behaviors will continue to evolve, requiring the City to regularly evaluate program successes and challenges, and adjusting as necessary to ensure benefits are captured while still providing a safe roadway environment.

Advisory Bicycle Lanes

Advisory Bicycle Lanes (ABL), also referred to as Edge Lane Roads (ELRs), are an emerging tool for narrow roadways with no centerline and low motor vehicle traffic. Dotted lines create designated bicycle areas on both sides of a narrow road. When bicycles are present, the designated motor vehicle area is not wide enough to accommodate two cars in each direction creating a queuing situation which reduces motor vehicle speeds. When no bicycles are present, motor vehicles are allowed to enter the bicycle area. This treatment is sometimes also referred to “Advisory Shoulder” and/or “Dashed Bicycle Lanes.”



The image above depicts an advisory bicycle lane with and without cyclists. (FHWA Small Town and Rural Multimodal Networks, 2016)

ABLs have the potential to provide bicycle infrastructure in locations with limited space in the public roadway. They are currently considered an experimental roadway treatment by the Federal Highway Administration (FHWA), although they are being considered for inclusion in the national Manual on Uniform Traffic Control Devices (MUTCD). California is not currently considering adoption of this design, although it may in the future. The FHWA currently recommends use of the Request to Experiment (RTE) process for new installations.

Context

ABLs are used on streets with low speed limits and low average daily traffic volumes. The FHWA Small Town and Rural Multimodal Networks Guide (2016) indicates that the preferred context for ABLs are on roadways with speeds posted at 25 miles per hour (mph) and 3,000 average daily traffic (ADT) but permits the implementation on roadways of posted speeds of 35 mph and 6,000 ADT.

Currently, all existing ABLs are less than one-mile in length since they function as a gap filler between existing infrastructure.

Safety

Data from six North American installations , showed that following the installation of the ABL (*ITE Journal, December 2019*):

- There was a reduction or no change in the crash rate
- There was a reduction or no change in motor vehicle speed
- There was a reduction or no change in motor vehicle volume, and
- There were mixed results with respect to bicycle volume change.

Though the sample size is small – 6 installations – through October 2019, the installations entailed 87.8 million vehicle trips. It is worth noticing, that the lack of safety issues across a base of this size shows that this infrastructure can work in North America.

Education

Even though this infrastructure has been shown to be intuitive, due to the fact that this is an uncommon and unfamiliar treatment education should be included with implementation. It is recommended that education is spread across various platforms, for example signage on the corridor where advisory bicycle lanes are implemented, explanatory brochures or pamphlets, as well as a video posted on the City's website.



Neighborhood Electric Vehicles

Neighborhood Electric Vehicles (NEVs), are a type of low-speed, lightweight electric Local Use Vehicle (LUV). NEVs are limited to speeds up to 25mph, and, may drive only on streets of speed limits up to 35 mph, as per the California Vehicle Code. NEVs can cross roads of speed limits greater than 35mph if the crossing, controlled or uncontrolled, begins and ends on a street with speed limits less than or equal to 35 mph.

NEVs present unique opportunities and challenges to infrastructure, as they often share space in the road with cars, and sometimes with bikes and other slow modes such as e-bikes and scooters.

California Regulatory Context

The California Vehicle Code defines NEVs as a type of Low Speed Vehicle (LSV). The driver of an NEV must have a driver's license, be insured in the same way as a driver of a full speed vehicle, and the vehicle has to be registered with the DMV and have a VIN number. Dealers of NEVs are required to warn buyers of the risks associated with driving a vehicle without safety features. NEVs need to conform to the safety standards set forth in the Federal Motor Vehicle Safety Standards governing the requirement for features such as seat belts and headlamps. If an NEV is modified to travel at a speed greater than 35 mph, then it is required to have all the safety

equipment of a full speed vehicle. Barring the few cases where a jurisdiction's NEV Transportation Plan is adopted as the result of an action by the State legislature, an NEV cannot travel on roads with speed limits above 35 mph. NEVs can cross roadways with a speed limit in excess of 35 miles per hour if the crossing begins and ends on a roadway with a speed limit of 35 miles per hour or less and occurs at an intersection of approximately 90 degrees. An NEV shall not traverse intersections without traffic controls (e.g. traffic lights, stop signs) with any state highway, unless that intersection has been approved and authorized by the agency having primary traffic enforcement responsibilities for that crossing.

A local police department with primary traffic enforcing responsibility, or the CHP, may prohibit the use of NEVs on any roads under their jurisdiction in the interest of public safety. Any such prohibition is made effective through signs upon the roadway.



NEV Plans and Space Requirements

The City of Chula Vista can develop and adopt a specific NEV plan designed to optimize the use of NEVs as a viable transportation mode and is currently pursuing grant funding in partnership with SANDAG.

Safe NEV routes can be established through a network of designated slow speed paths, lanes and routes on streets with speed limits up to 35 mph. Consideration of safe crossings is key to ensuring connectivity of the network. Specific signage is necessary for ensuring mobility and safety for NEV routes so drivers of NEVs understand where they should and should not go, and other drivers are also aware of the presence of NEVs. Cities throughout California are adapting the Streets and Highway Code definitions of bicycle facilities to include provisions for NEVs as "Slow Speed" networks. Typically, this can be done within the design considerations of existing bikeways, although occasionally additional lane width is required to accommodate NEVs.

Typical considerations are as follows:

- Class I Slow Speed Path - Off street multi-use path, shared by all slow modes (recommended 14' width, 7' in each direction)
- Class II Slow Speed Lane - Striped, dedicated on-street lane on 35+mph roads shared by on-street slow modes (recommended minimum of 7' width using existing bicycle lanes)
- Class III Slow speed Route – Shared by all on-street modes (recommend using existing 10-12' general purpose travel lanes). Segments would ideally run on roads with posted speed limits of 25 mph that also meet the City's definition of a low-stress roadway as identified in Chapter 2 of the SMP.
- Class IV - Protected lane for bikes and non-NEV on-street slow modes; 35 mph roadway shared by cars and NEVs (recommended 5' minimum in each direction).

In cases of network segments on roads over 35 mph, under current California law the speed limit on these segments would need to be lowered to accommodate NEVs, as per the California Vehicle Code, NEVs cannot travel on roads with a speed limit of over 35 mph. By preparing an NEV Plan, cities have been granted exemptions from the California Vehicle Code rule that restricts NEVs to roads with speed limits of 35 mph and under.

NEV Plans lay out the design and engineering for NEV networks - including striped lanes and crossings shared by NEVs on specific roads with speed limits higher than 35 mph. These planning and engineering proposals require buy-in from law enforcement and Caltrans, and then are submitted by cities, Council of Governments, and Municipal Planning Organizations to the state legislature so lawmakers can make the necessary additions to the California Vehicle Code granting exemptions. The final steps would be the local adoption of the NEV Plan by the City Council, and, five years later, a report back to the legislature on the safety performance of the network.

“
**SB 1151 Neighborhood
electric vehicles: County of
San Diego.**”

– *Approved by Governor September 19, 2018*

4.6 Supporting Programs

Encouragement, Enforcement, and Evaluation. While engineering is covered through the identification of planned networks and physical improvements, the remaining four E's (Education, Encouragement, Enforcement and Evaluation) are typically provided through supporting programs.

This section outlines a variety of programs for the City, partner organizations, and employers to consider. Funding for these efforts can be secured using local funds, grant programs, or diverting a small percentage of the City's share of the regional, SANDAG-administered TransNet sales tax. Some programs are offered at no cost. The San Diego County Bicycle Coalition and SANDAG are two organizations that administer a variety of the identified programs and offer many additional resources geared at improving active transportation throughout the region.

Education Programs

Education programs enable bicyclists, pedestrians, micro-mobility users, and motorists alike to understand how to travel safely in the roadway environment and interact with

one another according to the law. Education programs are available in an array of formats, from long-term courses with detailed instruction, to single sessions focusing on a specific topic, to temporary informational displays.

The purpose of the following education programs is to teach participants the "rules of the road" and basic bicycling and safe behavior skills. Equipping residents with this knowledge and these skills is one tool to help reduce collisions.

Safety Messaging Campaigns

Safety messaging campaigns are an effective way to build awareness of people walking and biking and to encourage behaviors. The subject matter and the channels of communication can be adjusted depending on the target audience and the budget. Dynamic Message Signs, safety banners, billboards or even yard signs can be used. The signs raise awareness of pressing safety issues and can be sited at strategic locations throughout the City. Advertising on bus shelters and benches can also be used to expand the messaging reach.

Table 4-1 lists example safety messages for safety message campaign.

Table 4-1: Example Safety Messages

Safety Message Text and Recipients	Target Audience
Targeted at People Biking	
Ride predictably - Wrong way riding is dangerous	General bicycling population
Ride predictably - Sidewalk riding can be dangerous	Older youth/young adults
Ride predictably - Bicycles must follow rules of the road (obey traffic signals and stop signs)	General bicycling population
If riding on sidewalk, enter crosswalk at walking speed (and on correct side of road) to avoid collisions with turning vehicles	Older youth/young adults
Targeted at People Walking	
Look before crossing (even when you have the walk signal)	Youth
Cross at the corner	General population, youth, and visitors
Targeted at People Driving	
Look in your blind spot (for bikes) before turning or opening your car door	Visitors and residents
Yield to pedestrians in crosswalks (marked and unmarked)	Visitors and residents
"Slow down for our kids" or similar	Visitors and residents
"Speed Kills" campaign	Visitors and residents



An educational campaign could be used to highlight the “Three Feet for Safety Act” (CVC 21760), which requires drivers to maintain a minimum distance of 3-feet when passing cyclists. Included in this educational campaign could be information on why a motorist should give a person on a bicycle a 3-foot buffer, under what circumstances the law applies, and the penalties to drivers for violating the law.

Another educational topic regarding bike safety is the door zone conflict. Every year, nationwide, cyclists are injured by drivers opening their car doors without first looking for people bicycling. This is commonly referred to as being “doored.” A simple solution to prevent these types of injuries is for the driver to open the car door with their right hand; this forces the driver to swivel and look over their left shoulder and gives them the opportunity to see if any cyclists are approaching. In the United States, this is often referred to as the “Dutch Reach,” as

the campaign was first implemented in the Netherlands.

An issue receiving increasing attention is distracted walking. Distracted walking incidents are on the rise. When pedestrian use their cell phones while walking, they lose focus on their surroundings and put their safety at risk. Multiple municipalities across the country have undergone safety campaigns targeted at distracted walking. The intention of these programs is to educate pedestrians of the rules of the road they must follow and to provide pedestrian with safety tips. Frequently these programs are supported with billboards, pamphlets and information on the City’s website.

Adult Bicycle Education

Most bicyclists do not receive comprehensive instructions on safe and effective bicycling techniques, laws, or bicycle maintenance. Bike skills training courses are an excellent way to improve cyclists’ confidence and safety.

Through SANDAG’s iCommute program, employers can take advantage of these programs without charge. Available classes include bicycle safety checks, a bike class, and a Bike and Learn Together class which teaches on-road and commuting skills.

Alternately, the City can partner with local bicycle groups and other non-profit community-based organizations, such as the San Diego County Bicycle Coalition, to offer bicycle skills courses, incorporating them into community events or recreation center programming.

Safe Routes To School

Safe Routes to School programs can offer a variety of educational opportunities to students regarding safe active transportation behaviors and skills, as well as, recommended infrastructure improvements surrounding schools. The Chula Vista Elementary School District has an adopted Safe Routes to School Plan and continues to build on this effort. The City of Chula Vista should continue to work with local schools and school districts on opportunities for developing programs and implementing recommended infrastructure improvements.





Encouragement Programs

Throughout the year, the City should continue to look for opportunities to promote walking and bicycling at local and regional events, such as the following:

Bike To Work Day/Month

Bike to Work Day/Month is a national event celebrated in May of each year. The event is a good opportunity to raise the visibility of cycling in the City, promote safe behaviors, give away safety equipment, and partner with local community groups and businesses to foster bicycling as a form of transportation.

In 2019, four Bike to Work Day “pit stop” locations were hosted in Chula Vista to

promote the event. Locations included the Living Coast Discovery Center in partnership with the City of Chula Vista and UTC Aerospace, the Bayshore Bikeway at Chula Vista Marina View Park hosted by the Port of San Diego, Bicycle Warehouse hosted at their location on Main Street, and Sharp Chula Vista Medical Center at their location on Medical Center Court. The City should continue to promote and participate in Bike to Work Day/Month and encourage additional entities to host or sponsor pit stop locations.

Open Streets Program/Event

The City should explore opportunities to host open streets events. Open street events are free events in which the City closes down designated roadway sections to cars for a set number of hours and opens the streets up to people on bicycles, scooters, roller skates, skateboards, wheelchairs and of course feet. The purpose is to allow residents to discover active transportation in a safe environment while fostering civic pride and stimulating economic development (if the event is activated with vendors or takes place along commercial retail).

These events are great opportunities to showcase recently implemented facilities or to test out potential improvements with temporary infrastructure. As part of this plan, the City of Chula Vista will be implementing

bicycle boulevards. Once all the features for the bicycle boulevard are implemented, the City of Chula Vista could host an open street event on the new bicycle boulevards to allow residents to experience the changes.

Pop-Up Neighborhood Event

During the design development phase or following project implementation, the City could host a “pop-up” event to showcase proposed improvements with temporary in-street installations at the project site or to emphasize recently completed features. These events allow community members to try out, touch, and see the potential or recently completed improvements. The events help residents understand the benefits of unusual, nontraditional or simply new neighborhood treatments. SANDAG’s iCommute program currently offers mini-grants to support this type of outreach activity.

Infrastructure new to the City, such as bicycle boulevards or cycle tracks, or emerging experimental treatments, like advisory bicycle lanes, are good candidates for this type of activity as they provide a proper forum for users to test out the facilities, get educated on proper use, and ask questions. Pop-up events can also be used to celebrate and make the public aware of recently completed projects.

For example, the City is in the process of implementing the planned bicycle lanes along Broadway. Publicizing the project opening and engaging the community at the site could encourage people to explore the bike lanes while also making more community members aware of the improvements.

Enforcement Programs

Motorists, pedestrians, and bicyclists alike are sometimes unaware of each other's rights as they travel city streets. Enforcement programs target unsafe pedestrian, bicyclist and motorist behaviors and enforce laws that reduce collisions and conflicts. Enforcement fosters education and mutual respect between roadway users and improves safety. Educating the public through enforcement strategies will supplement the physical improvements made in the City. As resources permit, the City's police department should continue to conduct enforcement efforts related to:

- Pedestrian Crossing Behavior
- Motorist Behavior
- Safe Walking, Riding, and Driving in School Zones
- Riding Against Traffic
- Failure to Yield at Crosswalks

Evaluation Programs

Evaluation programs are intended to strengthen City staff and community member understanding of behaviors, active travel patterns and related responses to investments in cycling and walking infrastructure and programmatic efforts. The data can also be utilized to pursue grant funding sources, by giving City staff the necessary justification for a project and initial data points to track before and after levels of activity. Pedestrian and bicycle collisions and counts are the two key data types recommended for tracking.

Pedestrian and Bicycle Collisions

It is recommended the City continue to review the locations at which bicycle and pedestrian collisions have occurred, on an annual basis. Ideally, the City would establish a database to track changes over time and create a GIS layer displaying collision locations and types. This review may identify potential problematic locations or behaviors that can be addressed through infrastructure improvements or educational campaigns. The data can also be used to understand if collision reductions have occurred in response to infrastructure modifications or new programmatic activities.



Pedestrian and Bicycle Counts

Pedestrian and/or bicycle counts are recommended to be collected prior to or during the individual project design phase and following implementation as part of a post-project evaluation. Count dates and times should be dependent on the anticipated type of user. For projects intended to support utilitarian trips, counts are generally recommended to be conducted on Tuesdays, Wednesdays, or Thursdays during the morning and evening peak period (7:00AM to 9:00AM and 4:00PM to 6:00PM). For projects that may support more recreational use – such as the Bayshore Bikeway – additional counts should be considered during the weekend peak period, Saturday mornings from 10:00AM to 12:00PM.

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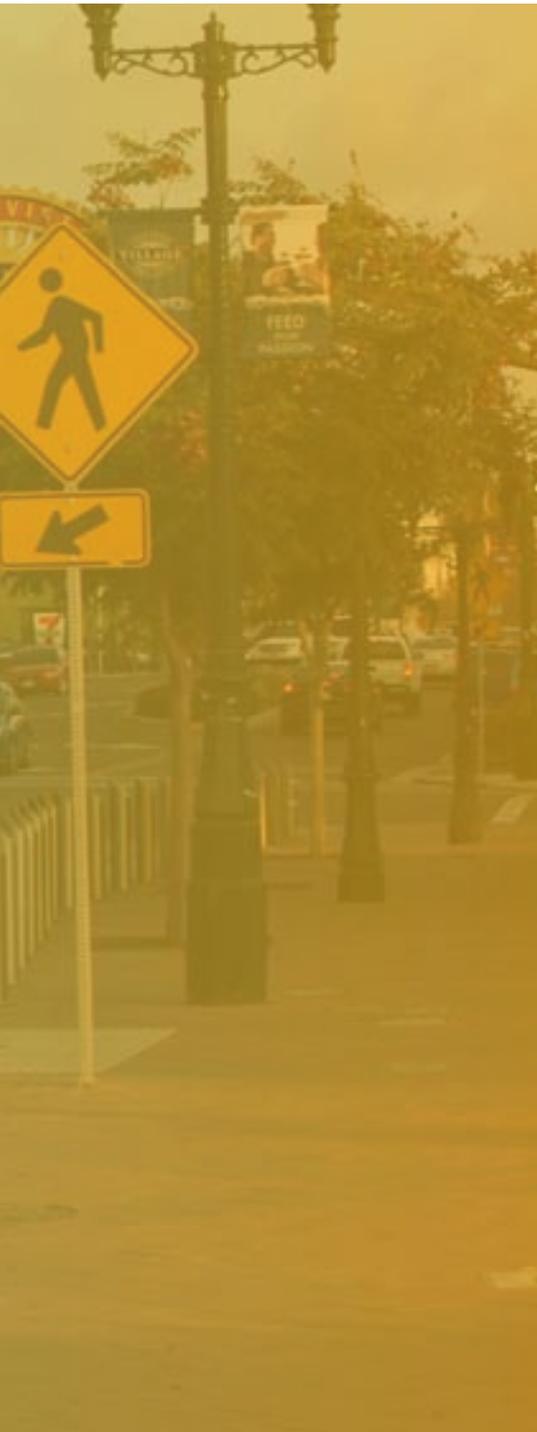
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Implementation



The previous Chapter identified the recommendations formed throughout the development of the Active Transportation Plan. This Chapter focuses on implementation by prioritizing these recommendations and identifying possible funding sources. Project sheets are provided for the highest-ranking priority projects for bicycle facilities, sidewalk infill, as well as potential improvements associated with the various pedestrian route types such as district, corridor, and connector.

5.1 Prioritization Process

The prioritization process is intended to help identify which bicycle and pedestrian projects are likely to have the greatest benefit to the City's active transportation system and to help inform the City's implementation process. As such, the process relies on inputs related to user demand and safety.

It is important to note that several recommendations are dependent on redevelopment and, since redevelopment can take time, it is possible that some priority projects will be implemented in a different order than their ranking. Additionally, projects may be funded and/or completed out of order due to right-of-way conflicts,

construction of adjacent improvements, street resurfacing/restriping schedules, grant funding availability or other unforeseen circumstances.

Table 5-1 identifies the demand- and safety-related prioritization inputs and the values associated with the different levels of each criteria. The criteria were applied to each recommended bicycle facility and each sidewalk infill project. As shown in the table, although the inputs were the same, different breaks were used for bicycle projects and sidewalk infill projects due to the varying sizes and locations of the mode specific projects. Programmatic recommendations are not part of this prioritization process and are intended to complement the infrastructure projects.

Table 5-1: Prioritization Inputs

Prioritization Criteria	Point Value
Demand-Related Prioritization Criteria	
<p>Active Transportation Propensity Model (Generators + Attractors) Value: The propensity model analyzes population and land use characteristics to identify areas with relatively greater potential for active transportation trips. The propensity model combines walk and bike trip generators (population, employment, zero-vehicle households, pedestrian and bicycle commuters) with trip attractors (schools, commercial/retail centers, recreational resources, and civic buildings). The combination of inputs provides an understanding as to where people walking and biking are likely to come from (generators) and go to (attractors). An average weighted propensity model score was calculated for each project by intersecting the project extents with the propensity model coverage. The category breaks which determined the point values of this criterion were assigned by sorting average weighted scores in descending order and dividing the projects into four roughly equal categories by mileage. This method was conducted separately for both sets of project recommendations, yielding different category break values for bicycle facility projects and for sidewalk infill projects. The propensity model category breaks governing this criterion's point values are as follows:</p> <p>For bicycle facility projects:</p> <ul style="list-style-type: none"> • Low propensity (29.2 points and below) = 0 points • Medium-Low propensity (29.2 – 38.7 points) = 1 point • Medium-High propensity (38.8 – 47.3 points) = 2 points • Highest propensity (47.3 points and above) = 3 points <p>For sidewalk infill projects:</p> <ul style="list-style-type: none"> • Low propensity (27.8 points and below) = 0 points • Medium-Low propensity (27.8 – 36.9 points) = 1 point • Medium-High propensity (37.0 – 54.7 points) = 2 points • Highest propensity (54.8 points and above) = 3 points 	0 – 3
<p>School Proximity: Scoring is based on the number of schools in proximity to each project. For bicycle facility projects, the number of schools located within ¼ mile of the project or along the corridor were identified. For sidewalk infill projects, the number of schools located within 500' of a sidewalk infill project were identified.</p> <ul style="list-style-type: none"> • No school present = 0 points • One school present = 1 point • Two schools present = 2 points • Three schools present = 3 points • Four or more schools present = 4 points 	0 – 4

Table 5-1: Prioritization Inputs (cont.)

Demand-Related Prioritization Criteria	
<p>Project has Regional Significance: For bicycle facility projects, this criterion assigns a point value of zero or two based on whether or not the project is located along a segment of SANDAG's regional bicycle network, connects to a Blue Line Trolley Station or South Bay Rapid Bus station, or connects to an adjacent jurisdiction. For sidewalk infill projects, this criterion assigns a point value to project areas within 100' of a transit stop.</p> <ul style="list-style-type: none"> • Project does not have regional significance = 0 points • Project has regional significance = 2 points 	0, 2
<p>Public Comment: The project questionnaire enabled participants to identify locations they felt are uncomfortable for people walking or riding bicycles. This criterion assigns points based on the number of relevant geographically-referenced public comments along or adjacent to each project extent:</p> <ul style="list-style-type: none"> • No public comments = 0 points • One public comment = 1 point • Two public comments = 2 points • Three or more public comments = 3 points 	0 – 3
Safety and Health Related Prioritization Criteria	
<p>Collisions: This criterion assigns a point value ranging from zero to five, based on collision collisions per mile within the last five years along the project extent (bicycle collisions for bicycle facility projects and pedestrian collisions for sidewalk infill projects). The category breaks which determined the point values of this criterion were assigned by sorting collisions per mile in descending order and dividing the projects by mileage into five roughly equal categories by mileage. This method was conducted separately for both sets of project recommendations. A proposed project extent which experienced a non-motorist fatality within the past five years received full points for this criterion, regardless of collisions per mile.</p> <p>For bicycle facility projects:</p> <ul style="list-style-type: none"> • No collisions along proposed project extent = 0 points • 0.01 – 0.76 bicycle collisions per mile = 1 point • 0.77 – 1.48 bicycle collisions per mile = 2 points • 1.49 – 2.94 bicycle collisions per mile = 3 points • 2.95 – 3.59 bicycle collisions per mile = 4 points • 3.6 bicycle collisions per mile or greater (or bicycle fatality collision) = 5 points <p>For sidewalk infill projects:</p> <ul style="list-style-type: none"> • No collisions along proposed project extent = 0 points • 1.11 – 1.76 pedestrian collisions per mile = 1 point • 1.77 – 3.94 pedestrian collisions per mile = 2 points • 3.95 – 5.09 pedestrian collisions per mile = 3 points • 5.1 – 8.34 pedestrian collisions per mile = 4 points • 8.35 pedestrian collisions per mile or greater (or pedestrian fatality collision) = 5 points 	0 – 5

Table 5-1: Prioritization Inputs (cont.)

Safety and Health Related Prioritization Criteria	
<p>CalEnvrioScreen (CES): CES is a composite index by Census Tract which measures locations within the state with disproportionate levels of various sources of pollution. An average weighted CES score was calculated for each project by intersecting the project extents with the CES coverage. The category breaks which determined the point values of this criterion were assigned by sorting average weighted scores in descending order and dividing the projects into four roughly equal categories by mileage. This method was conducted separately for both sets of project recommendations, yielding different category break values for bicycle facility projects and for sidewalk infill projects. The CES category breaks governing this criterion's (shown as the CES score's conversion to statewide percentile) point values are as follows:</p> <ul style="list-style-type: none"> For bicycle facility projects: <ul style="list-style-type: none"> Low CES score (25% and below) = 0 points Medium-Low CES score (25% - 45%) = 1 point Medium-High CES score (45% - 56%) = 2 points High CES score (56% and above) = 3 points For sidewalk infill projects: <ul style="list-style-type: none"> Low CES score (38% and below) = 0 points Medium-Low CES score (38% - 61%) = 1 point Medium-High CES score (61% - 71%) = 2 points High CES score (71% and above) = 3 points 	1 - 3
<p>Gap Closure: This criterion assigns a point value of either zero or three, based on whether the proposed project closes a gap in the network. This includes sidewalk infill locations, bicycle network gaps, and other connections to existing facilities.</p> <ul style="list-style-type: none"> Project does not close a network gap = 0 points Project does close a gap in the existing network = 3 points 	0, 3
<p>Staff Input Score: City of Chula Vista Staff have unique knowledge of the project area. It is recommended that City staff review the proposed projects and provide insights as to whether or not each project should receive additional points based upon City goals and objectives, or how they align with other programmed capital improvement projects and planning documents.</p> <ul style="list-style-type: none"> No additional points based on Staff input = 0 Additional points based on Staff input = 3 	0, 3
Total Points Possible	26



The scores within each category were added and the projects ranked in descending order from the highest scoring project.

Figure 5-1 presents the prioritization results for the planned bicycle facilities. **Table 5-2** shows the Top 10 bicycle projects, while the full list of prioritization results are provided in **Appendix E: List of Prioritization Results**. The prioritization results are intended to be used as a guide for implementation priority by the City as funding is identified, however, many other considerations factor into project selection, such as the need for adjacent property redevelopment, total funds required, grant cycle funding, and jurisdictional coordination. For example, the Class I paths along H Street was the highest-ranking project, however, this will also be one of the most expensive projects. Implementation of H Street bike facilities will require substantial property redevelopment and coordination with Caltrans, further adding to the complexity.

To support project implementation, **Table 5-3** displays the Top 10 prioritized bicycle network by facility type, identifying the necessary measures to implement each proposed improvement. **Appendix F: List of Bike Implementation Measures** provides the full list of bicycle implementation measures. In some instances, planned facilities were

broken down into multiple segments to reflect the varying cross-sections and actions required to complete the project.

Planned bicycle facilities may be implemented in phases, considering the different requirements that span a project's length as demonstrated in Table 5-3. Vehicular counts were conducted along segments where road diets are proposed. The counts were used to support the proposed road diets' feasibility. The count results and additional supporting documentation are provided in Appendix F.

Additionally, this plan identifies a number of Class IV cycle tracks. Interim improvements may be made to incrementally achieve the desired project while considering funding constraints yet still providing near-term benefits. For example, buffered bike lanes can be striped through roadway resurfacing efforts as an interim improvement, thus capturing the right-of-way required for a cycle track and providing additional horizontal separation between cars and people on bikes. The physical separation – which may consist of bollards, a raised median, or other material – can be added once the additional funding is identified.

Figure 5-1: Bicycle Project Prioritization

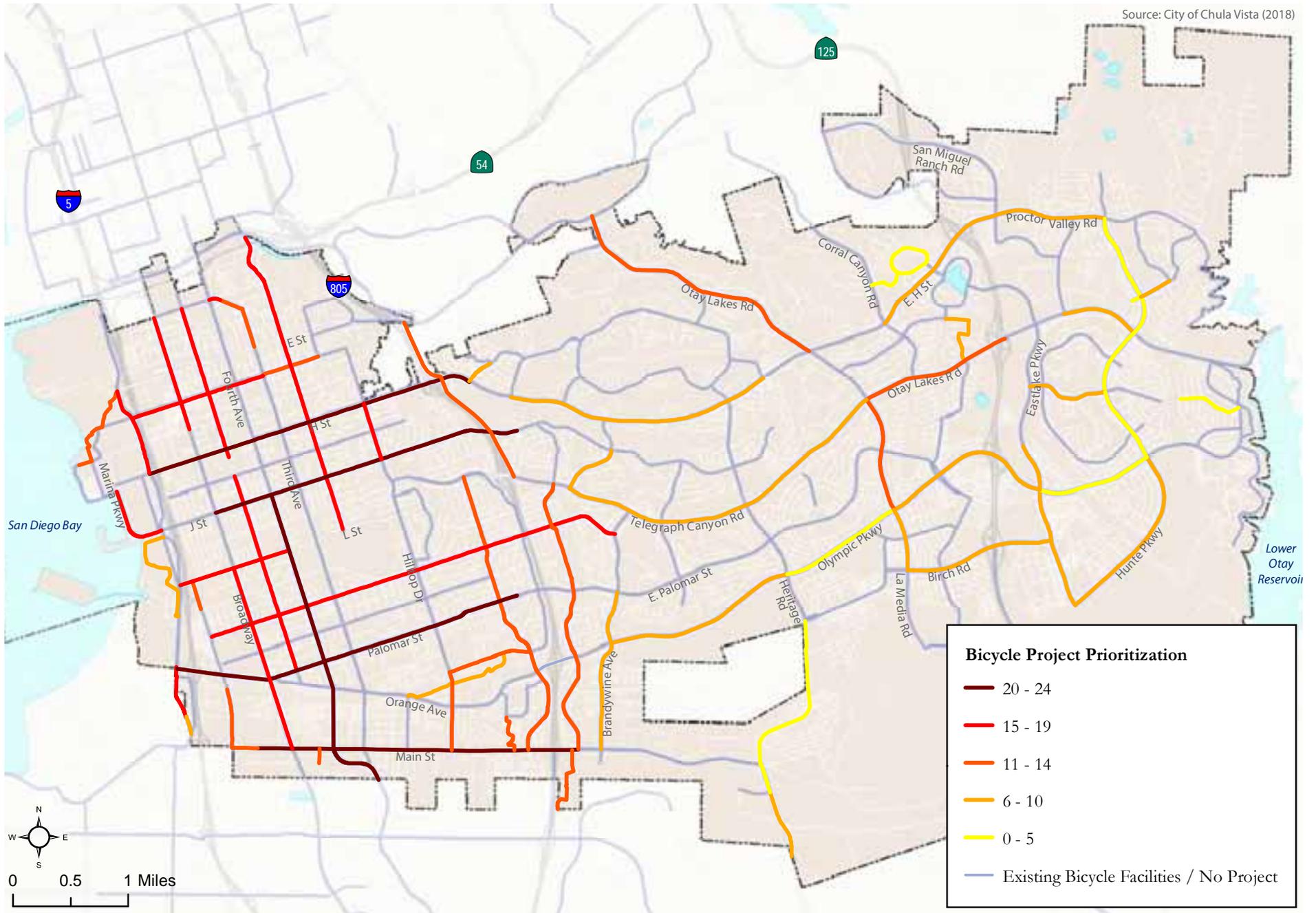


Table 5-2: Top 10 Bicycle Facility Prioritization Results

Rank	Street	From	To	Facility	Mileage	Collisions	Comments	Schools	Propensity	Regional	EnviroScreen	Gap	Staff	TOTAL
1	H Street / East H Street	Bay Boulevard	Hidden Vista Drive	Multi-Use Path	2.9	4	3	4	3	2	2	3	3	24
2	Main Street	Jacqua Street	Oleander Avenue	Buffered Bike Lane	2.8	5	3	3	2	0	3	3	3	22
3	J Street / East J Street	Broadway	Floyd Avenue	Bike Boulevard	2.7	5	2	3	3	2	1	3	3	22
4	Palomar Street / East Palomar Street	Broadway	Nolan Avenue	Bike Lane	2.3	4	3	4	3	0	2	3	3	22
5	Fourth Avenue	J Street	South City Limit	Buffered Bike Lane	2.3	5	3	4	3	2	1	0	3	21
6	Bay Boulevard	E Street	H Street	Multi-Use Path	0.8	2	3	0	3	2	3	3	3	19
7	F Street	Bay Boulevard	Third Avenue	Multi-Use Path	1.2	5	2	0	3	0	3	3	3	19
8	5th Avenue	C Street	H Street	Bike Boulevard	1.3	4	0	3	3	2	3	3	0	18
9	Bay Boulevard	Palomar Street	Anita Street	Multi-Use Path	0.5	5	1	0	1	2	3	3	3	18
10	L Street	Bay Boulevard	Fourth Avenue	Bike Lane	1.0	5	3	4	2	0	1	3	0	18

Table 5-3: Top 10 Bicycle Facility Implementation Measures

Rank	Street	From	To	Facility	Implementation Measure
1	H Street / East H Street	Bay Boulevard	Third Avenue	Multi-Use Path (both sides)	Redevelopment consistent with Urban Core Specific Plan
		Third Avenue	Hilltop Drive	Multi-Use Path (south side)	Remove center-left turn lane
		Hilltop Drive	I-805 SB Ramps	Multi-Use Path (south side)	Lane diet
		I-805 SB Ramps	Hidden Vista Drive	Multi-Use Path (south side)	Redevelopment and Caltrans coordination through I-805 South Express Project
2	Main Street	Jacqua Street	Oleander Avenue	Buffered Bike Lane	On-street parking removal; Redevelopment consistent with Main Street Streetscape Master Plan
3	J Street / East J Street	Broadway	Floyd Avenue	Bike Boulevard	Traffic calming features within existing curb-to-curb
4	"Palomar Street / East Palomar Street"	Broadway	Fourth Avenue	Bike Lane	Road diet - lane removal in each direction
		Fourth Avenue	Hilltop Drive	Bike Lane	Road diet - lane removal in each direction; add center-left turn lane
		Hilltop Drive	Nolan Avenue	Bike Lane	Widen road with utility undergrounding, consistent with east of Nolan Avenue
5	Fourth Avenue	J Street	South City Limit	Buffered Bike Lane	Road diet – lane removal in each direction; add center-left turn lane for project extent.
6	Bay Boulevard	E Street	H Street	Multi-Use Path	Bayshore Bikeway segment
7	F Street	Bay Boulevard	Third Avenue	Multi-Use Path	Repurpose landscaped parkway consistent with F Street Promenade Streetscape Master Plan

Table 5-3: Top 10 Bicycle Facility Implementation Measures (cont.)

Rank	Street	From	To	Facility	Implementation Measure
8	5th Avenue	C Street	H Street	Bike Boulevard	Traffic calming features implemented within existing curb-to-curb
9	Bay Boulevard	Palomar Street	Anita Street	Multi-Use Path	Undeveloped land west of Bay Boulevard
10	L Street	Bay Boulevard	Broadway	Bike Lane	Road diet - lane removal in each direction
		Broadway	Fourth Avenue	Bike Lane	Road diet - lane removal in each direction; add center-left turn lane

Utilizing the prioritization criteria displayed in Table 5-1, the sidewalk infill prioritization results are shown in **Figure 5-2**. The sidewalk infill prioritization results for the Top 10 projects are shown in **Table 5-4**. The full list of sidewalk infill prioritization results are provided in Appendix F.

In addition to sidewalk improvements, other enhanced pedestrian treatments are also recommended along the identified Districts and Corridors. However, these recommendations were not prioritized since they were derived from analysis results that identified where the greatest pedestrian demand is likely to occur across the City. All District and Corridor route type designations are indicative of areas with the greatest pedestrian demand and should be treated as priority locations for improvement.



Figure 5-2: Sidewalk Infill Prioritization

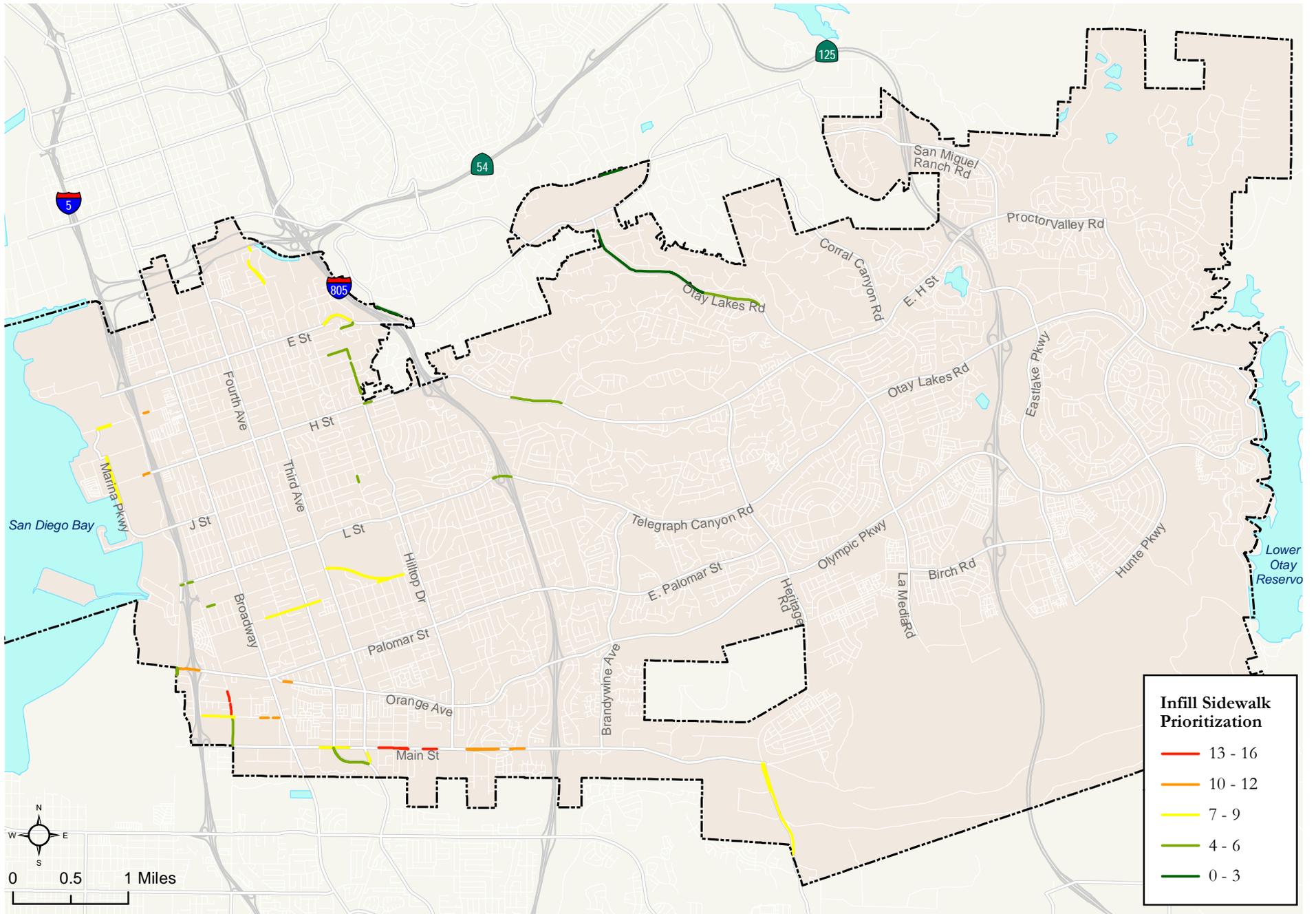


Table 5-4: Top 10 Sidewalk Infill Prioritization

Rank	Street	From	To	Side of Street	Length (Ft)	Comments	Schools	Regional	Propensity	EnviroScreen	Collisions	Gap	Total
1	Industrial Blvd	Ada St	Anita St	West	894	1	0	2	3	3	4	3	16
2	Main St	Del Monte Ave	Albany Ave	North	1,270	1	3	2	2	2	2	3	15
				South	359								
3	Main St	Reed Ct	Mace St	South	647	0	3	2	2	2	5	0	14
4	Palomar St	Bay Blvd	I-5 NB On/Off-Ramp	North	554	0	0	2	2	2	3	3	12
				South	270								
5	F St	I-5	Woodlawn Ave	North	225	0	0	0	3	3	5	0	11
6	Orange Ave	300' west of Crann Ave	100' east of Crann Ave	South	367	0	0	2	3	2	4	0	11
7	Anita St	400' east of Jayken Way	Silvas St	South	648	0	0	0	3	3	5	0	11
8	Main St	350' west of Date St	200' west of Melrose Ave	North	1,996	0	0	0	1	2	5	3	11
				South	1,248								

Table 5-4: Top 10 Sidewalk Infill Prioritization (cont.)

Rank	Street	From	To	Side of Street	Length (Ft)	Comments	Schools	Regional	Propensity	EnviroScreen	Collisions	Gap	Total
9	Moss St	Third Ave	1st Ave	North	3,040	1	0	2	1	1	1	3	9
				South	562								
10	Beyer Way	Main St	4th Ave	East	524	0	0	2	1	2	4	0	9

5.2 Priority Project Sheets

Based on the prioritization results, the following project sheets were developed for the top ten bicycle projects and the top ten sidewalk infill projects. Project cost estimates for the highest ranked bicycle and sidewalk projects are included as **Appendix G: Cost Estimates**.

Project sheets are also provided for segments of District and Corridor pedestrian route types, conceptually demonstrating how these designations and associated improvements identified in the previous Chapter can be applied.

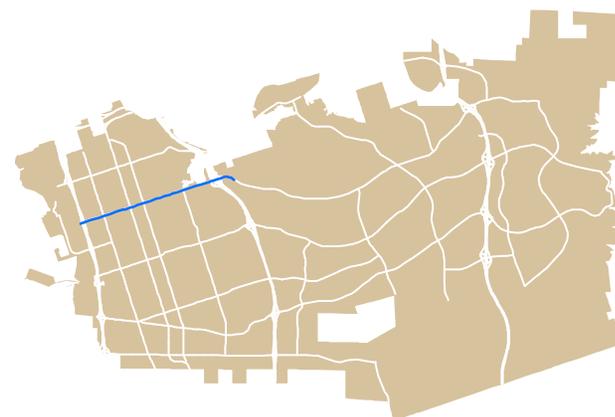


Bicycle

Project Sheets

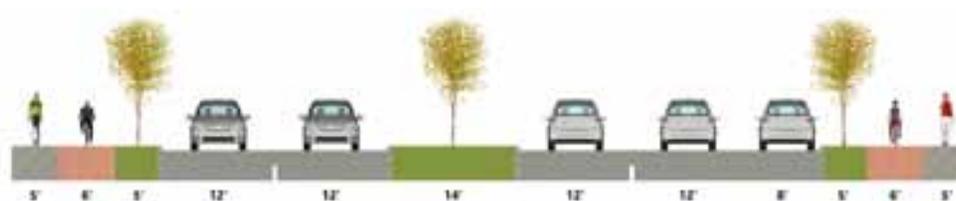
H Street/East H Street Multi-Use Path From Bay Boulevard to Hidden Vista Drive

The 2.9-mile segment of H Street/East H Street from Bay Boulevard to Hidden Vista Drive runs east-west through the center of Chula Vista and crosses over Interstate-805. Approximately the first mile is fronted by commercial uses, which then change over to predominately residential land uses up until shortly before the Freeway Interchanges, where Hilltop High School is located. East of the I-805, there is a cluster of commercial uses. A multi-use path will run along the south side for the entire 2.9-miles.



Consistent with the Urban Core Specific Plan, the multi-use path will rely on property redevelopment to be implemented along both sides of H Street between Bay Boulevard and Third Avenue. East of Third Avenue, the multi-use path will run along the south side of the roadway.

From Third Avenue to Hilltop Drive, the center-left turn lane may be repurposed to provide for the multi-use path. Between Hilltop Drive and the I-805 southbound ramps, lane narrowing will provide sufficient space to implement the project.

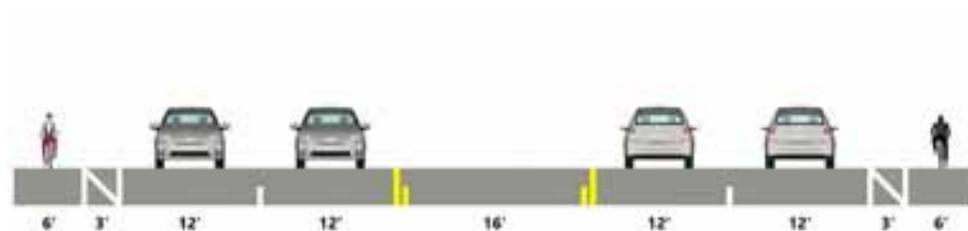
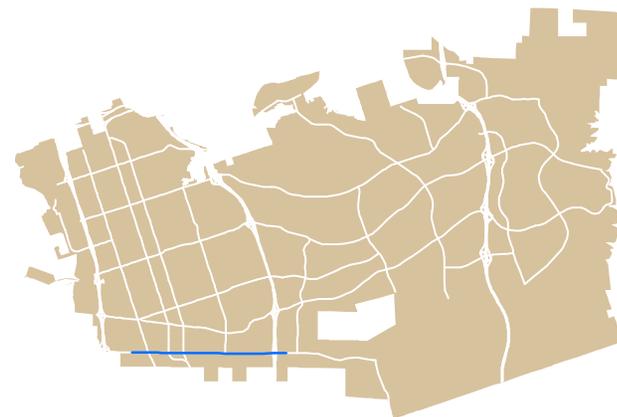


Main Street Buffered Bike Lanes From Jacqua Street to Oleander Avenue

The Main Street corridor runs east-west across southwestern Chula Vista, fronted by a mix of industrial, commercial, and residential land uses. The wide road and lanes, high truck traffic, and lack of a bike facility currently make this an uncomfortable location for trips by bicycle.

Buffered bike lanes will provide a dedicated facility along this critical east-west connection. Consistent with the Main Street Streetscape Master Plan (2015), implementation will primarily occur through removal of the existing on-street parking.

The 9-foot parking lane along each side of Main Street will be repurposed to provide for a 6-foot wide bike lane and 3-foot painted buffer. In some locations, implementation is contingent on redevelopment of adjacent properties.

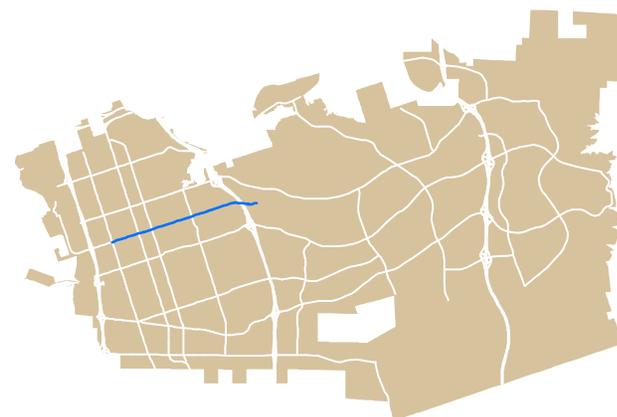


J Street/East J Street Bicycle Boulevard From Broadway to Floyd Avenue

J street is one of the few east-west running roadways that crosses I-805 without freeway ramps – an uncomfortable impediment to active transportation travel. A variety of housing types primarily front the corridor, as well as multiple schools and parks, which increase the likelihood of trips by bicycle and foot.

The narrow road width limits the improvement options, however, the low vehicular volumes and posted speed limit makes the corridor ripe for bicycle boulevard improvements. A variety of strategies should be considered to keep traffic speed low and discourage cut-through traffic, while improving the comfort for people on bikes and people walking.

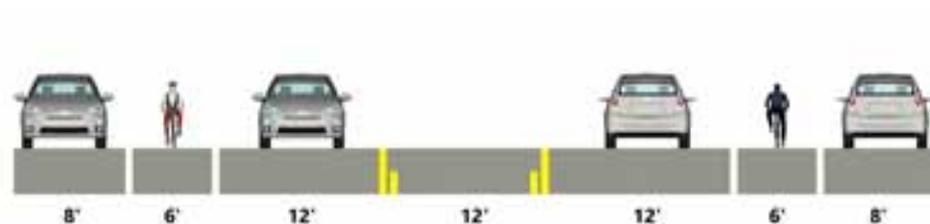
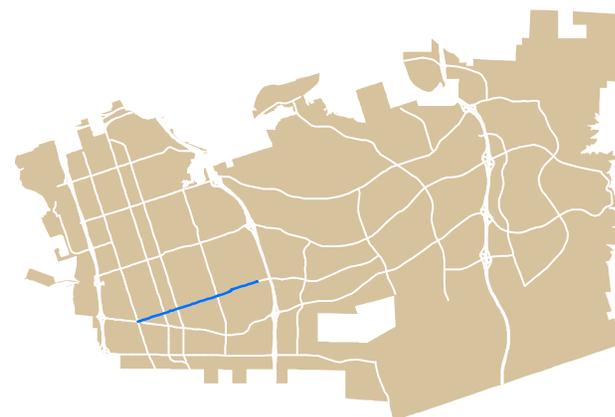
Traffic calming features should be spaced at 300 – 500 feet when feasible. All traffic calming features will be placed within the existing curb-to-curb right-of-way. Specific improvement locations and types shall be further evaluated at the project design level.



Palomar Street/ East Palomar Street Bike Lanes From Orange Avenue to Nolan Avenue

This approximately 2.2-mile segment of Palomar Street/East Palomar Street is predominately residential with a commercial node around Third Avenue. There are three schools along this section of roadway: Palomar High School, J Calvin Lauderbach Elementary School and Palomar Elementary School.

A standard 6-foot bicycle lane will be implemented on Palomar Street from Broadway to Nolan Avenue. For the section from Broadway to Hilltop Avenue one vehicular travel lane will be removed in each direction. In addition, on Palomar Street from Fourth Avenue to Hilltop Drive a center-left turn lane will added. For the section of East Palomar Street from Hilltop Drive to Nolan Avenue the road will be widened with utility undergrounding, consistent with East Palomar Street east of Nolan Avenue.

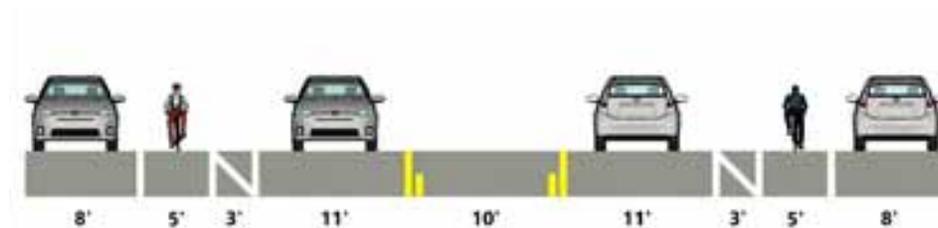
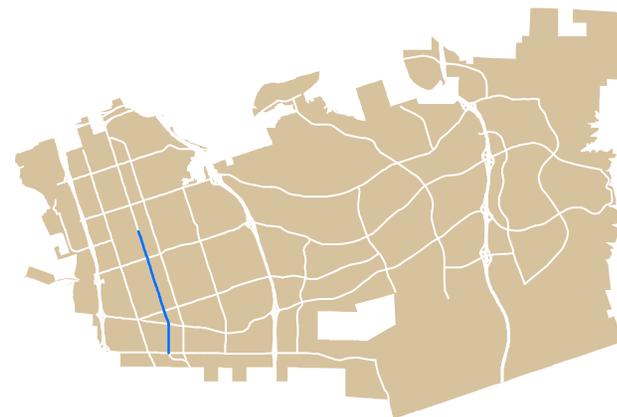


Fourth Avenue Buffered Bike Lanes From Broadway to Nolan Avenue

The Fourth Avenue corridor runs north-south across southwestern Chula Vista, fronted by a mix of industrial, commercial, and residential land uses. The wide road and lanes, high truck traffic, and lack of a bike facility currently make this an uncomfortable location for trips by bicycle.

Buffered bike lanes will provide a dedicated facility along this critical north-south connection.

The 9-foot parking lane along each side of Fourth Avenue will be repurposed to provide for a 6-foot wide bike lane and 3-foot painted buffer. In some locations, implementation is contingent on redevelopment of adjacent properties.



Bay Boulevard Multi-Use Path From E Street to H Street

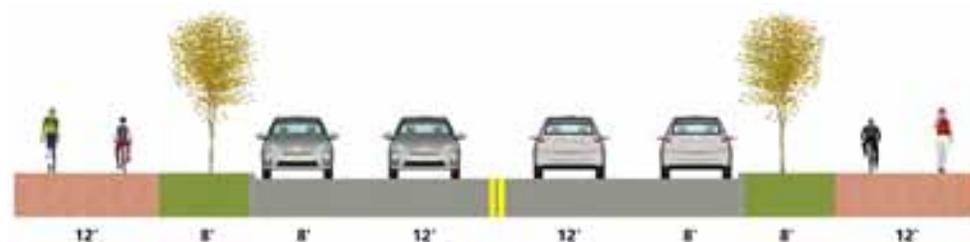
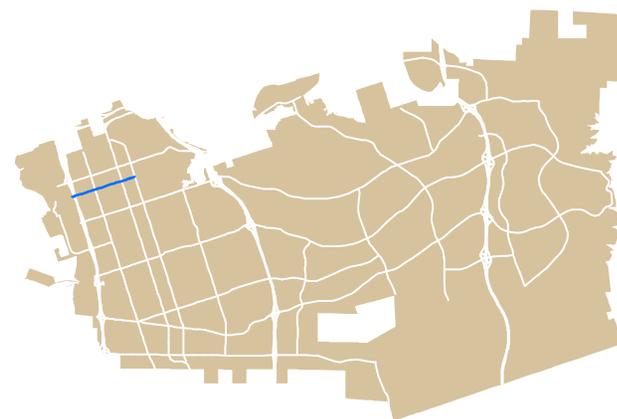
The Bayshore Bikeway is a planned 24-mile regional bicycle corridor that wraps around the San Diego Bay through the cities of Chula Vista, National City, San Diego, Coronado, and Imperial Beach. Over 17-miles are complete, including Chula Vista segments from the northern city boundary to E Street and from H Street to Palomar Street.

This project is intended to fill the 0.8-mile gap between the existing segments terminating at E Street and H Street. Further study will be required to identify the preferred alignment for the path. Potential options may include running adjacent to Bay Boulevard, or along the former rail corridor and utility right-of-way. Project design should ensure connections between the existing and future segments are easily identifiable.



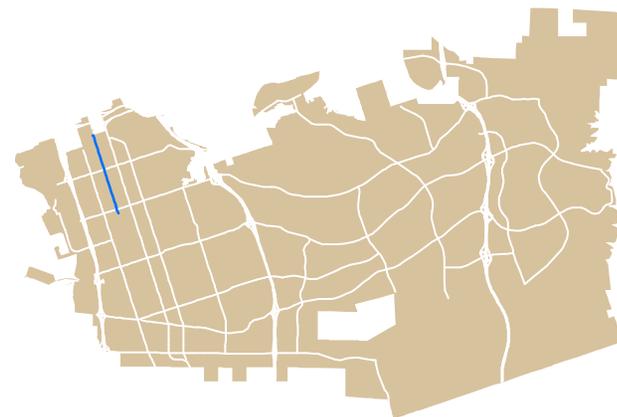
F Street Multi-Use Paths From Bay Boulevard to Third Avenue

A multi-use path is planned as part of the F Street Promenade Streetscape Master Plan, which will provide a grade separated connection from the Bayshore Bikeway to the downtown commercial core of Chula Vista. This 1.2-mile section of F Street is predominately residential until approximately Fourth Avenue where commercial uses begin. It will provide a safe and easy connection to Chula Vista Friendship Park, the Chula Vista Public Library, as well as to Memorial Park and the Park Way Aquatic Center. The project will generally be implemented by repurposing the existing landscaped parkway between the sidewalk and curb space.



Fifth Avenue Bicycle Boulevard From C Street to H Street

Fifth Avenue runs north-south through the City of Chula Vista. The segment of Fifth Avenue from the northern most corner at the intersection with C Street down to H Street is approximately 1.3-miles in length. This segment of Fifth Avenue passes Eucalyptus Park (at C St), Hawking STEAM Charter School, and Chula Vista Middle School. The narrow road width limits the improvement options, however, the low vehicular volumes and posted speed limits makes this section of Fifth Avenue a good candidate for a bicycle boulevard.



A variety of strategies should be considered to keep traffic speed low and discourage cut-through traffic, which improving comfort for people on bikes and people walking. Traffic calming features should be spaced at 300 – 500 feet when feasible. All traffic calming features will be placed within the existing curb-to-curb right-of-way. Specific improvement locations and types shall be further evaluated at the project design level.



Bay Boulevard Multi-Use Path From Palomar Street to Anita Street

The approximately 0.4-mile stretch of Bay Boulevard between Palomar Street and Anita Street is abutted by undeveloped land, as well as light industrial uses. This project is intended to serve as a segment of the regional Bayshore Bikeway, connecting with an existing Bayshore Bikeway segment that currently terminates at Palomar Street.

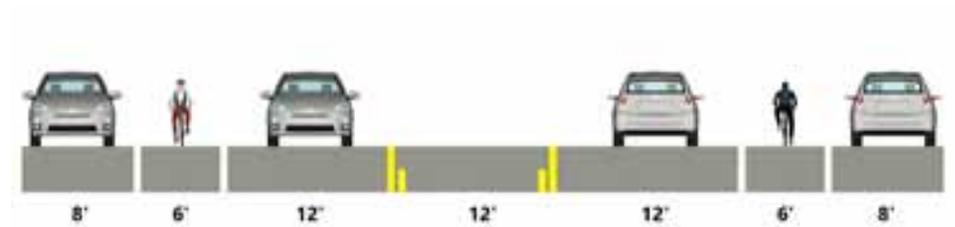
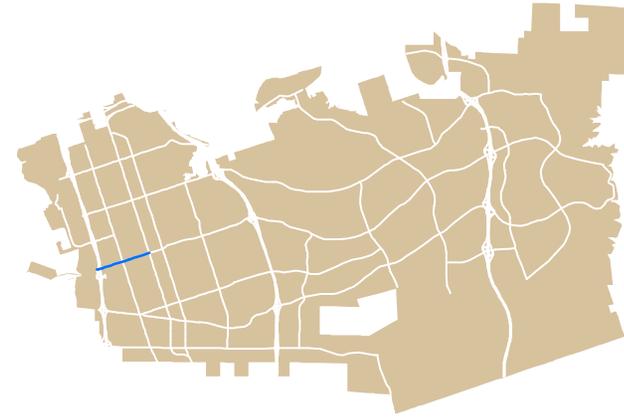
Further study will be required at the individual project level to identify the preferred alignment, which may also determine implementing agencies.

South of Ada Street, Bay Boulevard falls out of the City of Chula Vista's jurisdiction. The roadway is again within city limits near the intersection with Anita Street. At Anita Street, the pathway may continue to follow Anita Street and then south along Frontage Road, or transition away from the roadway and continue between the salt fields and industrial buildings, eventually connecting with another completed Bayshore Bikeway segment at the western terminus of Main Street.



L Street Bike Lanes From Bay Boulevard to Fourth Avenue

Bike Lanes are planned along L Street between Bay Boulevard and Fourth Avenue. At the western end, L Street has a small node of light industrial uses and then becomes predominantly fronted by residential land uses.

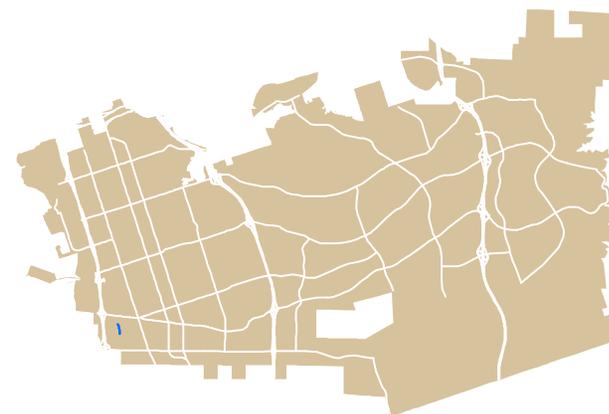


Sidewalk

Infill Project Sheets

Industrial Boulevard

From Ada Street to Anita Street

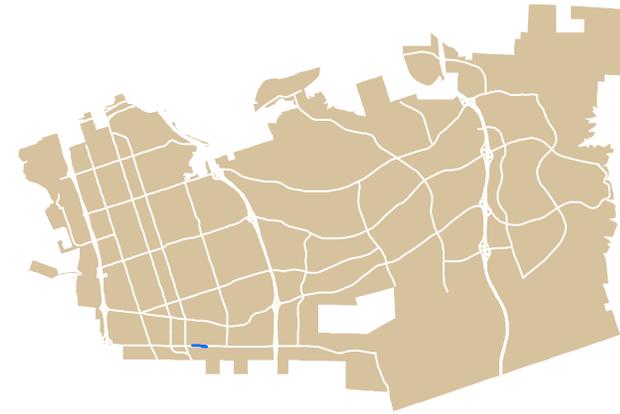


Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	789
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	4
New Curb Ramp	2
Curb Ramp Retrofit	1



Main Street

From Del Monte Avenue to Albany Avenue



Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	1,530
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	20
New Curb Ramp	3
Curb Ramp Retrofit	1



Main Street

From Reed Court to Mace Street

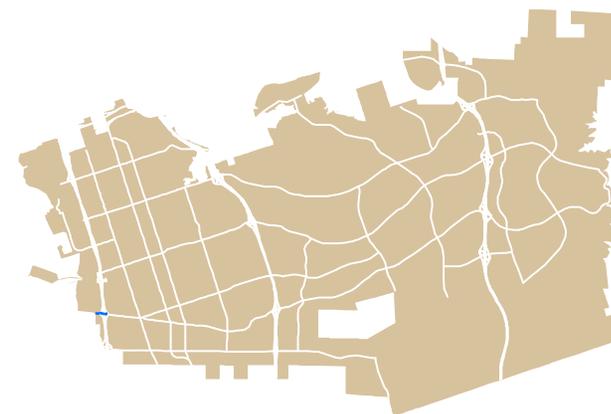


Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	624
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	7
New Curb Ramp	2
Curb Ramp Retrofit	4

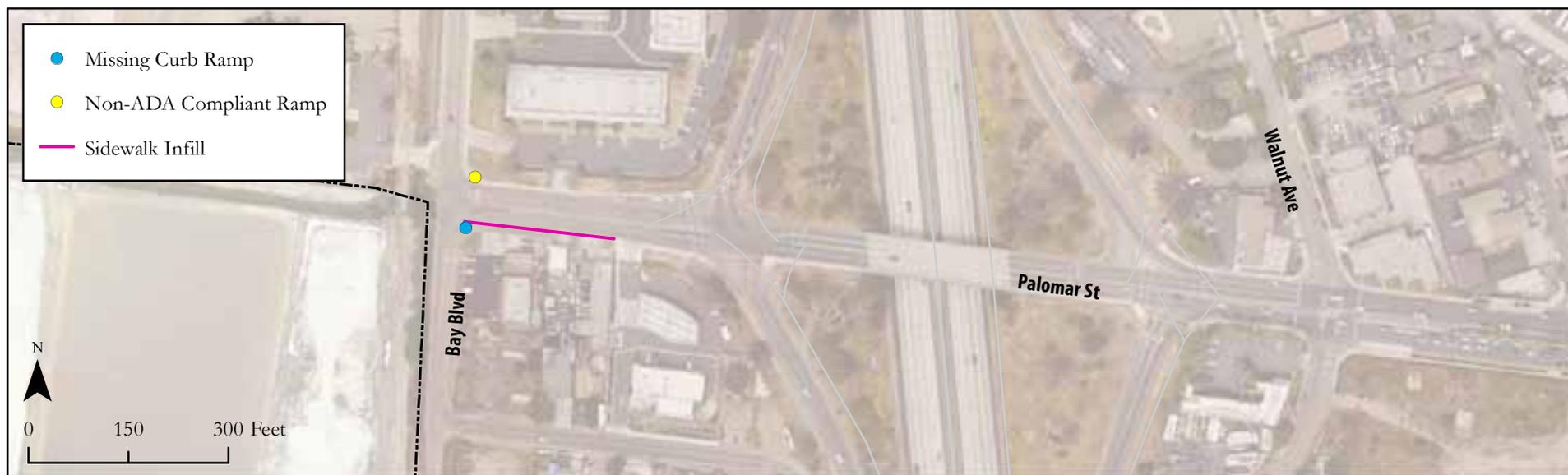


Palomar Street

From Bay Boulevard to I-5 Northbound On/Off-Ramps



Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	226
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	-
New Curb Ramp	1
Curb Ramp Retrofit	1

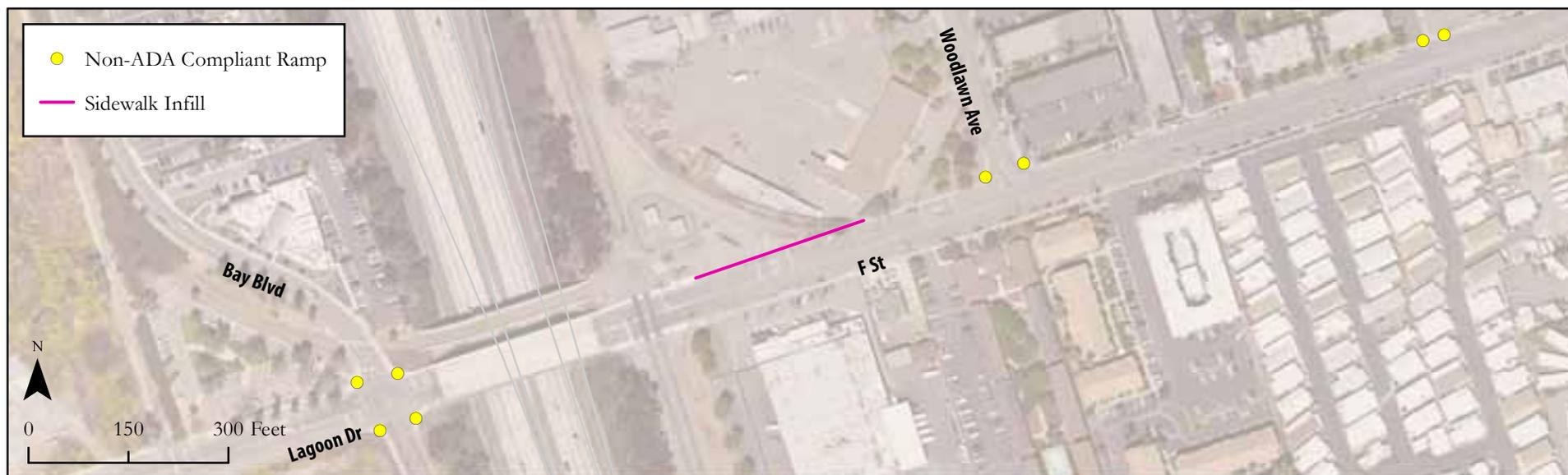


F Street

From I-5 to Woodlawn Avenue



Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	-
Sidewalk w/ NO Curb & Gutter (Linear Feet)	267
Driveway(s)	-
New Curb Ramp	-
Curb Ramp Retrofit	8



Orange Avenue At Crann Avenue

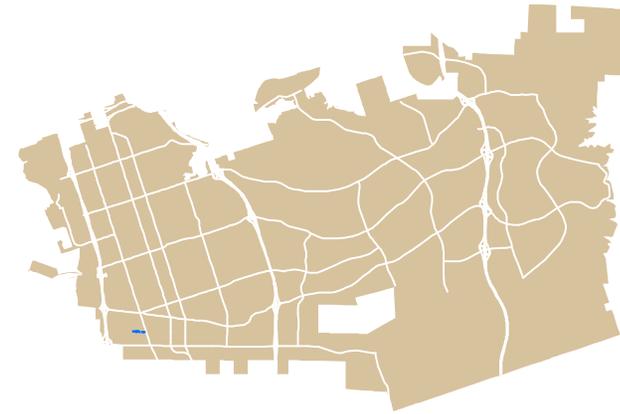


Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	367
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	4
New Curb Ramp	-
Curb Ramp Retrofit	2



Anita Street

From Jayken Way to Silvas Street

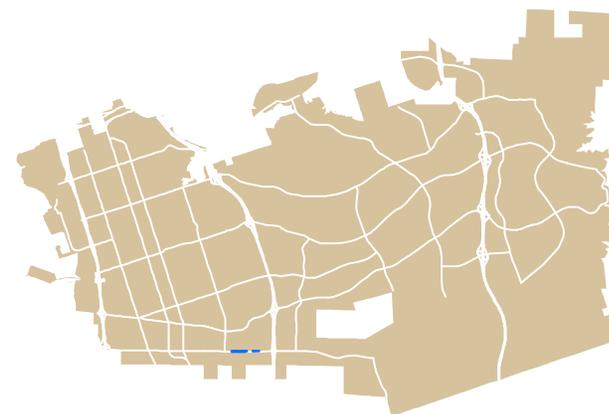


Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	574
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	3
New Curb Ramp	1
Curb Ramp Retrofit	2

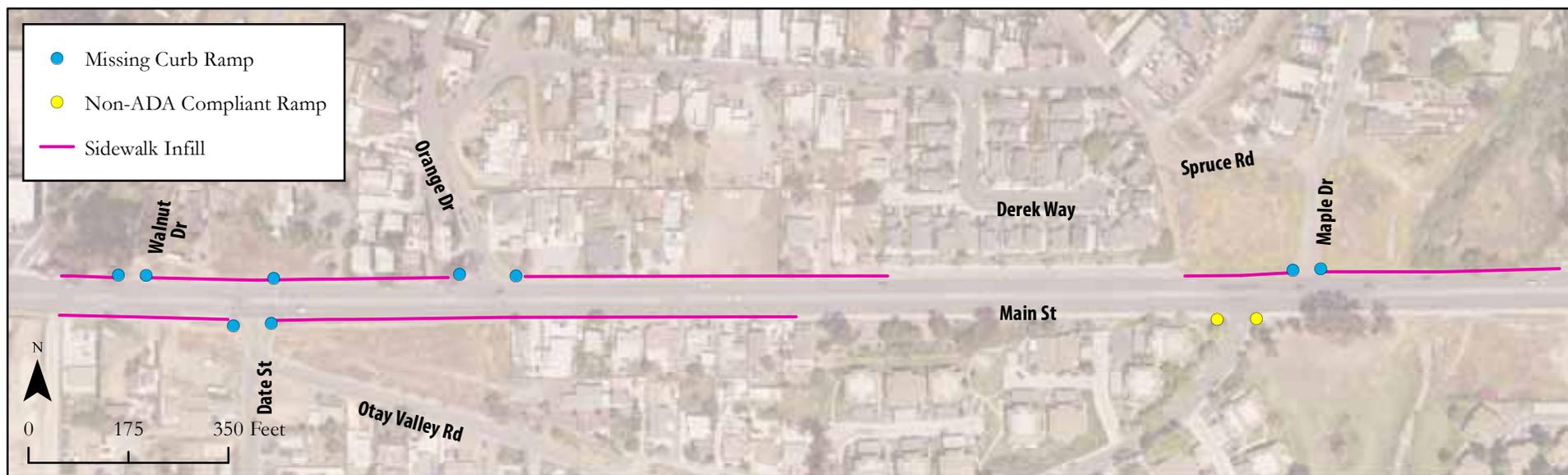


Main Street

From Date Street to Melrose Avenue



Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	3,085
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	21
New Curb Ramp	4
Curb Ramp Retrofit	5

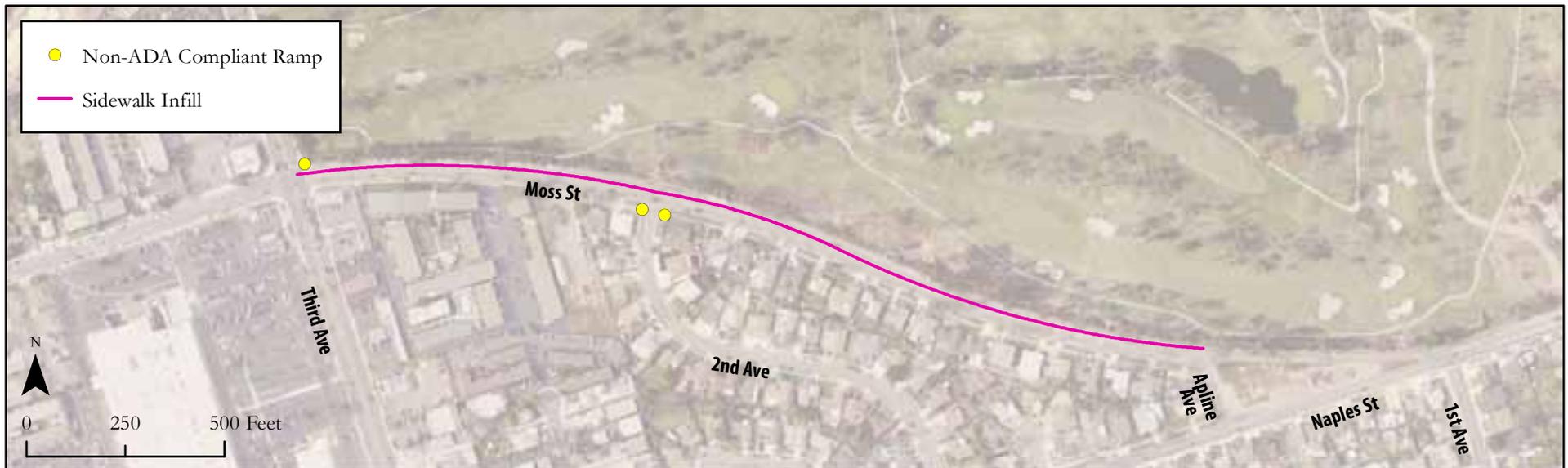


Moss Street

From Third Avenue to First Avenue



Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	2,362
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	-
New Curb Ramp	-
Curb Ramp Retrofit	3



Beyer Way

From Main Street to Forth Avenue



Item	Quantity
Sidewalk + Curb & Gutter (Linear Feet)	494
Sidewalk w/ NO Curb & Gutter (Linear Feet)	-
Driveway(s)	-
New Curb Ramp	-
Curb Ramp Retrofit	2



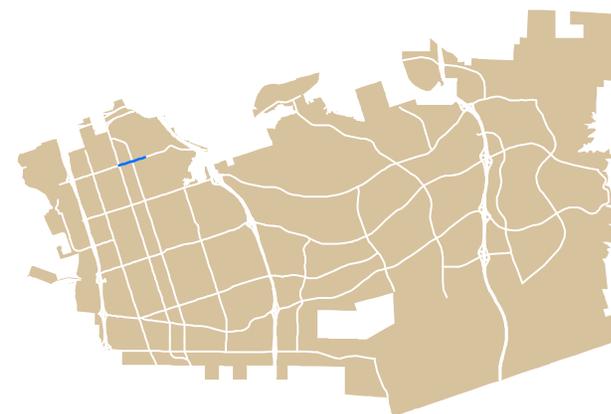
Pedestrian

Route Type Sheets

E Street Pedestrian Improvements From 4th Avenue to 2nd Avenue

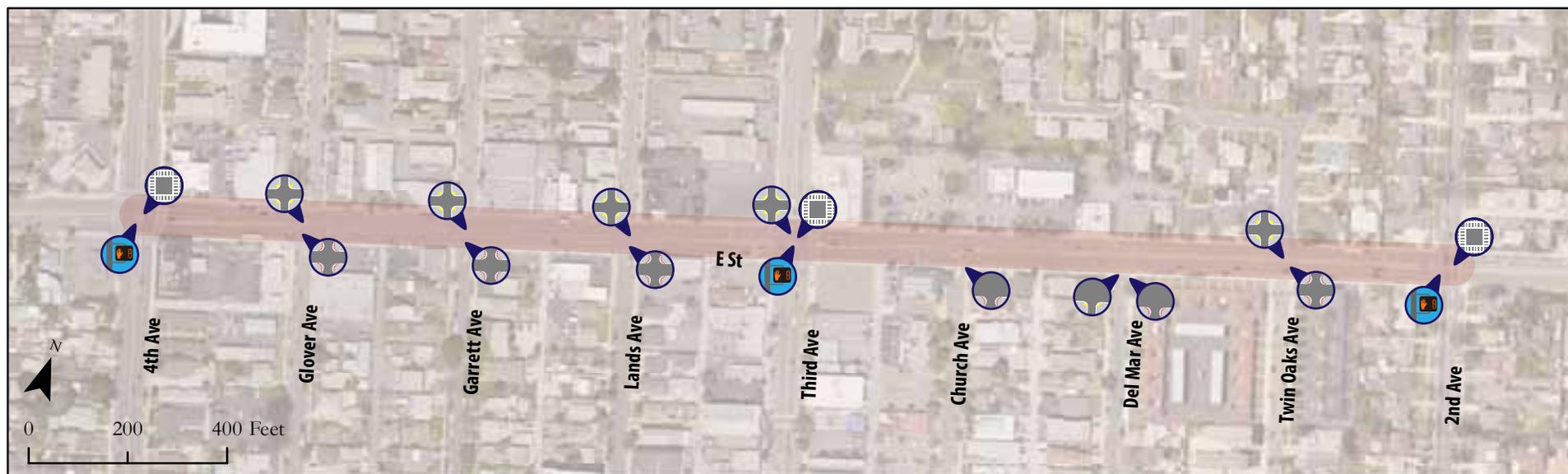
E Street is a major vehicular thoroughfare with a variety of commercial and residential land uses situated throughout the corridor. This project area, designated as a District pedestrian route type, traverses the northern edge of Downtown Chula Vista (oriented along Third Avenue between E Street and H Street). The installation of enhanced pedestrian infrastructure along intersections within this project area will improve the walking environment and help facilitate more pedestrian travel toward the Downtown.

- High-visibility ladder crosswalks with advance stop bars at signalized crossing locations
- Upgrade curb ramps to meet current ADA requirements (truncated dome surfaces and ramp slopes)
- Pedestrian countdown signal heads to inform remaining crossing time
- Where feasible, lead pedestrian intervals should be implemented concurrently with signal head modifications to emphasize pedestrian priority within this high-activity area
- Curb extensions at intersection corners (along side streets), where feasible, to reclaim road space for the pedestrian realm and to reduce street crossing distance



Project Features

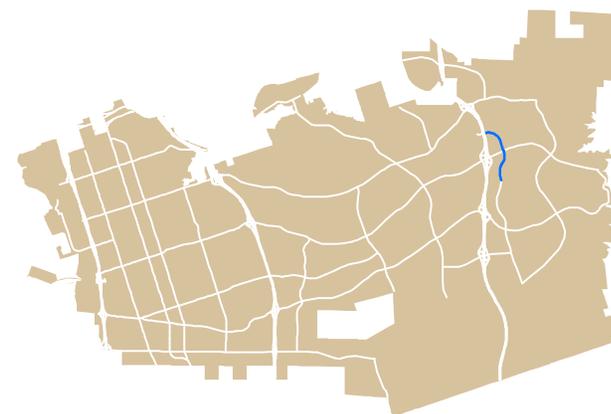
- Project Extent
- High Visibility Crosswalk
- ADA Curb Ramp
- Curb Extensions
- Pedestrian Countdown Signal



Eastlake Parkway Pedestrian Improvements From SR-125 Overpass to Clubhouse Drive

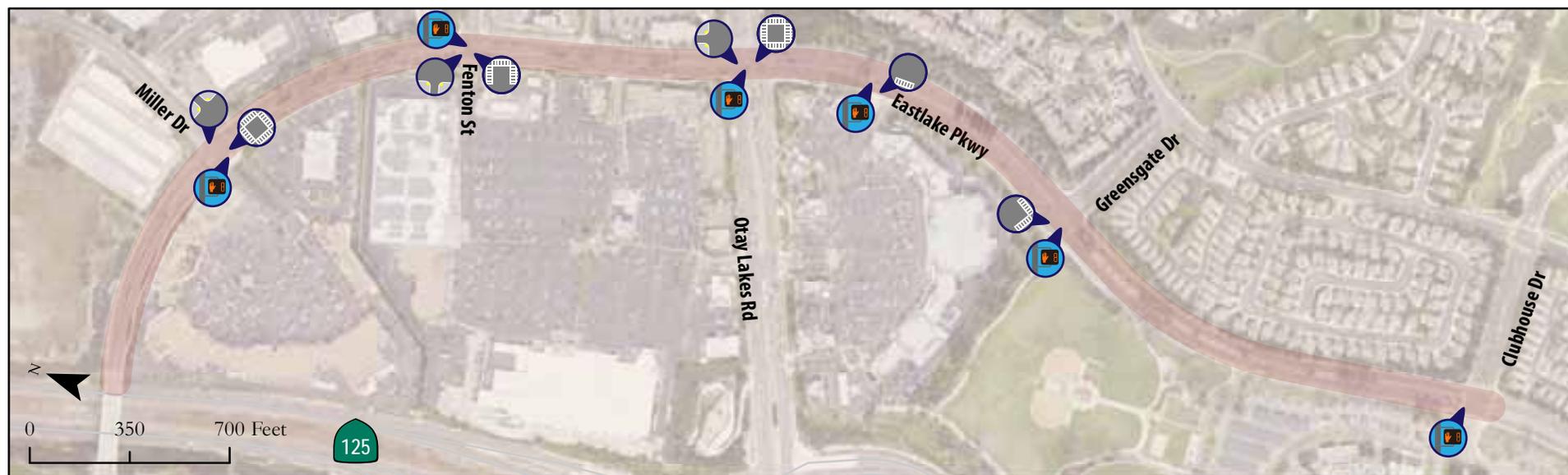
Eastlake Parkway is major north-south high speed arterial in Eastern Chula Vista. The presence of several large shopping centers along the extents of this project area contribute to its classification as a Corridor pedestrian route type. Eastlake High School is another notable destination situated at the southern end of the project area. The installation of enhanced pedestrian infrastructure along intersections within this project area will improve the safety and walking environment of this corridor, with the goal of helping facilitate pedestrian travel to and from the key land uses along this corridor.

- High-visibility ladder crosswalks with advance stop bars at signalized crossing locations
- Upgrade curb ramps to meet current ADA requirements (truncated dome surfaces and ramp slopes)
- Pedestrian countdown signal heads to inform remaining crossing time
- Where feasible, lead pedestrian intervals should be implemented concurrently with signal head modifications to emphasize pedestrian priority within this high-activity area



Project Features

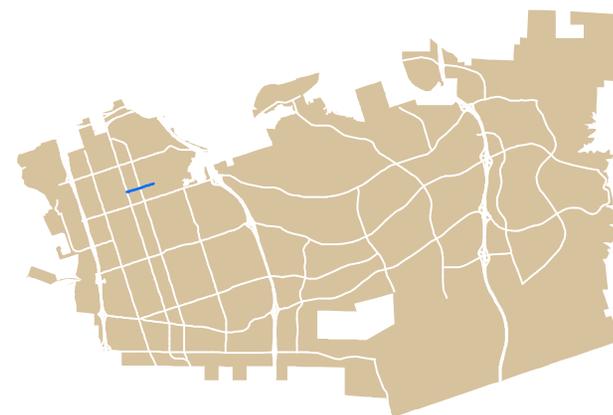
- Project Extent
- ADA Curb Ramp
- High Visibility Crosswalk
- Pedestrian Countdown Signal



G Street Pedestrian Improvements From 4th Avenue to 2nd Avenue

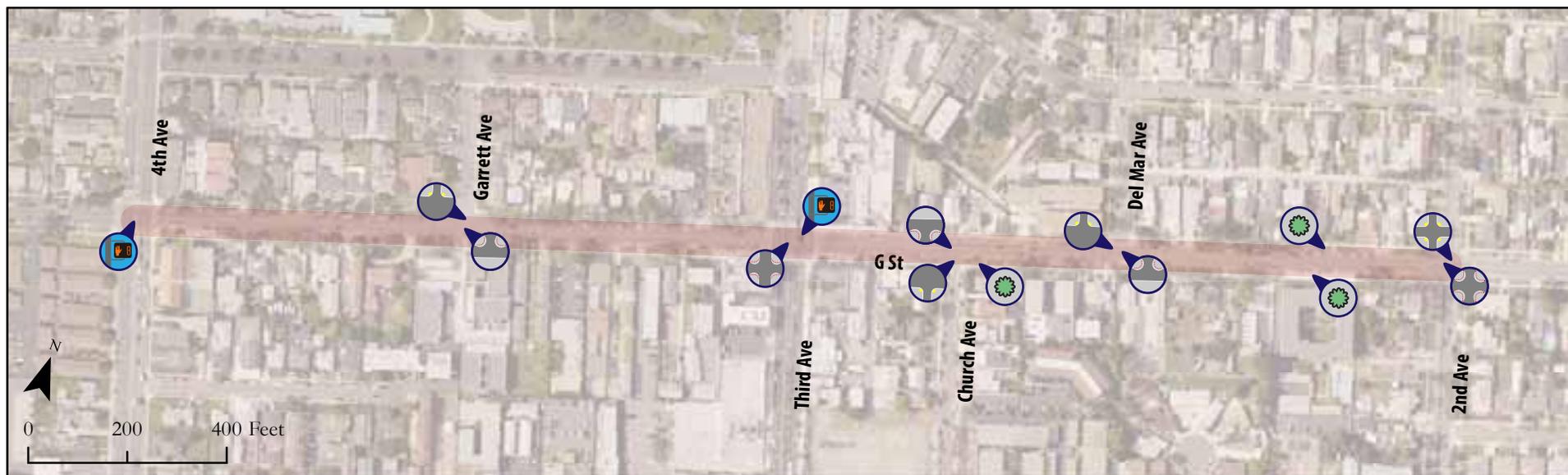
G Street is designated as a District route type between 4th Avenue and 2nd Avenue due to its connections to the Downtown area. Outside of these extents, the G Street is designated as a Connector route type. The installation of enhanced pedestrian infrastructure along intersections within this project area will improve the walking environment and help facilitate more pedestrian travel toward the Downtown.

- Installation of additional landscaping features between the roadway and sidewalk, in locations with insufficient landscaping where feasible
- Upgrade curb ramps to meet current ADA requirements (truncated dome surfaces and ramp slopes)
- Pedestrian countdown signal heads to inform remaining crossing time
- Where feasible, lead pedestrian intervals should be implemented concurrently with signal head modifications to emphasize pedestrian priority within this high-activity area
- Curb extensions at intersection corners (along side streets), where feasible, to reclaim road space for the pedestrian realm and to reduce street crossing distance



Project Features

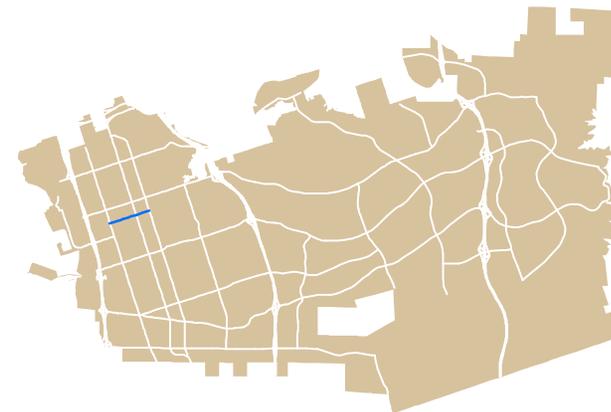
- Project Extent
- Landscaping Features
- ADA Curb Ramp
- Curb Extensions
- Pedestrian Countdown Signal



I Street Pedestrian Improvements From Broadway to Third Avenue

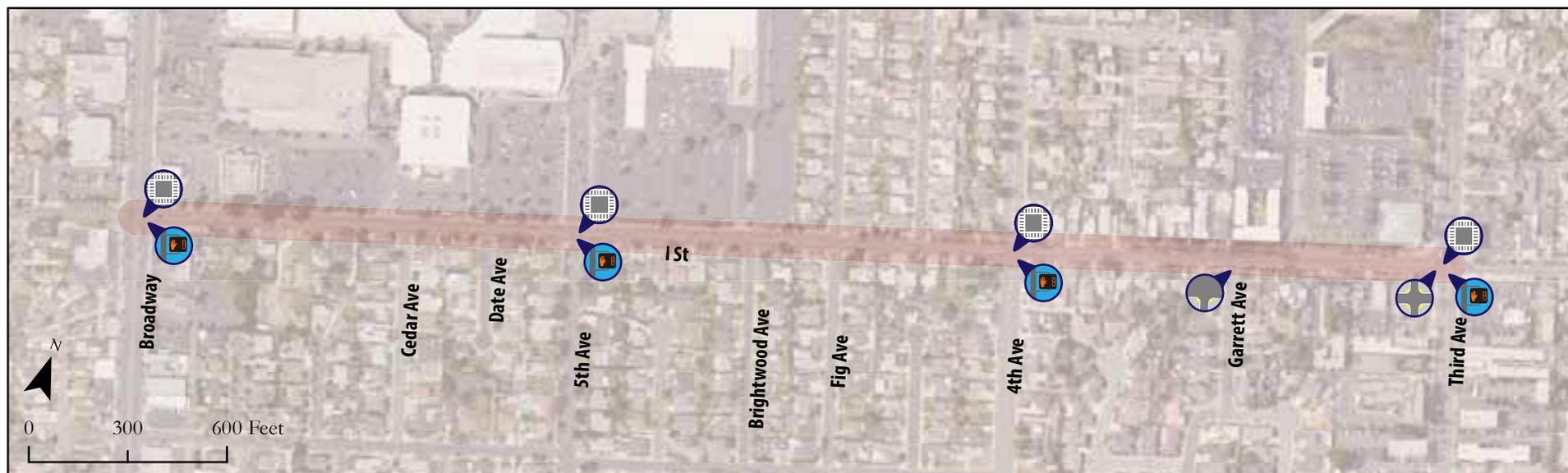
I Street is an east-west collector street in Chula Vista. This project area, adjacent to Chula Vista Center, is designated a Corridor pedestrian route type. The remaining project extents are surrounded by residential land uses. The installation of enhanced pedestrian infrastructure along intersections within this project area will improve the safety and walking environment of this corridor, with the goal of helping facilitate pedestrian travel to and from the Chula Vista Center.

- High-visibility ladder crosswalks with advance stop bars at signalized crossing locations
- Upgrade curb ramps to meet current ADA requirements (truncated dome surfaces and ramp slopes)
- Pedestrian countdown signal heads to inform remaining crossing time
- Where feasible, lead pedestrian intervals should be implemented concurrently with signal head modifications to emphasize pedestrian priority within this high-activity area



Project Features

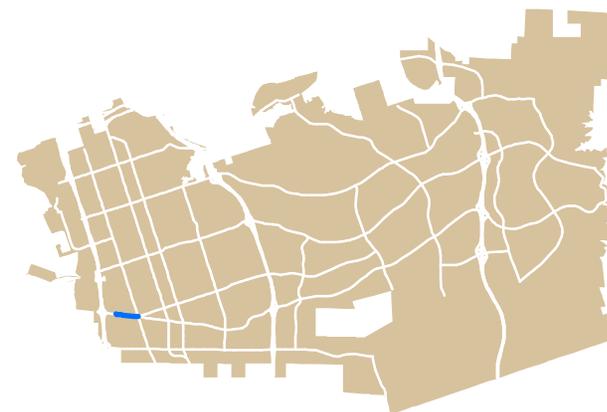
-  Project Extent
-  ADA Curb Ramp
-  High Visibility Crosswalk
-  Pedestrian Countdown Signal



Palomar Street Pedestrian Improvements From Industrial Boulevard to Broadway

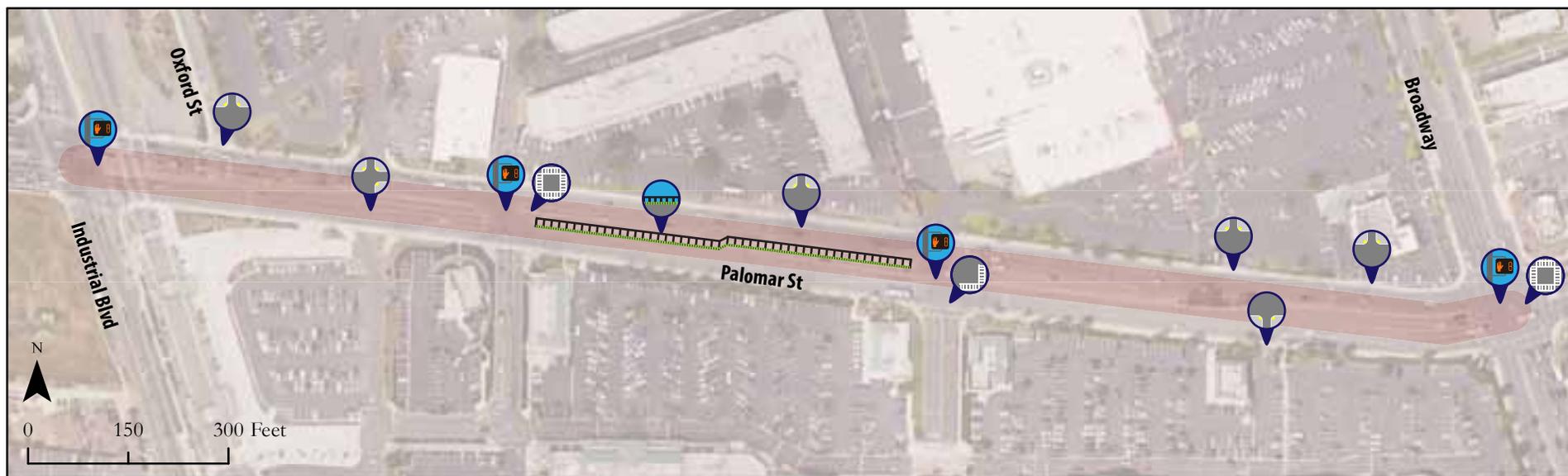
Palomar Street is designated as a Corridor pedestrian route type, emphasizing the importance of the access it provides to the Palomar Street Transit Center, multiple shopping centers, and a variety of housing types. Improvements are intended to facilitate safe pedestrian crossings by shortening crossing distances, improving visibility, and by providing signal enhancements.

- High-visibility ladder crosswalks with advance stop bars at signalized crossing locations
- Upgrade curb ramps to meet current ADA requirements (truncated dome surfaces and ramp slopes)
- Pedestrian countdown signal heads to inform remaining crossing time
- Where feasible, lead pedestrian intervals should be implemented concurrently with signal head modifications to emphasize pedestrian priority within this high-activity area
- Landscaping and/or median fencing is recommended to continue from the Palomar Street Transit Center driveway to Broadway to address the high pedestrian-involved collision frequencies at mid-block locations west of Broadway



Project Features

- Project Extent
- High Visibility Crosswalk
- ADA Curb Ramp
- Median Fencing/Landscaping
- Pedestrian Countdown Signal



Woodlawn Avenue Pedestrian Improvements From E Street to F Street

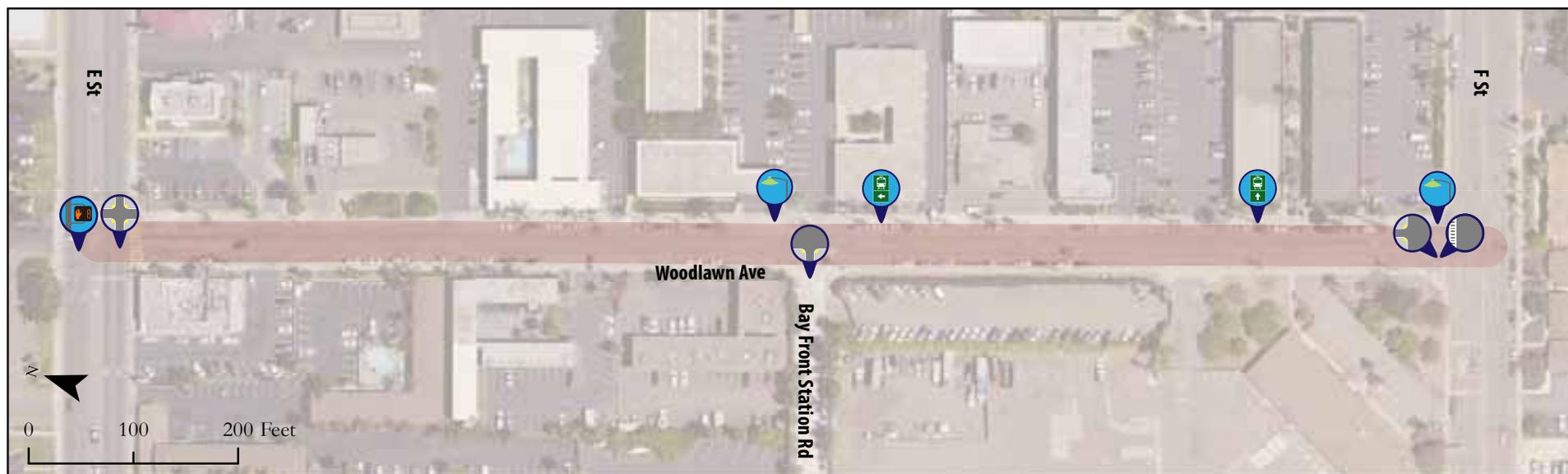
Woodlawn Avenue is designated as a Corridor pedestrian route type due to the proximity to the E Street Transit Center, as well as the surrounding residential housing density and commercial/retail land uses. Future redevelopment surrounding the Transit Center should further increase active transportation levels along this roadway. The Woodlawn Avenue segment's extents are defined by E Street and F Street - two additional roadways identified as Corridor pedestrian route types. Improvements are intended to improve pedestrian comfort while walking to and from the Transit Center along Woodlawn Avenue, while building off the recommendations in the F Street Promenade Streetscape Master Plan.



- A high-visibility ladder crosswalk with advance stop bar across the north leg of Woodlawn Avenue at F Street.
- Additional wayfinding signage to direct users to the Transit Center.
- Enhanced lighting to make the area more comfortable at night.
- Pedestrian countdown signal heads at E Street crossing.

Project Features

-  Project Extent
-  ADA Curb Ramp
-  High Visibility Crosswalk
-  Wayfinding Signage
-  Pedestrian Countdown Signal
-  Enhanced Lighting



5.3 Anticipated Future Demand

The most common way to estimate future demand, is to look to the number of commuters who will use the improvements to get to and from work. This is primarily because the commute mode-share data is readily available.

The City of Chula Vista has a population of approximately 264,101 residents according to the 2017 American Community Survey 5-Year Population Estimate. According to the Census, approximately 44% of the adult population (defined as 16 years and older) is employed; a total of approximately 116,277 residents.

Currently, as noted in Chapter 2, Table 2-1, based on the 2017-ACS 5-Year Estimate approximately 3.3% of Chula Vista residents take public transportation to work, 1.5% walk and 0.3% ride a bicycle. It is worth noting how the American Community Survey (ACS) develops the commute data. The ACS asks how an individual typically traveled to work in the previous week. Due to survey design, this restricts the respondent to one method of transportation in their answer. Owing to the restricted response, it is possible that walking and biking trips are underreported, as it is possible that an individual travelled to

work using multiple modes over the course of the week in question. Additionally, these estimates do not take other, non-commute trips into account.

The City of Chula Vista is expected to grow by approximately 9.42% by 2030; from 264,101 in 2017 to 288,978 in 2030. **Table 5-5** shows future commute estimates for each mode.



It is more difficult to quantify the number of residents, in general, who will use the new infrastructure for utilitarian purposes. Due to the difficulty of estimating utilitarian trips, it is recommended that the City of Chula Vista conduct bicycle and pedestrian counts at various locations through-out the City at locations where improvements will be constructed. Counts should be conducted once before the improvements are made and again after they have been implemented. This data will allow the City to monitor use and to develop local multipliers for specific infrastructure improvements and develop future demand estimates.

Table 5-5: Future Commute Estimates by Mode

Chula Vista	2017	Estimated 2030	Estimated Change
Residents	264,101	288,978	24,877
Employed Residents	116,277	127,150	10,873
Transit Commuters	3,837	4,196	359
Bicycle Commuters	349	382	33
Pedestrian Commuters	1,744	1,907	163

2030 Population Estimates Source SANDAG Demographics Data (October 2011)

Case Studies of Responses to Infrastructure

Studies have shown that building bicycle lanes increases the number of people who ride bicycles. Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S. (National Institute for Transportation and Communities, US DOT, 2014) reveals Austin, Chicago, Portland, San Francisco and Washington DC all saw an increase in ridership, ranging from 21% to 171%, after adding protected bicycle lanes. Similarly, Calgary implemented a network of protected bicycle facilities in the downtown area which indicated a 95% average increase in daily bike trips. Following construction of 1.2 miles of cycle tracks in downtown Long Beach, bicycle ridership increased by 33% and car-bike collisions decreased by 80%. Locally, the installation of buffered bike lanes on the 4th and 5th Avenues in the Uptown community of San Diego resulted in a 29% increase in bicycle ridership along these corridors.

Mode choice – whether to walk, bike, take transit or drive – is partially dependent on facilities, however, it is also dependent on the network (if the bicycle infrastructure is connected or in isolation), on the location, as well as, the mixtures and concentrations of land uses. Although there are notable differences between the aforementioned cities and the City of Chula Vista, the key finding should not get lost: adding bicycle infrastructure results in increased ridership.

Additionally, the City of Chula Vista has a Climate Action Plan which identifies greenhouse gas emission reduction targets: to reduce community-wide GHG emissions to 15 percent below 2005 levels by 2020, and 55 percent below 2005 by 2030. The State of California issued new guidance which quantifies greenhouse gas emissions per capita, or by person, instead of total emissions. This new metric allows Chula Vista to be within achievable reach of their 2030 goal, however the long-term 2050 goal to reduce emissions to one-third of the 2030 targets is still ambitious. In order to meet the long-term goal, the City will need to continue taking assertive actions. This Active Transportation Plan is one strategy identified in the Climate Action Plan intended to further advance the City towards achieving the emission reduction target.



5.4 Maintenance Considerations

Bicycle and pedestrian facilities must be maintained in an appropriate manner. Well-maintained facilities increase safety and encourage use and longevity of the facilities. Roadway dirt, debris, and potholes affect pedestrians and cyclists to a greater extent than cars. Maintenance programs should include a periodic review of the condition of signs, pavement markings, barriers, and surface condition.

The City of Chula Vista currently maintains bicycle lanes and bicycle routes through regular street sweeping and asphalt resurfacing/restriping efforts. The Chula Vista also fills potholes as they are identified. The City makes it easy for community members to submit requests for maintenance issues and other services through the ACT Chula Vista tool, which is available online (<https://seeclixfix.com/chula-vista>), via mobile applications for iPhone and Android devices, or by contacting Public Works Dispatch at (619) 397-6000.

5.5 Potential Funding Sources

Planning efforts can be constrained by limited implementation resources. However, projects that are part of comprehensive plans often have a competitive edge over stand-alone projects. Indeed, there are many different ways to combine funding and other resources. Funding for active transportation projects can be drawn from the General Fund, designated through the annual budget. Additionally, planned projects can be implemented incrementally through frontage improvements as properties are redeveloped. Grant funding provides another source of funds, and is typically necessary to cover the costs of larger-scale projects.

Common grant sources are provided in **Table 5-6**.

As shown, there are multiple avenues to secure funding for different aspects of bikeway and pedestrian planning, engineering, and construction. It should be noted, however, that grant funds are competitive, and regional, State and Federal authorities receive more applications for funding each year than there are funding dollars available. Therefore, it is recommended that a City staff member stay current on funding sources and eligibility criteria to effectively pursue potential funding sources. The following table outlines relevant grant programs for the City of Chula Vista to consider pursuing. A brief description of each program, the eligible projects, and funding cycles is provided.



Residents can now use ACT Chula Vista to submit requests for non-emergency service via mobile application and web tool.

ACT Chula Vista

Alert | Connect | Track

In case of an emergency, please call 911.

Table 5-6: Grant Funding Opportunities

Funding Program	Relevant Eligible Projects	Notes
<p>Active Transportation Program (ATP) – Caltrans Caltrans' ATP was created to encourage increased use of active modes of transportation, increase the safety and mobility of non-motorized users, help achieve greenhouse gas reduction goals, enhance public health, provide a broad spectrum of projects to benefit many types of active transportation users while ensuring disadvantages communities share in the benefits.</p>	<ul style="list-style-type: none"> • Capital Projects: environmental, design, right-of-way, and construction phases of a capital project. • Plans: Community wide bicycle, pedestrian, safe routes to school, or active transportation plan. • Non-Infrastructure (NI) Projects: Education, Encouragement, and Enforcement activities 	<ul style="list-style-type: none"> • Cycle 5 Call for Projects is anticipated to be announced in Spring 2020 • Minimum request for infrastructure projects is \$250,000, however, the minimum does not apply to Safe Routes to Schools projects or Recreational Trail projects
<p>Local Streets and Roads Program (LSRP) – Caltrans Funding dedication for cities and counties to perform basic road maintenance, rehabilitation, and critical safety projects on the local streets and roads systems.</p>	<ul style="list-style-type: none"> • Safety Projects • Complete Streets Components • Traffic Control Devices • Maintenance and Rehabilitation 	<ul style="list-style-type: none"> • Available annually • To be eligible, cities must submit an adopted proposed project list to the California Transportation Commission.
<p>Regional Trails Program (RTP) – California Parks Department Administered by the California Department of Parks and Recreation. Provides funds for recreational trails and trails-related projects.</p>	<ul style="list-style-type: none"> • Development and Rehabilitation of Trails, Trailside and Trailhead Facilities • Construction of new trails • Acquisition of easements and simple title to property for Recreational Trails 	<ul style="list-style-type: none"> • Annual funding cycle with applications typically due in early February
<p>Highway Safety Improvement Program (HSIP) – Caltrans Serves to reduce traffic fatalities and serious injuries on all public roads.</p>	<ul style="list-style-type: none"> • HSIP funds are eligible for work on any public road or publicly owned bicycle or pedestrian pathway or trail that improves the safety for its users 	<ul style="list-style-type: none"> • Cycle 10 call for projects around April 2020 • Cycle 11 call for projects around April 2022
<p>Public Access Program – California Wildlife Conservation Board Program funding is focused on creating opportunities for meaningful wildlife-oriented recreation experience.</p>	<ul style="list-style-type: none"> • Planning, preliminary design, environmental review, permitting, final design and construction costs for facilities or the enhancement of existing facilities that will provide for public access to wildlife-oriented activities 	<ul style="list-style-type: none"> • Generally available annually with a call for projects open in the spring
<p>Active Transportation Grant Program (ATGP) – SANDAG The goal of the ATGP is to encourage local jurisdictions to plan and build facilities that promote multiple travel choices and build connectivity.</p>	<ul style="list-style-type: none"> • Capital Projects • Non-Capital projects: Planning, Education, Encouragement, and Awareness, & Bike Parking 	<ul style="list-style-type: none"> • On a three-year funding cycle • Last funded project cycle was 2018
<p>Smart Growth Incentive Program (SGIP) – SANDAG The SGIP provides funding for transportation-related infrastructure improvements that within Smart Growth Opportunity Areas as shown in SANDAG's Smart Growth Concept Map. The goal is to fund public infrastructure projects and planning activities that facilitate or support compact, mixed-use, transit-oriented development and transportation choices.</p>	<ul style="list-style-type: none"> • Climate Action Planning • Capital & Planning projects 	<ul style="list-style-type: none"> • Initially on a four-year cycle, recently on a three-year cycle. • Last funded project cycle was 2018 • The (2016) Smart Growth Concept Map designates 10 Town Centers, 2 Urban Centers, 1 Community Center and 1 Existing Special Use Center and 1 Potential Special Use Center.

Table 5-6: Grant Funding Opportunities (cont.)

Funding Program	Relevant Eligible Projects	Notes
<p>Affordable Housing and Sustainable Communities – California Strategic Growth Council The AHSC Program is funded by Cap-and-Trade revenue and is intended to fund affordable housing developments and transportation infrastructure that supports walking, riding bikes or taking public transit.</p>	<ul style="list-style-type: none"> • Sustainable transportation infrastructure such as sidewalks and bike facilities • Transportation-related amenities, such as bus shelters, benches, or shade trees • Other infrastructure or programs that encourage residents to walk, bike and use public transit 	<ul style="list-style-type: none"> • Eligible applicants include local governments, transportation and transit agencies, non-profit and for-profit housing developers, joint powers authorities, and school districts. • Application cycles are available annually, with applications due in February
<p>Urban Greening – California Natural Resources Agency As part of SB 859, the Urban Greening Program supports the development of green infrastructure projects that reduce GHG emissions by sequestering carbon, decreasing energy consumption and reducing vehicle miles traveled, while also transforming the built environment into places that are more sustainable.</p>	<ul style="list-style-type: none"> • Establishment, enhancement, and expansion of neighborhood parks and community spaces • Greening of public lands and structures, including schoolyards • Green streets and alleyways • Non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools • Urban heat island mitigation and energy conservation efforts 	<ul style="list-style-type: none"> • Eligible applicants include city, county, special district, non-profit organizations or joint powers authorities. • Next cycle is anticipated in Spring 2020.