

# **SAN MARCOS** *Active Transportation Plan*



**DRAFT**

**SAN MARCOS**  
DISCOVER LIFE'S POSSIBILITIES



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# 1.100 INTRODUCTION

The City of San Marcos is a vibrant community where approximately 90,000 diverse residents live, work, and play in the beautiful foothills of northern San Diego County. San Marcos serves as a regional job center and attracts visitors looking to enjoy the city's 290 acres of recreational parks and over 70 miles of interconnected trails. The city supports the daily activities of residents and visitors alike and aims to continue improving its mobility choices through a robust, accessible, and equitable pedestrian and bicycle network.

## 1.101 ORGANIZATION OF THE PLAN

The San Marcos Active Transportation Plan (ATP) contains the following chapters:

1. **Introduction** – Provides background, establishes vision and goals, outlines the study process
2. **San Marcos Today** – Presents existing conditions data and findings
3. **Public Outreach** – Documents public engagement efforts and takeaways
4. **Safe Routes to School (SRTS)** – Outlines the walk audit process and SRTS policies and programs
5. **Active Transportation Recommendations** – Presents bicycle and pedestrian recommendations
6. **Implementation** – Details the prioritization process, compiles funding sources, and establishes implementation strategies

### *Appendices*

- A. **Existing Conditions Report and Literature Review** – Presents information on the existing active transportation network and community context
- B. **Caltrans ATP Guidelines Conformance Checklist** – Details how this ATP aligns with Caltrans ATP guidelines
- C. **Public Feedback Summary** – Documents comments from community members
- D. **Safe Routes to School Element** – Details recommendations for each school in the San Marcos Unified School District
- E. **Grant Funding Matrix** – Provides a larger list of funding sources as well as full descriptions of the types of projects that are eligible for each funding source.



## 1.102 WHAT IS AN ACTIVE TRANSPORTATION PLAN?

An ATP focuses on encouraging non-motorized modes of transportation—primarily walking and biking—by recommending projects, programs, and policies that enhance the active transportation experience in the community. An ATP evaluates the current state of walking and biking opportunities; analyzes user demographics, safety data and more; engages community members; and provides recommendations to support mobility in the city. This ATP also incorporated a Safe Routes to School (SRTS) study to identify challenges associated with the schools located within the San Marcos Unified School District (SMUSD).

This plan is used to create active transportation-oriented projects for the City’s Capital Improvement Program (CIP) and for construction as required by the City for private development projects. Additionally, it develops educational programs and policies for the City and its partners to implement. Furthermore, this plan aligns projects with grant funding opportunities from various local, state, and federal sources.

Active Transportation is associated with benefits such as:



**Increased physical activity and improved health** outcomes through walking, biking, and other physical modes of transport



**Reduced vehicular trips** and greenhouse gas emissions as people substitute high-emission motorized vehicle trips with active transportation trips



**Low-cost, equitable mobility options** for people of all ages, income levels, and backgrounds

**Active transportation** refers to modes of transportation powered by human energy, ranging from walking and biking, to scootering, skating, using a wheelchair, and other means of non-motorized transportation.





## 1.103 BACKGROUND AND LEGISLATIVE CONTEXT

Various pieces of legislation have created policies and programs supporting active transportation in the State of California. These documents align with the vision and goals of this ATP and inform the types of recommendations created.

### 1.103.1 Active Transportation Program (2013 SB 99 and 101)

This Active Transportation Plan aligns with the Active Transportation Program created by the 2013 Senate Bills 99 and 101, which consolidated existing federal and state transportation programs into a single plan that promotes active transportation. Consistent with this legislation, this ATP aims to increase biking and walking trips, increase safety and mobility of non-motorized users, and ensure that the mobility needs of disadvantaged communities are met through projects that benefit users of all abilities and backgrounds. This plan will provide a palette of infrastructure projects, such as capital improvements and non-infrastructure projects, and educational programs and policies, to holistically improve mobility in San Marcos.

### 1.103.2 California Complete Streets Act (2008 Assembly Bill 1358)

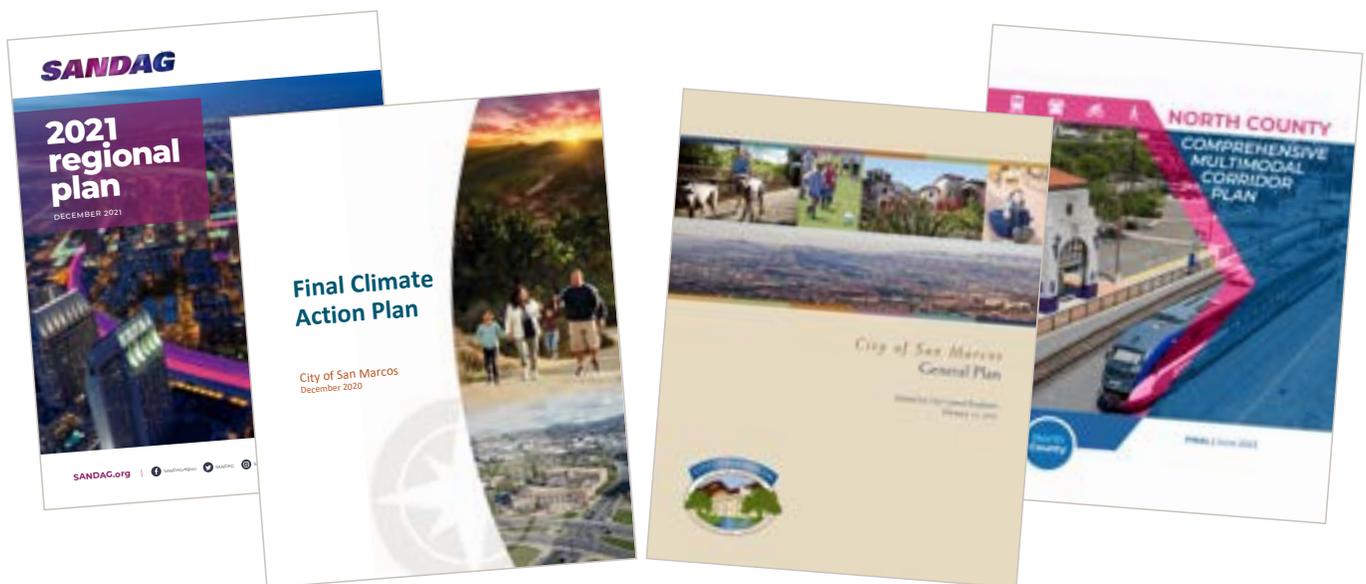
This plan aligns with the California Complete Streets Act of 2008, which requires circulation plans to use a multi-modal approach to designing corridors while considering “the needs of all users... in a manner suitable to the rural, suburban, or urban context of the general plan.” The projects in this plan incorporate complete streets policies into circulation roadways to accommodate all users and improve the state of walking and biking in San Marcos.

## 1.104 COMPATIBILITY WITH LOCAL AND REGIONAL PLANS

This plan is complementary to current regional and local planning efforts and documents, aligning with goals and efforts from relevant studies, most notably:

- SANDAG (San Diego Association of Governments) 2021 Regional Plan
- San Marcos General Plan (2012)
- North County Complete Streets Act (2023)
- San Marcos Climate Action Plan (2020)

As shown in **Figure 1**, the projects, goals, programs, and policies of these documents were incorporated into the ATP and integrated into the recommendations of this document.





This ATP complements the City’s General Plan by:

- Aligning with the goals of the Mobility Element that aim to connect people to key destinations with a complete bicycle and pedestrian network
- Complementing the Circulation Element regarding all major thoroughfare and transportation routes in the city
- Supporting the land uses in the Lane Use Element, thereby ensuring the active transportation network will serve the community’s needs into the future

**Mobility Element of 2012 General Plan- Policy M-1.7:**

Strive to ensure that streets within San Marcos shall be **complete streets** where feasible; thereby providing **accessibility, safety, connectivity, and comfort** for **all modes and users of the system**. Appropriate new local streets and Main Streets will **prioritize pedestrian and bicycle users** through the corridor.



**Figure 1. Active Transportation Context**



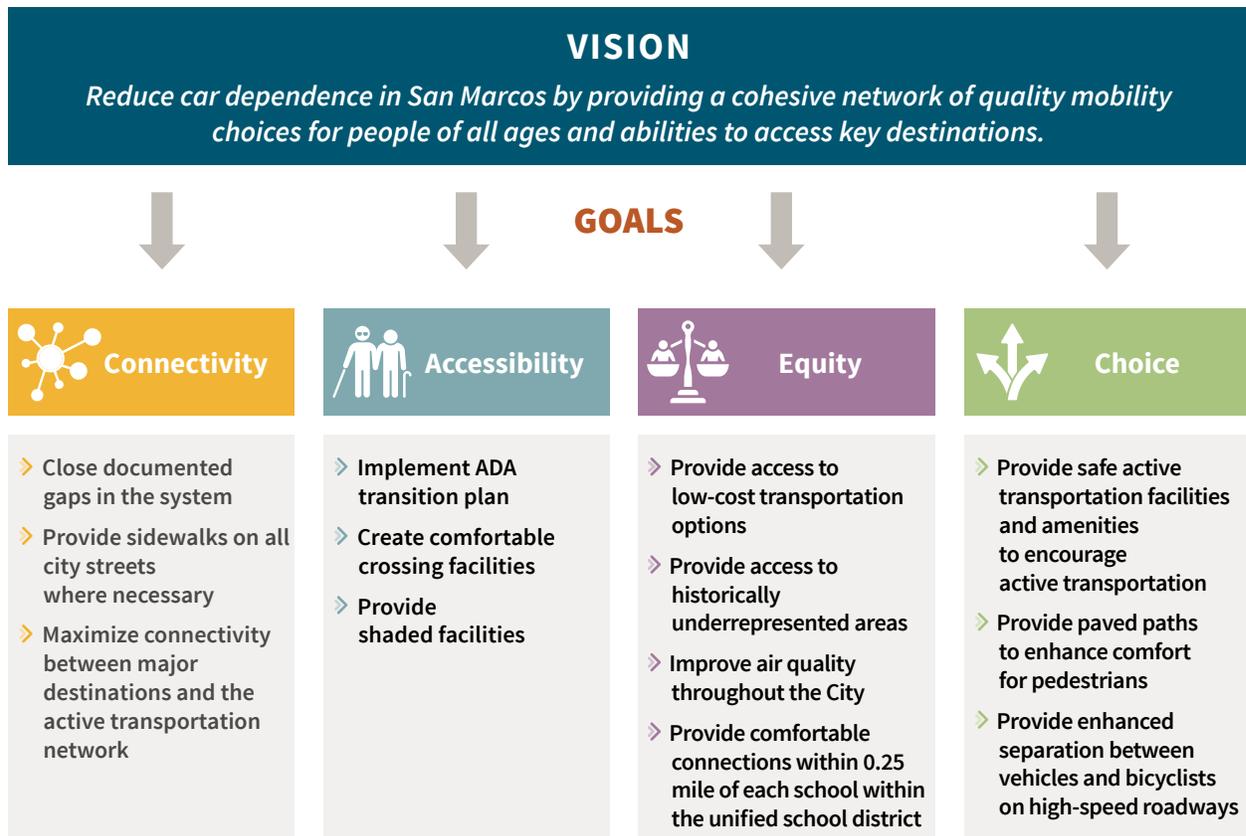


## 1.105 VISION, GOALS, AND OBJECTIVES

The following vision, goals, and objectives guided the development of this ATP and SRTS element.

These goals and objectives, shown in **Figure 2**, support the overarching intentions of increasing biking and walking, enhancing public health, and providing quality mobility choices for all ages and abilities to access destinations within the city without the need for a car.

**Figure 2. Vision and Goal Diagram**

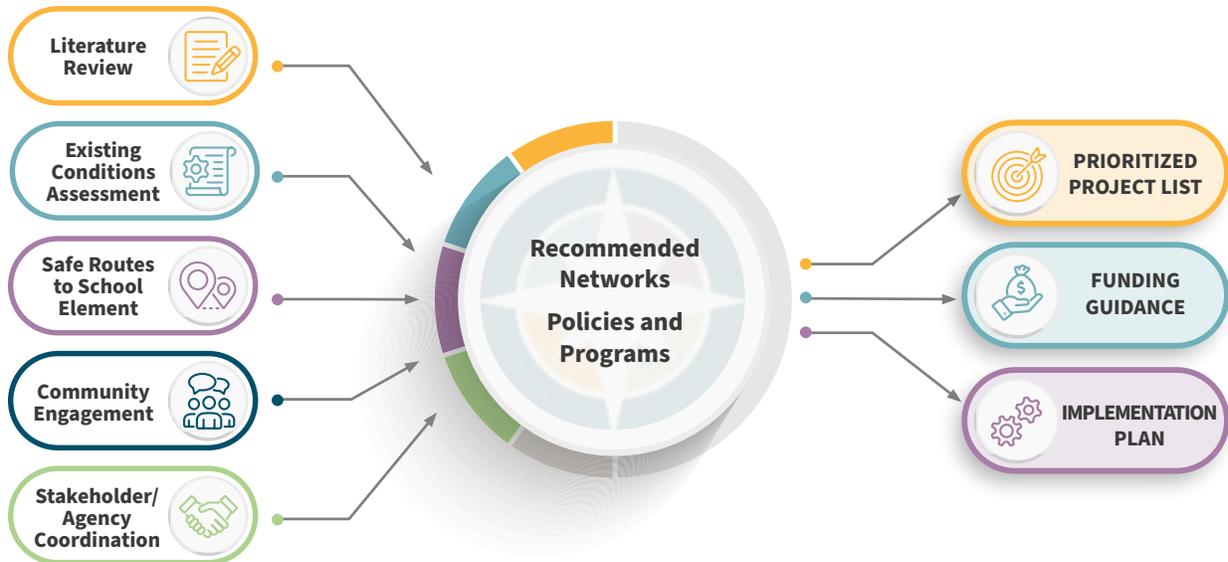




## 1.106 PLAN DEVELOPMENT PROCESS

This ATP was developed through a holistic process, including an extensive existing conditions analysis of San Marcos, a SRTS evaluation, an engaging community outreach initiative, and a rigorous prioritization process, as summarized in **Figure 3**. The plan fully encompasses the 5 E's of planning: engineering, education, encouragement, enforcement, and evaluation.

**Figure 3. Pedestrian and Bicycle Networks Policies and Programs Plan Development Process**



### 1.106.1 Literature Review and Existing Conditions

To begin the ATP process, local and regional mobility documents were reviewed to identify relevant active transportation projects and policies. An existing conditions analysis was conducted to evaluate current demographics, mobility patterns, bicycle and pedestrian network gaps, roadway characteristics, and safety improvement needs. Results of the analysis are summarized in **Chapter 2.100** and detailed in **Appendix A**.

### 1.106.2 Safe Routes to School (SRTS) Element

The SRTS element complements the ATP by providing San Marcos students with comfortable facilities for active transportation within a quarter-mile radius of all 18 schools in the San Marcos Unified School District (SMUSD). School surveys and walk audits were conducted at all SMUSD schools to document existing infrastructure; observe pedestrian, bicyclist, and vehicle patterns; identify infrastructure deficiencies; and develop active transportation recommendations. The SRTS Element is summarized in **Chapter 4.100** and detailed in **Appendix D**.



### 1.106.3 Community Engagement

The City involved community members in the planning process through community workshops, local outreach events, and a public website with an interactive feedback map. The purpose was to inform community members of the planning process, listen to their views on active transportation opportunities and challenges in San Marcos, and to determine community interest in collaborating to address active transportation challenges. This engagement process is summarized in **Chapter 3.100** and detailed in **Appendix C**.



### 1.106.4 Stakeholder/Agency Coordination

The City met with relevant local agencies, including Caltrans, City of Escondido, City of Vista, City of Carlsbad, California State University San Marcos (CSUSM), and SMUSD, to present the draft recommended active transportation networks and to solicit input on corridors that continue into other agencies’ jurisdictions. The purpose of these meetings was to ensure agencies impacted by the ATP recommendations agree on a vision for corridors that cross jurisdictional boundaries and to ensure a coordinated effort in implementing projects on these corridors.



### 1.106.5 Active Transportation Network Development and Prioritization

Projects, programs, and policy recommendations were developed, evaluated, and prioritized based on alignment with the City’s goals and potential active transportation benefits for people of all ages, backgrounds, and abilities. Criteria were developed and weighted to measure each project’s ability to achieve the goals developed for this ATP. Recommendations were strategically bundled and prioritized to facilitate future grant funding applications.



## 1.107 COMPONENTS OF ACTIVE TRANSPORTATION PLANNING

Active transportation planning uses a variety of physical infrastructure, policy, and technology improvements to encourage and facilitate walking and biking.

### 1.107.1 Bicycle Classification System

Various types of bicycle facilities may be implemented for different types of roadways, bicyclists, and trip types. The following classifications are included in this plan (see **Figure 4**):

- **CLASS I MULTI-USE PATHS** are paved right-of-way for exclusive use by bicyclists, pedestrians, and/or those using non-motorized modes of travel. Class I paths are located outside of the roadway's curb-to-curb width. Class I paths are the most comfortable facilities for recreational use or more inexperienced riders of all ages and abilities.
- **CLASS II BIKE LANES** are defined by pavement markings and signage used to allocate a portion of the curb-to-curb roadway for exclusive bicycle travel. Wherever feasible, bike lanes should include additional pavement markings or buffer space to separate the bike lane from the adjacent travel or parking lane; these are called "buffered" Class II bike lanes. Class II bike lanes are most appropriate for lower speed, lower volume roadways.
- **CLASS III BIKE ROUTES** share roadway space with motor vehicle traffic within the same travel lane and are typically designated with signs or shared lane markings. A bike route with enhanced traffic calming or volume reduction elements can also be considered a bicycle boulevard. Class III routes are the least comfortable facility type for bicyclists, and most appropriate for low-speed, low-volume local roadways, or on short, constrained segments of higher quality facilities.
- **CLASS IV BIKEWAYS** are similar to Class II buffered bike lanes; however, a Class IV bikeway includes vertical protection to create a physical barrier between bicyclists and vehicles. Class IV bikeways can be one-way, serving only one direction of travel, or two-way, with both directions of travel on the same side of the roadway. Class IV bikeways are the most comfortable facilities and can be implemented on higher speed, higher volume roadways.

**Figure 4. Bike Facility Classifications**





### 1.107.2 Bicycle Intersection Concepts

A bicycle network includes infrastructure and intersection improvements focused on reducing vehicle-bike conflicts and increasing bicycle mobility and safety. At intersections, larger turning radii and wider lanes can create an environment for vehicles to make turns at faster speeds, increasing the potential for conflict with bicyclists and the severity of injuries in the case of a collision. Furthermore, bicycle lanes may not extend to the intersection where bicycle-related collisions are more frequent. From 2015 to 2019, over 60% of bicycle-related collisions in San Marcos occurred at an intersection.

The intersection design process must carefully contemplate bicycle safety and comfort to ensure bicyclists can complete their trip from start to finish using high-quality facilities. The following intersection improvements could be considered during design of the projects recommended in this ATP. The active transportation design world is continuously evolving and design best practices may shift as features are tested and implemented to improve comfort and safety for bicyclists. Therefore the latest versions of bike design guidance from National Association of City Transportation Officials (NACTO), Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration (FHWA), and California Department of Transportation (Caltrans) should be consulted during each project’s design and implementation phase.

*From 2015 to 2019, **over 60% of bicycle-related collisions in San Marcos occurred at an intersection.***



#### BICYCLE SIGNALS



**Bicycle signals** create a signal phase at intersections that is specifically for bicyclists and does not conflict with vehicle movements. A bike signal must be installed on the far-side of an intersection with red, yellow, and green indicators in a bicycle shape, while a near-side signal is optional to improve visibility.

#### DEDICATED INTERSECTION



A **dedicated intersection** creates dedicated paths of travel for bicyclists and pedestrians through an intersection when there is insufficient space for vertical protection or a full setback. Protected and dedicated intersections are frequently designed on streets with buffered or separated bicycle facilities.



### PROTECTED INTERSECTION



A **protected intersection** physically separates bicyclists and pedestrians from vehicle traffic at an intersection to reduce areas of conflict with vehicles. Protected intersections have separated crossing facilities to reduce crossing distance, enhance pedestrian and bicyclist visibility to vehicles, and encourage lower speeds.

### TWO-STAGE LEFT-TURN BOX



A **two-stage left-turn** box designates an area at a signalized intersection where bicyclists can queue in a right-side bicycle facility to increase comfort when making a left turn. Two-stage left-turn boxes are typically provided when a protected or dedicated intersection is not feasible and the roadway experiences high vehicle volumes or a large number of bicyclists that make left turns.

### BIKE BOX



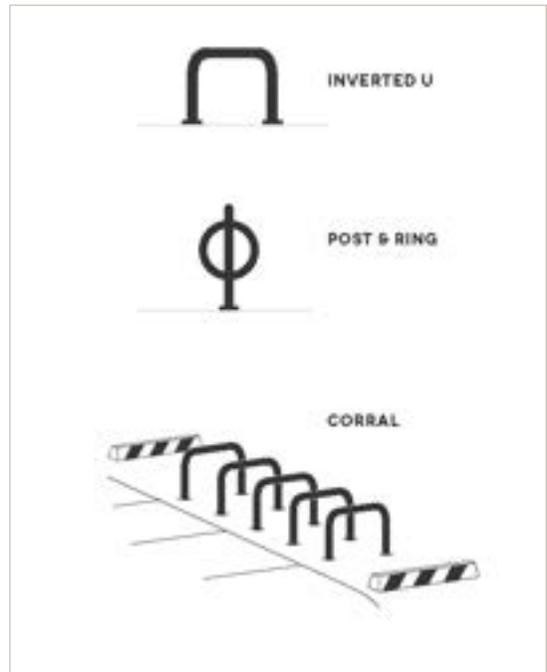
A **bike box** designates an area in front of the vehicular lanes at a signalized intersection. The bike box increases bicyclist visibility by allowing bicyclists to get ahead of queued vehicles during a red signal phase. This treatment can help avoid a “right-hook” conflict between bicyclists and right-turning vehicles.



### 1.107.3 Bicycle Amenities

Various facilities can support bicyclists at the beginning and end of their trips, such as bicycle parking, showers, and changing rooms.

Secure and accessible bicycle parking is essential for bicyclists who need safe storage between bicycle trips. Without proper storage, bicycles may be damaged or stolen, so providing secure, well-lit parking facilities makes each trip more comfortable and convenient for riders. Having covered facilities is ideal to provide protection from the elements. Bicycle parking should be safe and accessible along a bike network or near trip destinations for easy access. Bicycle parking comes in a variety of forms depending on length of use. For example, inverted U and post-and-ring bicycle racks provide short-term parking while, bicycle lockers physically enclose a bicycle to provide secure parking for high-value bicycles and long-term parking.





### 1.107.4 Traffic Calming Strategies

Safe speeds are important to help protect the most vulnerable users of the road: pedestrians and bicyclists. Speed management can be achieved through educational, enforcement, and engineering traffic calming strategies that encourage motorists to drive at lower speeds. The City’s Neighborhood Traffic Management Policy Guidelines, August 2023, provides a process for members of the public to request a traffic calming evaluation by the City on roadways that meet specific criteria. The guidance document also provides a comprehensive toolbox of context-sensitive solutions that can be implemented to address traffic-related concerns.

### 1.107.5 Accommodating Pedestrians

The pedestrian network is composed of sidewalks, trails, and safe and comfortable crossings. Intersections, mid-block crossings. The overall pedestrian environment can be improved through various pedestrian treatments.

#### LEAD PEDESTRIAN INTERVAL



**Pedestrian signal enhancements** improve an intersection’s signal timing, allowing for a more comfortable pedestrian experience. For example, a **lead pedestrian interval (LPI)** is a signal enhancement in which pedestrians receive a green crosswalk signal three to seven seconds before vehicles. This signal timing increases pedestrian visibility and re-emphasizes pedestrians’ right-of-way in a crosswalk.

**Mid-block crossing enhancements** provide for safe and convenient pedestrian crossings at an uncontrolled location. Mid-block crossing designs be appropriate for the characteristics of the roadway, provide adequate sight and stopping distance, and should consider the following enhancements depending upon the speed and volumes on the roadway:

- Rectangular Rapid Flashing Beacons (RRFB)
- Pedestrian Hybrid Beacons (PHB)
- High-visibility crosswalks
- Advanced yield lines
- LED-enhanced flashing signs
- Median refuge islands

#### MID-BLOCK CROSSINGS



A site distance evaluation must be performed prior to installation of a mid-block crossing.

**Crossings at controlled intersections** (signalized or stop-controlled) should also consider high-visibility striping and median refuge islands.



### BULB OUTS



**Curb extensions**, also known as bulb outs, extend the curb line into a roadway at a crossing location. Curb extensions can increase the area available for pedestrians to safely wait before crossing an intersection, reduce crossing distance, and increase pedestrian visibility. Curb extensions can be semi-permanent (striping and delineators) or permanent (sidewalk with curb and gutter), depending upon the characteristics of the roadway.

### ENHANCED PEDESTRIAN ENVIRONMENT



Treatments such as wider sidewalks and placemaking can create an **enhanced pedestrian environment** that improves the character and function of the pedestrian space. For example, providing **benches, shade, streetlights, wider sidewalks, general landscaping, trees,** and a **landscape buffer** adjacent to the curb can facilitate a comfortable pedestrian experience. Landscape buffers are encouraged wherever safe and feasible to provide separation between the roadway and pedestrians.

### FENCED MEDIAN



Fenced medians should be considered if other solutions for deterring mid-block crossings are deemed infeasible. Many times, pedestrians cross at uncontrolled mid-block locations because there is a desire line between two land uses that should be evaluated. A fenced median can direct pedestrians to a safe crossing and prevent mid-block crossing activity if needed. This solution is most applicable on high-speed, high-volume roadways adjacent to a destination with large amounts of pedestrian flow at one time, such as a school or entertainment venue.

# 2.100 SAN MARCOS TODAY

The Existing Conditions Report analyzed the current state of active transportation, transit, and vehicle trips in San Marcos today (see **Appendix A**).

## 2.101 WALKING AND BIKING IN SAN MARCOS

### 2.101.1 Existing Facilities to Support Biking

A majority (34 lane miles, 78%) of bicycle facilities in San Marcos are Class II bike lanes. Many of these bike lanes are implemented on high-speed, high-volume roadways. For example, 89% of roads in San Marcos are considered high-stress environments for bicyclists. Bicycle connections across SR-78 are lacking, which creates a barrier for walking and biking. Class I multi-use paths with designated bicycle facilities, such as the Inland Rail Trail and various multi-use paths adjacent to major roads, make up 21.9 lane miles or 20% of the City's bicycle facilities, while 2% are Class III bike routes.

The Inland Rail Trail provides a vital Class I east-west connection across the city. However, access to the trail system is limited and requires users to cross major arterials and/or the SPRINTER rail line. Additionally, the city lacks a protected north-south bicycle facility that spans the city.

### 2.101.2 Existing Facilities to Support Walking

The pedestrian network lacks infrastructure connectivity. Many areas of San Marcos are missing sidewalk and lacking Americans with Disabilities Act (ADA) compliant curb ramps in older neighborhoods.

In conjunction with sidewalk facilities, the City of San Marcos has an interconnected trail system of approximately 72 miles. There are currently 55 miles of off-road multi-use trails designated for non-motorized commuting and recreational use.



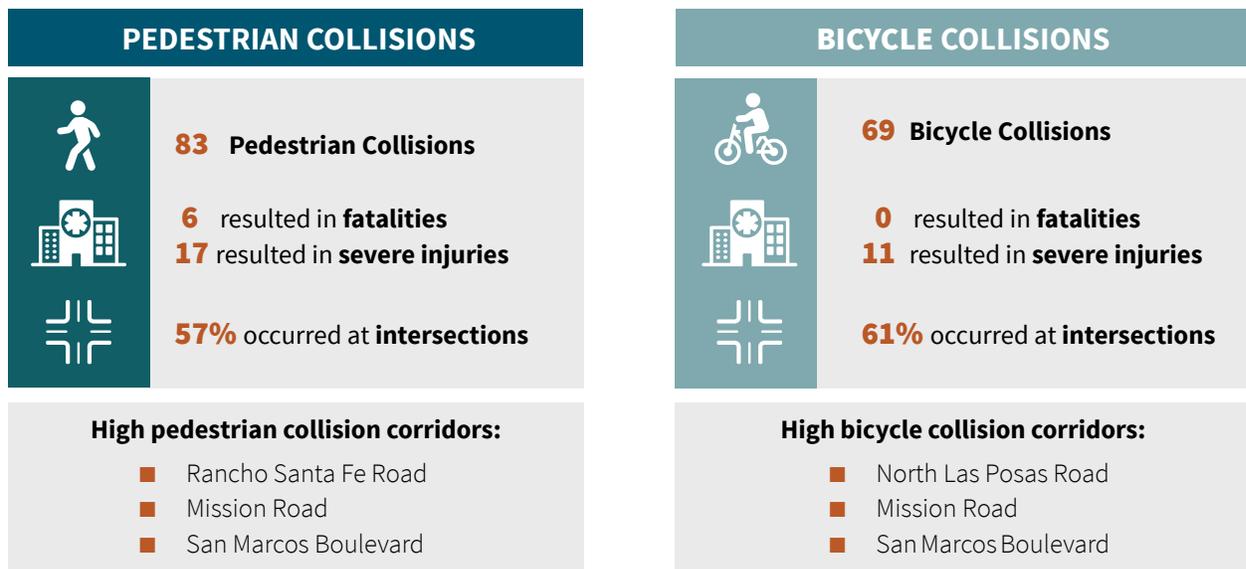
### 2.101.3 Safety Trends Among People Walking and Bicycling

From 2015 to 2019, there were 83 pedestrian-related and 69 bicycle-related collisions in San Marcos. Of the 83 pedestrian-related collisions in the study period, 28% resulted in a severe injury or fatality. Pedestrian-related collisions consisted of 4% of total reported collisions and accounted for 75% of all fatal collisions in the five-year study period.

A high concentration of pedestrian-related collisions occurred on Rancho Santa Fe Road, Mission Road, and San Marcos Boulevard. The San Marcos Boulevard and Rancho Santa Fe Road intersection, adjacent to San Marcos High School, had the highest number of pedestrian-related collisions, with four collisions in the five-year study period.

A high concentration of bicycle-related collisions occurred on San Marcos Boulevard, North Las Posas Road, Mission Road, and Rancho Santa Fe Road. The intersection of Mission Road and North Las Posas Road had the highest number of bicycle-related collisions with four bicycle-related collisions in the five-year study period.

**Figure 5. Pedestrian and Bicycle Collisions (2015-2019)**



### 2.102 TRANSIT IN SAN MARCOS



The SPRINTER hybrid rail runs east-west through San Marcos with stops at Palomar College, San Marcos Civic Center, and CSUSM. The Inland Rail Trail provides direct east-west access along the rail line; however, existing bicycle and pedestrian facilities lack quality first- and last-mile connections to the transit stops.

### 2.103 DRIVING IN SAN MARCOS

San Marcos is a car-dependent city, with 72% of residents using a vehicle for short trips (less than five miles). Most major roads in San Marcos have high speed limits (40+ mph), creating barriers for moving people across the City by active modes of transportation. Additionally, most schools in San Marcos are located on high-speed roads, which poses concerns for young students.

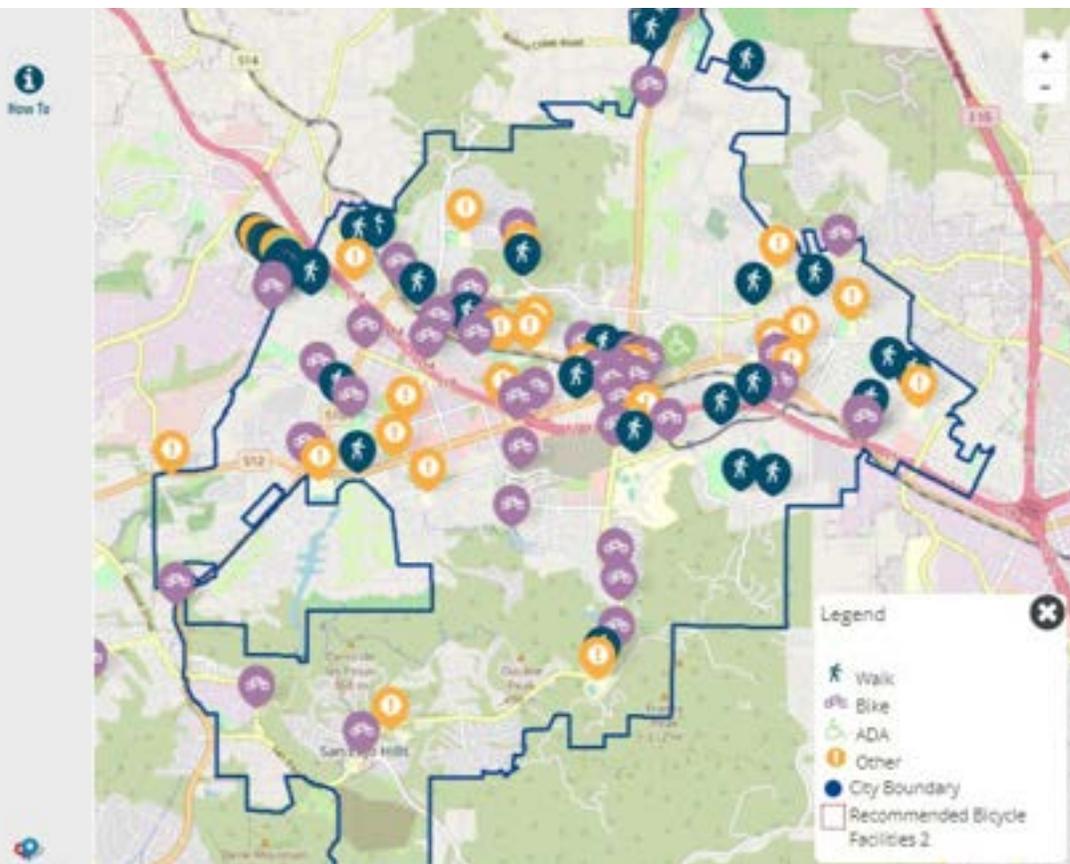
# 3.100 PUBLIC OUTREACH

The City of San Marcos engaged with community members and stakeholders throughout the ATP process to better understand their unique experiences. From fall 2022 to summer 2023, the City of San Marcos provided opportunities for community members to get involved and provide feedback.

## 3.101 PROJECT WEBSITE

In order to reach those that were unable to attend in-person events, the City developed an ATP website with an interactive map for location-specific feedback. The San Marcos ATP website (**[www.sanmarcosatp.com](http://www.sanmarcosatp.com)**) was the online hub for all information and updates related to the ATP. The website provided supporting materials in English and Spanish, such as project details, project schedule, announcements, and information.

As a vital source of community feedback, the website provided community members with an interactive map. This map allowed users to select a location in San Marcos and detail their experience with active transportation, identify active transportation barriers, and/or provide recommendations. Website visitors are able to place different color pins based on the type of comment they would like to make: blue pins represent comments related to walking in San Marcos, purple pins for biking, green pins indicate ADA comments, and yellow pins for other.





### 3.102 OUTREACH EVENTS

The City held two community outreach events—one in the fall 2022 and one in the spring 2023—to connect with community members, gain insight into active transportation needs, and promote attendance at subsequent workshops.

#### 3.102.1 Outreach Event #1: San Marcos Harvest Fest

On October 9, 2022, the City operated a booth at the annual San Marcos Harvest Fest along Via Vera Cruz to meet with community members and hear their feedback regarding enhanced pedestrian crossings, bicycle parking, designated bicycle facilities and more. The Harvest Fest booth allowed community members to learn more about the future of active transportation and encouraged residents to provide input on poster board surveys about what elements would best support their day-to-day experiences getting around San Marcos.



Based on the poster board surveys, in general, community members:

- Primarily travel in cars for short trips of less than 5 miles, and
- Would like to see a variety of pedestrian and bicycle improvements including wider sidewalks, traffic calming, and dedicated bicycle facilities.

#### 3.102.2 Outreach Event #2: San Marcos Spring Fling

On April 2, 2023, the City operated a booth at the 31st annual Spring Fling along Via Vera Cruz to connect with community members and get feedback on locations for proposed bike infrastructure, bike parking, mid-block crossings, traffic calming, and more. The event was strategically scheduled to promote attendance at the second community workshop in May.

From the poster board surveys, in general, community members would like:

- To see more protected bicycle facilities (Class IV or Class I facilities) on major roads in San Marcos, and
- Secure bike parking near activity centers.



### 3.103 COMMUNITY WORKSHOPS

The City held two community workshops at San Marcos' Civic Center to inform residents of the ATP's progress and seek feedback regarding potential improvements.

#### 3.103.1 Workshop #1: Fall 2022

The first workshop was held in the evening of November 15, 2022, to inform attendees about ATP concepts and describe the background, purpose, and schedule for the plan. Residents and commuters who live, work, and travel in the San Marcos area were able to learn about the principles of active transportation and how to choose and fasten a bike helmet properly to maximize protection. Eleven community members provided comments about where they would like to see improvements in the City and participated in polls, Q&A, and breakout discussions. This open discussion allowed the project team to gain insight into existing challenges and hesitations with active forms of transportation in San Marcos.

At this public workshop, community members were generally:

- Interested in improved connectivity to schools
- Concerned about gaps in the network
- Concerned about high-speed roads posing barriers for walking and biking to key destinations
- Interested in quick-build solutions to active transportation challenges

#### 3.103.2 Workshop #2: Spring 2023

The second workshop was held the evening of May 3, 2023, to hear community feedback regarding the initial recommendations for the pedestrian network, bicycle network, and programs and policies. Eight community members participated in polls, Q&A, and breakout discussions regarding the draft pedestrian and bicycle networks. These conversations between community members and the project team provided valuable insight into concerns and community visions for active transportation in San Marcos to inform the subsequent draft network.

At this public workshop, community members were generally interested in:

- Bicycle and pedestrian crossings for the SR-78 freeway
- E-bike policies and vision
- Child safety when walking or biking to and from school





## 4.100 SAFE ROUTES TO SCHOOL (SRTS) ELEMENT

The Safe Routes to School element of this ATP includes two main components: walk audits and hand raise surveys. The walk audits evaluated pedestrian and bicycle safety, accessibility, and comfort within a quarter-mile of each school boundary. The hand raise surveys were distributed to each school by the SMUSD to conduct during class by asking students to indicate the mode of transportation used to arrive and depart from school that day. The possible answers included walking, biking, using a family vehicle/driving, carpooling, or taking transit.

### 4.101 SAFE ROUTES TO SCHOOL PLANS BY SCHOOL

The City performed walk audits during pick-up time at 18 elementary, middle, and high schools within SMUSD. The walk audits were scheduled in coordination with the district as summarized in **Table 1**.





**Table 1. SRTS Walk Audit Schedule**

DATE	SCHOOL	PICK-UP TIMES	KIMLEY-HORN WALK AUDIT
Wednesday, September 21, 2022	San Marcos High School	3:19 PM	3:00 PM - 3:50 PM
Monday, September 26, 2022	Woodland Park Middle School	2:25 PM	1:50 PM - 2:40 PM
	Mission Hills High School	3:19 PM	2:55 PM - 3:45 PM
Tuesday, September 27, 2022	Double Peak School	2:38 PM	2:25 PM - 3:15 PM
Thursday, September 29, 2022	Twin Oaks Elementary School	3:10 PM	2:50 PM - 3:40 PM
	Twin Oaks High School	3:30 PM	3:00 PM - 3:50 PM
Tuesday, October 11, 2022	La Costa Meadows Elementary	3:10-3:25 PM	2:50 PM - 3:40 PM
	Carrillo Elementary School	3:10-3:25 PM	2:50 PM - 3:40 PM
Thursday, October 13, 2022	Joli Ann Leichtag ES	2:45 - 3:00 PM	2:20 PM - 3:30 PM
	Discovery Elementary School	2:45 - 3:00 PM	2:20 PM - 3:30 PM
Monday, October 24, 2022	San Elijo Middle School	2:25 PM	2:00 PM - 2:50 PM
	San Elijo Elementary School	2:45 PM	2:20 PM - 3:10 PM
Tuesday, October 25, 2022	San Marcos Middle School	3:10 PM	2:50 PM - 3:40 PM
	San Marcos Elementary School	3:10 PM	2:50 PM - 3:40 PM
Tuesday, November 1, 2022	La Mirada Academy	2:40 PM	2:20 PM - 3:10 PM
	Paloma Elementary School	3:10-3:25 PM	2:50 PM - 3:50 PM
Tuesday, November 3, 2022	Knob Hill Elementary School	2:45 - 3:30 PM	2:30 PM - 3:50 PM
	Richland Elementary School	3:10 PM	2:50 PM - 3:40 PM

The schools were contacted by SMUSD, and parents were notified via flyers using PeachJar. Parents were invited to attend; on multiple occasions, parents participated in the walk audit.

Each walk audit began with a meeting between the Kimley-Horn team and the principal, assistant principal, or other school staff member. During this meeting, the school staff member raised walking and biking concerns for off-campus biking, walking, and transit modes. After the team gathered this information, the walk audit was performed along public roads within a quarter-mile radius of the school.

#### 4.102 SRTS WALK AUDIT MEMORANDUMS

**Appendix D** provides a walk audit memorandum for each school that includes a description of the school, the total number of students at the school, the walk and bike score for the area, and the number of walk audit participants.

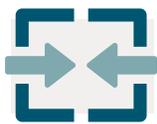
Each memorandum provides a summary of safety concerns observed during the walk audit with accompanying site photos to highlight existing conditions. These observations, along with preliminary field recommendations, are detailed in the SRTS walk audit map at the end of each memo as seen in **Appendix D**.

# 5.100 ACTIVE TRANSPORTATION RECOMMENDATIONS

This chapter details the recommended bicycle and pedestrian networks, policies, and programs that complement infrastructure improvements, along with the strategy used to develop these recommendations.

## 5.101 STRATEGY

The active transportation recommendations in this plan were developed using the following strategies:



**Gap closure:** The recommended bicycle and pedestrian infrastructure aims to close gaps in the existing network to provide complete facilities for an active transportation trip from start to finish. Existing gaps, such as across SR-78 in San Marcos, create barriers to biking and walking across the city.



**First- and last-mile connections:** The first- and last-mile connection refers to the portion of a trip where a person travels to or from a transit stop or a mobility node. Providing quality facilities for the first- and last-mile connections to and from transit stops improves the overall connectivity of the transportation network and encourages people to utilize the transit system. This ATP focuses on providing quality facilities between transit stops and key destinations such as schools and parks.



**Minimize conflicts:** The ATP strives to minimize potential conflict points between vehicles, bicyclists, and pedestrians which occur when these entities cross paths at intersections, driveways, crossings, or other locations. This conflict reduction can be achieved by providing separated or protected facilities for bicyclists and pedestrians or reducing the number of conflict points.



**High-quality trunklines:** The ATP recommendations create a network with comfortable, high-quality facilities on major routes to facilitate connections to major destinations.



**Low-stress alternative routes:** As an alternative to facilities on major roads, the recommended network provides low-stress routes on roads with lower vehicle volumes to provide a comfortable alternative to the major trunklines.



**Equitable implementation:** The recommendations in this ATP aim to provide quality active transportation facilities to historically underserved communities within San Marcos, connecting people of all backgrounds to their desired destinations.



## 5.102 BIKE NETWORK RECOMMENDATIONS

### 5.102.1 Overview

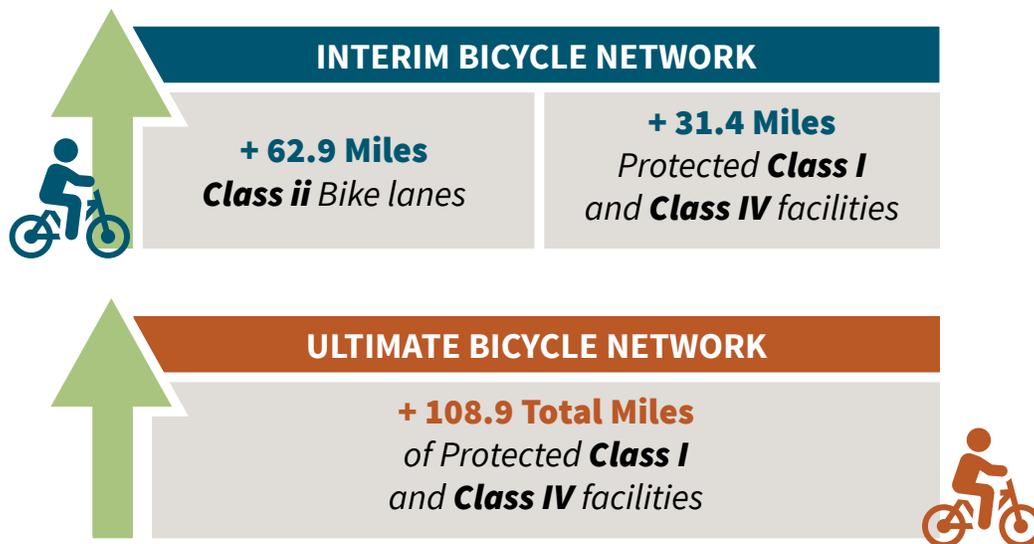
Recommendations for future bicycle classifications for each roadway were broken down into interim and ultimate conditions. The interim bicycle network is composed of recommendations that can be accomplished in the near term without requiring redevelopment, right-of-way or easements, or major environmental documentation/permitting. The ultimate network contains long-term recommendations that can be completed over time as the City redevelops and right-of-way is acquired. In some cases, an ultimate improvement may be constructed first, rendering the interim improvement unnecessary.

Developers will be required to implement the ultimate bicycle network recommendations when considering setbacks, frontage improvements, and design, and may be required to construct the ultimate facilities based upon roadway characteristics, adjacent facilities, and the ability to design and construct safe transitions into the ultimate improvements.. For two-way bicycle facilities—such as a Class I multi-use path or a Class IV two-way bikeway—the City may require a developer to construct or provide setbacks for these types of facilities that may be identified on the side of the roadway opposite the project’s frontage. Locations of desired facilities may, in some cases, be placed on either side of the roadway, at the discretion of the City. Parallel facilities may be required by the City of San Marcos as opportunities arise to create similar connectivity on other routes. The City may require other connectors between the high-level infrastructure shown in this plan in order to ensure a seamless network.

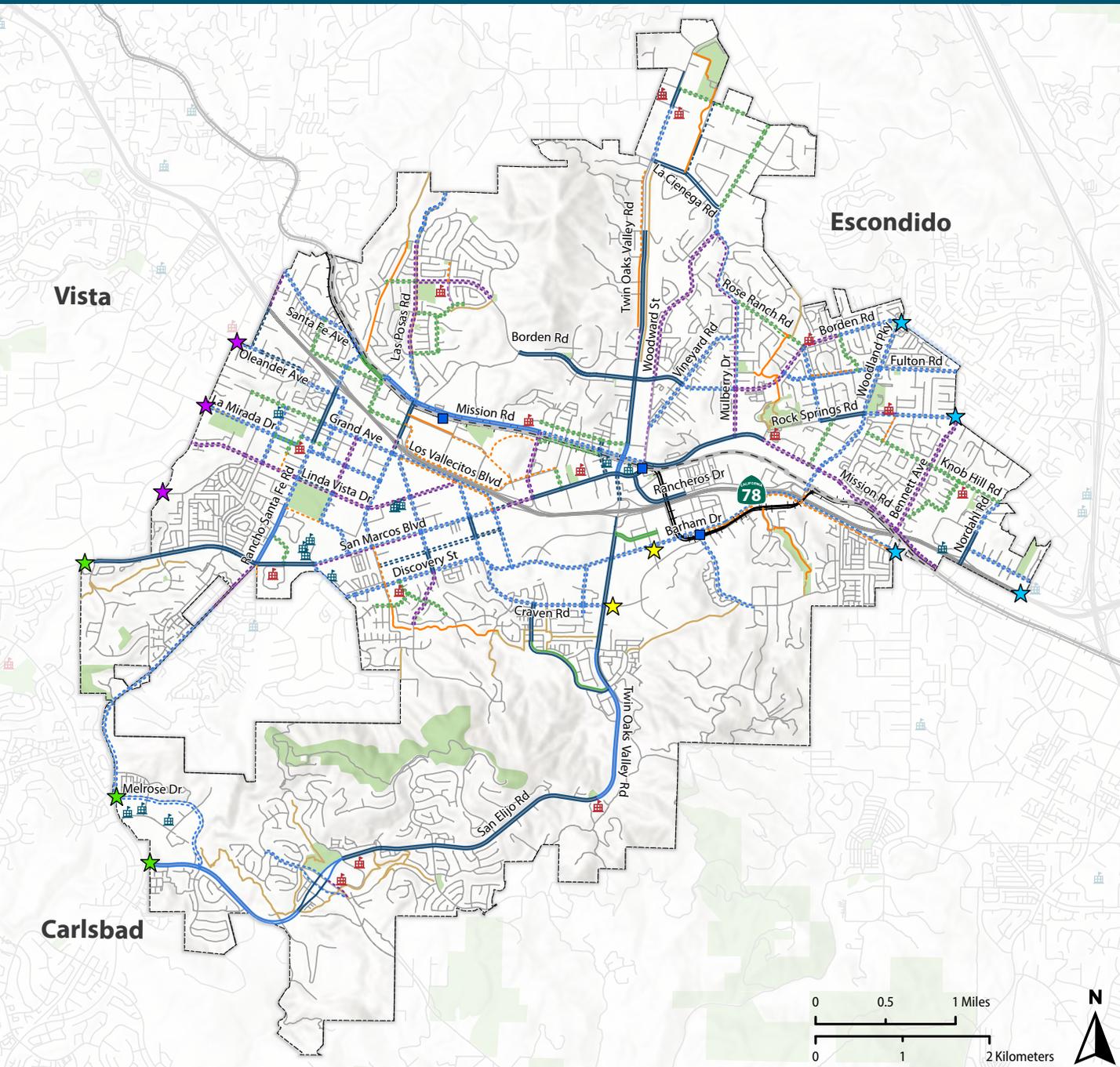
The interim and ultimate recommended bicycle networks are provided in **Figure 6** and **Figure 7**, respectively. **Table 2** summarizes the lane mileage of each bicycle classification per scenario. Refer to **Chapter 1.107.1** for a description of the different bicycle classifications. In some cases, Class II or III facilities are recommended for the interim condition due to various constraints, and later recommended to be upgraded to Class I or IV facilities under ultimate conditions. This is evident in the reduction in lane miles for Class II and III facilities when comparing interim and ultimate conditions.

**Table 2. Lane Miles per Bicycle Classifications**

	EXISTING CONDITIONS	INTERIM	ULTIMATE
<b>Class III</b>	1.8	21.1	13.5
<b>Class II</b>	34.3	97.1	37.1
<b>Class IV</b>	0.0	24.5	87.8
<b>Class I</b>	5.0	11.9	21.1



**Figure 6. Proposed Interim Bicycle Facilities Map**



**Legend**

- San Marcos
- San Marcos Unified School District
- Schools
- SPRINTER Stations
- SPRINTER
- Inland Rail Trail (IRT)
- Key Trails

**Key Jurisdiction Connections**

- CSUSM
- City of Carlsbad
- City of Escondido
- City of Vista

**Existing Bicycle Facilities**

- Class I Multi-Use Path
- Class II Buffered Bike Lane
- Class II Bike Lane
- Class III Bike Route

**Proposed Interim Bicycle Facilities**

- Class I Multi-Use Path
- Class II Buffered Bike Lane
- Class II Bike Lane
- Class III Bike Route
- Class IV Bikeway (One-Way)
- Class IV Bikeway (Two-Way)

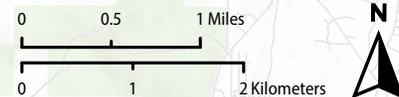
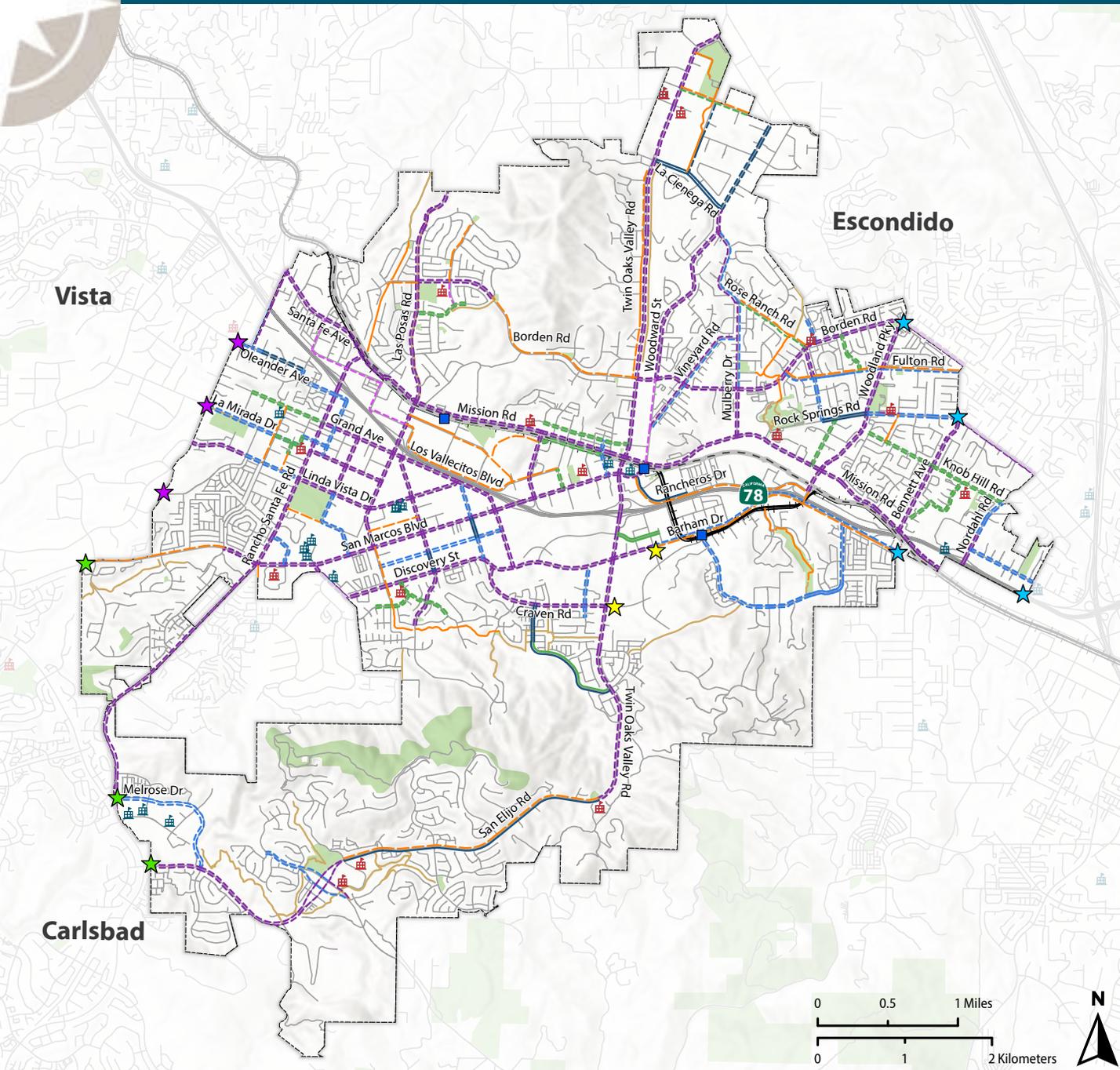
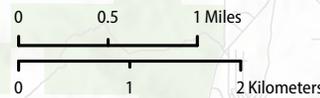


Figure 7. Proposed Ultimate Bicycle Facilities Map



**Legend**

- San Marcos
- San Marcos Unified School District
- Schools
- SPRINTER Stations
- SPRINTER
- Inland Rail Trail (IRT)
- Key Trails
- Key Jurisdiction Connections**
- CSUSM
- City of Carlsbad
- City of Escondido
- City of Vista
- Existing Bicycle Facilities**
- Class I Multi-Use Path
- Class II Buffered Bike Lane
- Class II Bike Lane
- Class III Bike Route
- Ultimate Bicycle Facilities**
- Class I Multi-Use Path
- Class II Bike Lane
- Class II Buffered Bike Lane
- Class III Bike Route
- Class IV Bikeway (One-Way)
- Class IV Bikeway (Two-Way)





## 5.102.2 Citywide Projects

### *Inland Rail Trail Access and Wayfinding*

Points of access to the Inland Rail Trail (IRT) are limited. New or improved entry/exit points to the IRT can improve connectivity for active transportation users. Additionally, a citywide signage system using the branding and accessibility guidance of the City's Entry & Wayfinding Signage Master Plan will provide consistent and clear direction regarding how to enter and use the IRT and other key ATP facilities.

### *End-of-Trip Bicycle Facilities*

Bicycle parking and long-term storage are essential components of a bicycle trip. The map in **Figure 8** indicates general locations within the City of San Marcos where bicyclists could benefit from end-of-trip bicycle parking. During the first public meeting, bicycle security was identified as one of the barriers that prevent community members from choosing to bike to various locations across the city. A majority of the locations on the map were identified by community members during the outreach process as desirable locations for bike parking.



Source: Southern California Regional  
Rocks and Roads

## 5.103 PEDESTRIAN NETWORK RECOMMENDATIONS

### 5.103.1 Overview

Similar to the recommended bicycle network, the recommended pedestrian network is composed of interim and ultimate projects. The pedestrian networks identify a variety of infrastructure improvements including adding sidewalk, providing mid-block crossings, closing sidewalk gaps, enhancing the pedestrian environment (widening sidewalk, installing landscape buffers, and implementing placemaking), installing fenced medians, and constructing Class I multi-use paths. This ATP proposes to add **26.7** linear miles of sidewalks and pathways to the city's pedestrian network.

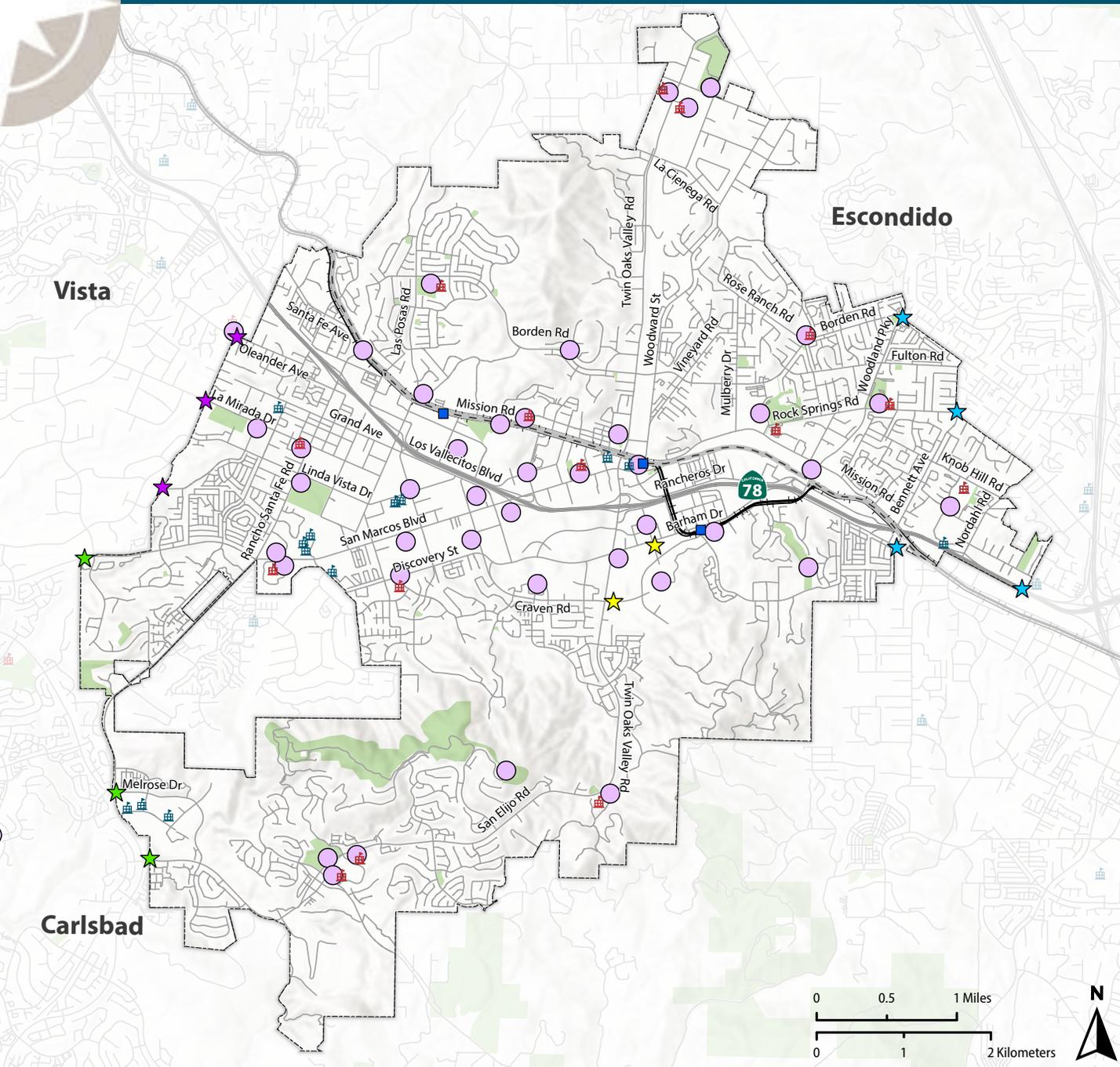
### 5.103.2 Pedestrian Recommendations

Interim and ultimate pedestrian recommendations for each segment in San Marcos are listed in **Figure 9**.

## 5.104 TRAFFIC CALMING RECOMMENDATIONS

As discussed in the Existing Conditions Report, many of the city's major roads have speed limits of 40 mph or greater and community members have expressed concern about high speeds on a variety of San Marcos roadways. The traffic calming recommendations in the Neighborhood Traffic Management Policy target qualifying streets with a palette of traffic calming tools. The NTMP toolbox aims to reduce vehicle speeds, which will create a more comfortable environment for pedestrian and bicyclists (see **Chapter 1.107.4** for details about each traffic calming strategy). The NTMP toolbox should be consulted when implementing projects from the recommended pedestrian and bicycle networks.

Figure 8. Proposed Bike Parking Map

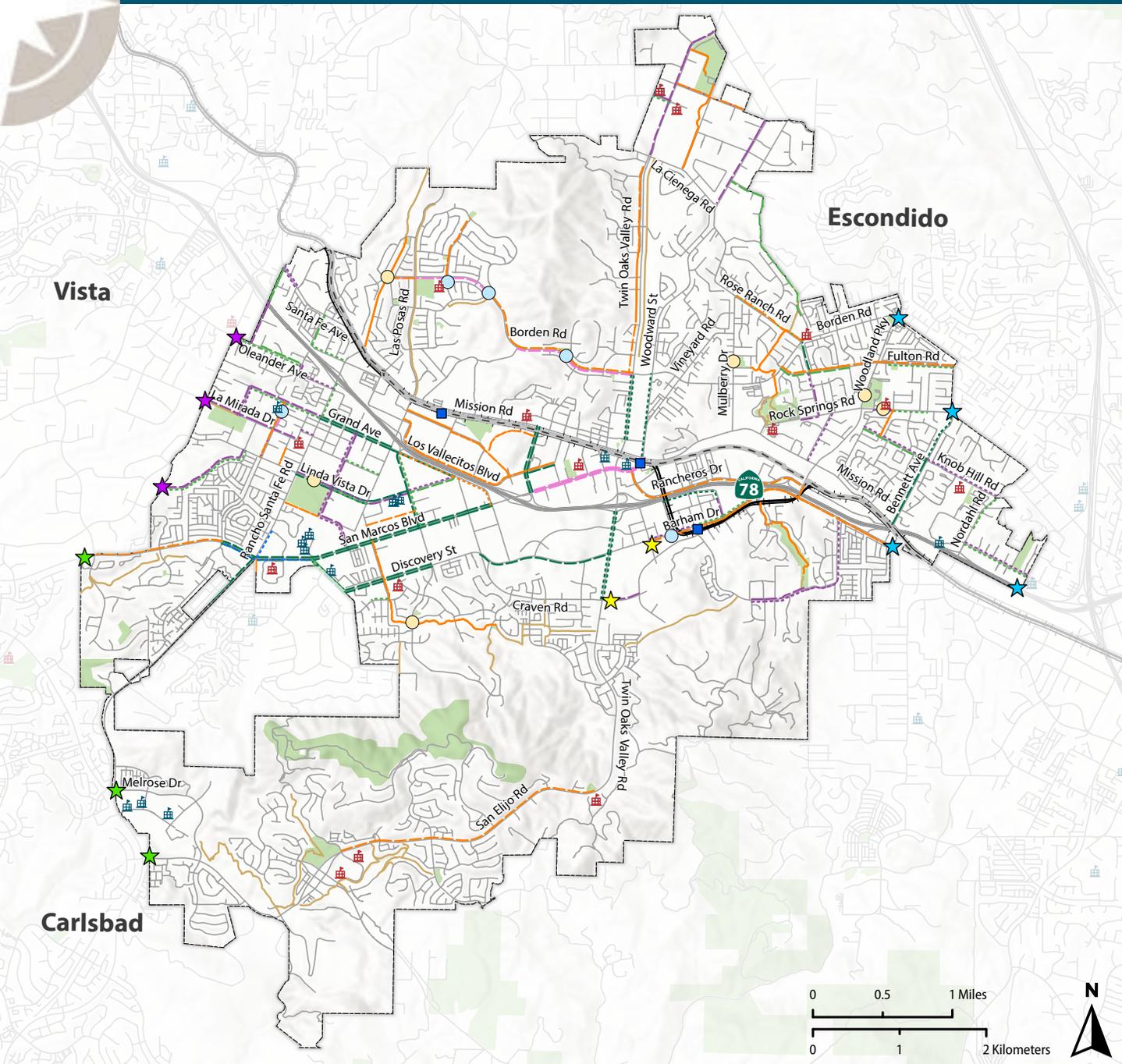


**Legend**

- San Marcos
  - San Marcos Unified School District
  - Schools
  - SPRINTER Stations
  - SPRINTER
  - Inland Rail Trail (IRT)
  - Bicycle Parking\*
- Key Jurisdiction Connections**
- CSUSM
  - City of Carlsbad
  - City of Escondido
  - City of Vista

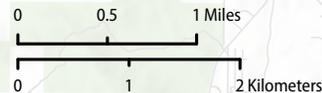
\*Locations shown are approximate and subject to change

Figure 9. Proposed Pedestrian Interim & Ultimate Networks Map



**Legend**

- San Marcos
  - San Marcos Unified School District
  - Schools
  - SPRINTER Stations
  - SPRINTER
  - Inland Rail Trail (IRT)
  - Key Trails
  - Existing Class I Multi-Use Path
- Key Jurisdiction Connections**
- CSUSM
  - City of Vista
  - City of Carlsbad
  - City of Escondido
- Proposed Interim Pedestrian Facilities**
- Add New Sidewalk
  - Sidewalk Gap Closure
  - Enhance Pedestrian Environment (Widen Sidewalk, Placemaking)
  - Add Fenced Median
  - Class I Multi-Use Path
  - Mid-Block Crossing
- Proposed Ultimate Pedestrian Facilities**
- Add New Sidewalk
  - Sidewalk Gap Closure
  - Enhance Pedestrian Environment (Widen Sidewalk, Placemaking)
  - Widen Sidewalk
  - Class I Multi-Use Path
  - Mid-Block Crossing





## 5.105 MOBILITY HUB RECOMMENDATIONS

### 5.105.1 Regional Mobility Hub

The regional transportation authority, SANDAG, defines mobility hubs as “places where transit and other shared mobility services, amenities, and supporting technology converge to offer a seamless travel experience.” Mobility hubs help communities address the first- and last-mile gaps. This phrase refers to the struggle many public transportation riders face while traveling between their transit stop and their origin or final destination. SANDAG’s 2021 Regional Plan identifies the City of San Marcos as a major employment center mobility hub. As part of this ATP, the City has evaluated the need for more localized mobility hubs and other first- and last- mile solutions.

### 5.105.2 Local Micromobility

The implementation of micromobility options (small, lightweight, individual vehicles such as e-scooters, bikeshare) combined with the implementation of the proposed pedestrian and bicycle networks will help make San Marcos a more pedestrian- and bike-friendly city. The majority of micromobility strategies would be focused in and around the downtown core area of the city where there is high demand for active transportation. Ideally, there will be a sense of arrival upon entering the downtown core area, and mobility options will be provided to help make alternative modes more feasible within the core. **Figure 10** indicates where the highest intensity of micromobility demand and mobility choices is anticipated within the city, and the level of intensity decreases when moving away from the core into the more suburban areas.

### 5.105.3 Mobility Nodes

This plan recommends local mobility nodes along the downtown core perimeter at strategic locations with multiple key destinations. **Figure 11** indicates potential locations for the City to consider implementing these mobility nodes. Each mobility node can be customized to include varying levels of mobility-supportive components such as e-bike charging stations, free wi-fi, wayfinding kiosks, ATP materials, designated micromobility parking areas, and/or bikeshare stations. The nodes can initially include core services and expand to other services over time.

### 5.105.4 On-Demand NEV Microtransit

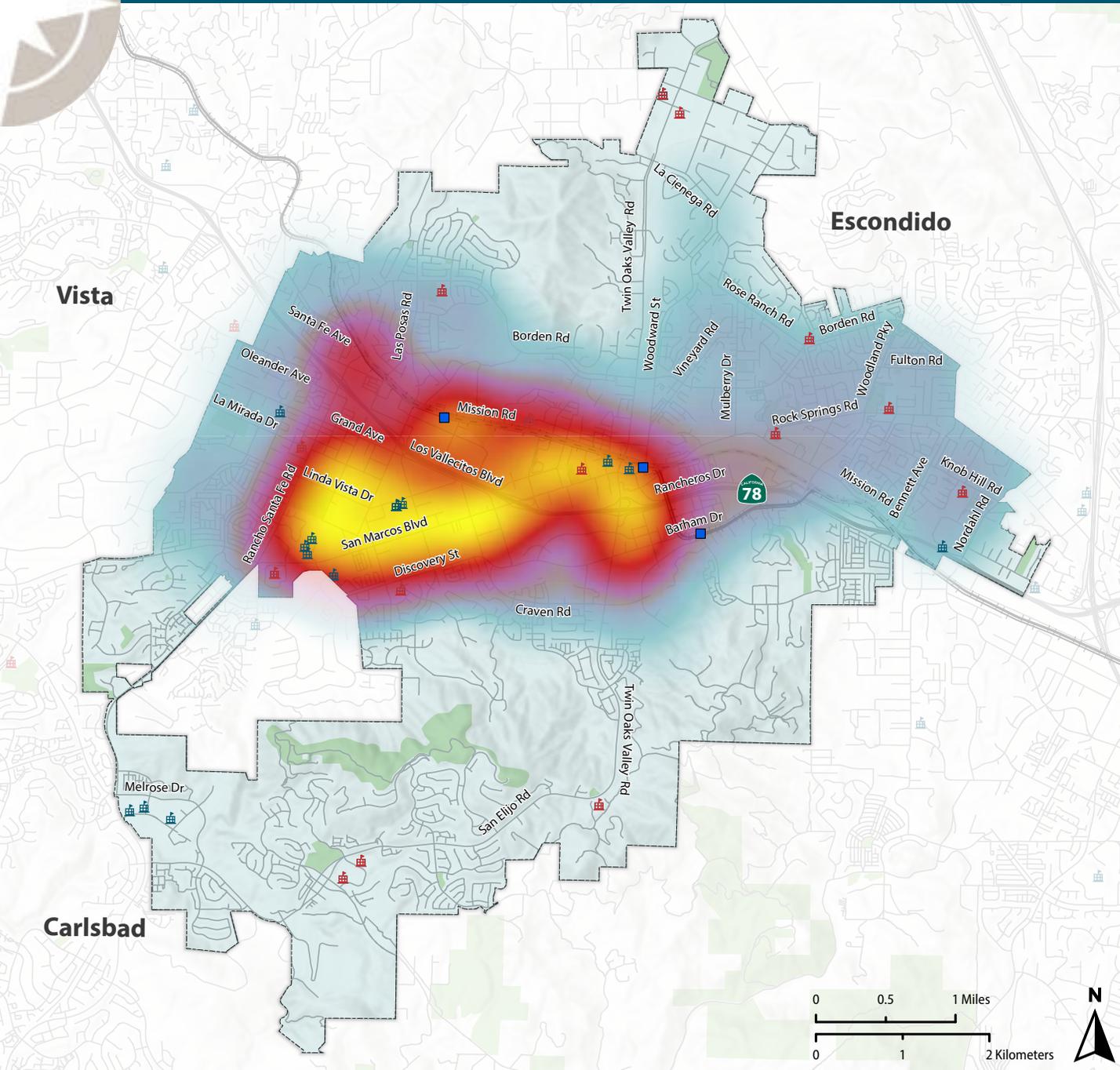
Microtransit allows users to order a ride on-demand, similar to Transportation Network Companies (TNCs) like Uber or Lyft, within a designated zone. The vehicles are Neighborhood Electric Vehicles (NEVs), that are battery powered to reduce greenhouse gas emissions. These trips are usually shared with other riders traveling in the same direction and can be requested (or hailed) using a mobile application or a telephone call. Microtransit is a mobility option that provides flexibility for customers looking to travel short distances (1 to 2 miles) without needing to drive. Microtransit options could be considered by the City in the future.

In developing a plan for identifying microtransit zones, the City should consider providing connections between high-quality transit stations such as the Palomar College and Civic Center SPRINTER stations, with any of the following populations identified in the Existing Conditions Report:

- High percentage of households with access to zero vehicles
- Populations 75 years or older
- High percentage of internal short trips per square mile
- High percentage of school-age students
- High percentage of low-income households

These populations would benefit most from options that provide first- and last-mile connections for residents to transit.

Figure 10. Proposed Mobility Intensity Zones



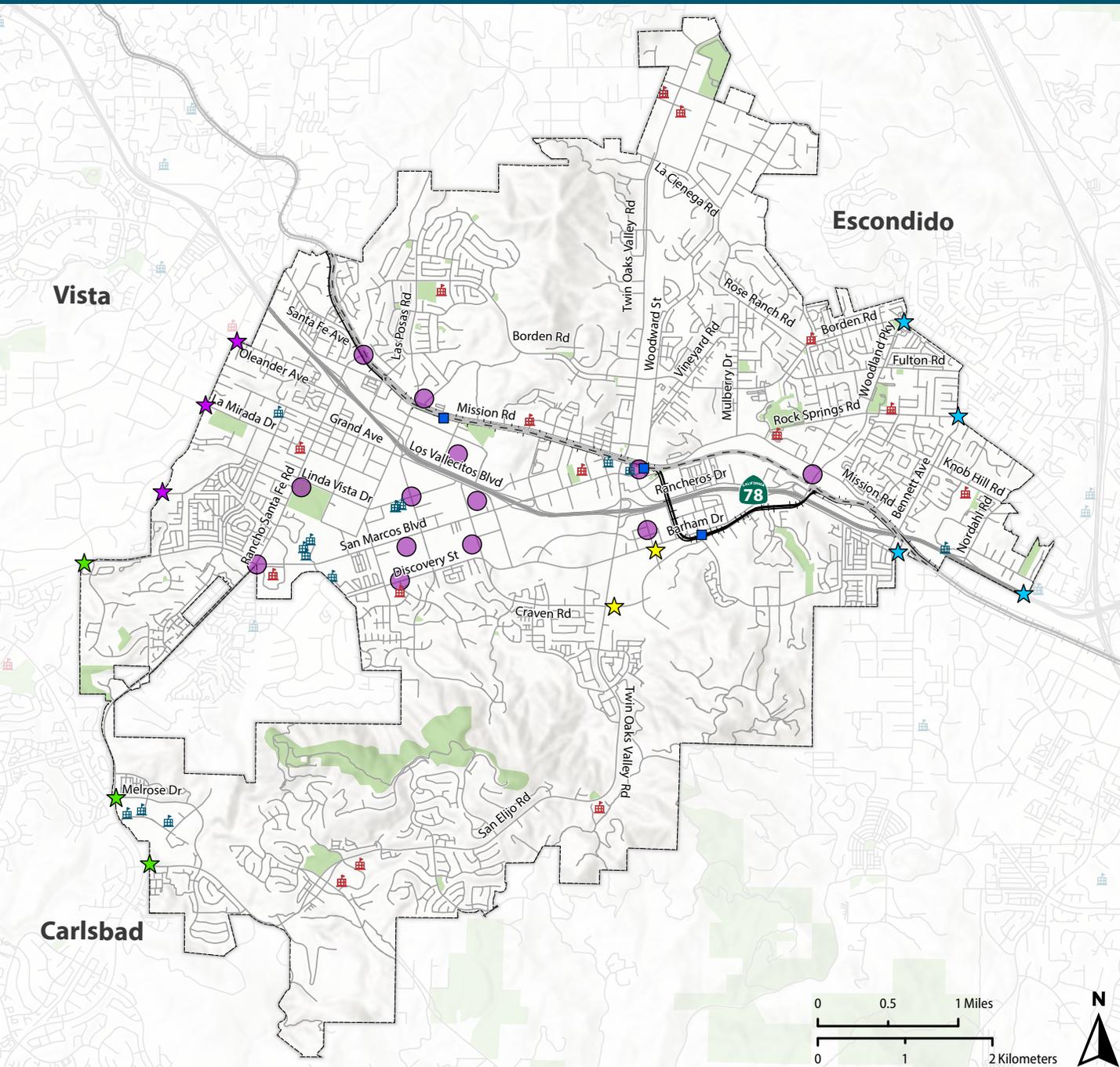
**Legend**

-  San Marcos
-  San Marcos Unified School District
-  Schools
-  SPRINTER Stations
-  SPRINTER
-  Inland Rail Trail (IRT)

**Mobility Mode Choice Intensity**

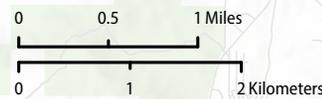


Figure 11. Proposed Mobility Node Locations



**Legend**

- San Marcos
- San Marcos Unified School District
- Schools
- SPRINTER Stations
- SPRINTER
- Inland Rail Trail (IRT)
- Key Jurisdiction Connections**
- CSUSM
- City of Carlsbad
- City of Escondido
- City of Vista
- Proposed Mobility Node Locations\***
- Mobility Node



\*Locations shown are approximate and subject to change



## 5.106 PROGRAMS / POLICIES

This ATP recommends policies and programs that align with the 5 E's of planning to provide a comprehensive set of actionable solutions to improve active transportation in the City of San Marcos.

### 5.106.1 Education



#### **Bicycle and E-Bike Safety Workshops and Assemblies:**

As e-bikes with high speeds become more popular, education on safety becomes increasingly vital. Assemblies remind students to be aware of their surroundings and practice proper bike etiquette, like signaling. Workshops can focus on how to use new infrastructure like Class IV bikeways, and RRFBs.



**Bicycle Rodeo:** These events allow kids to practice real world biking situations and test basic rules of the road. The Bradley Bike Park, which is currently under construction, could potentially be utilized.



**Community Rides:** School community rides with an instructor to practice and learn about safely navigating local neighborhoods.



**Flyering:** Distribute flyers and other informational materials to students and parents promoting active transportation and rules of the road.

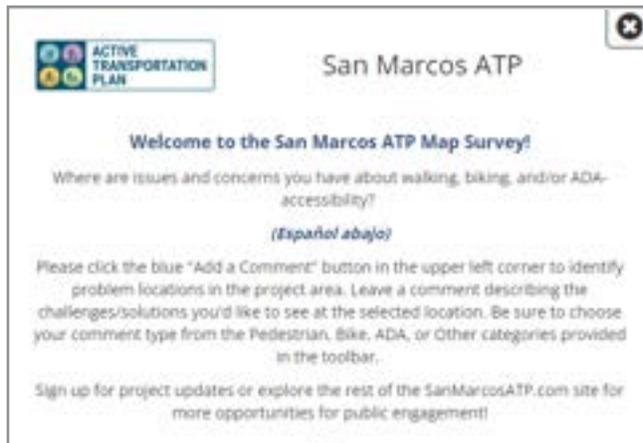


**Bike Kitchen:** Bike tune up class to teach community members how to repair bikes. This could also be expanded to provide resources and tools to support tune ups regularly.



**Safe Routes for Seniors:** Provides active transportation tools and strategies for seniors and education for drivers

*Source: Los Angeles Walks*



**Online Resources:** Create an active transportation page on the City’s website for educational materials including an existing bike facilities map.



**E-Bike Education:** E-bicycle-oriented signage and education about e-bike right-of-way.

### 5.106.2 Enforcement



**Safe Routes to School (SRTS) Coordination:** SRTS Coordinator of SMUSD will collaborate with the City of San Marcos to refine and enforce the recommendations.



**E-Bike Policies:** Regulate user speed of e-bikes to under 20 mph (or designated speed limit) on certain trails or all trails. The path width may also be regulated to ensure the comfort of all users.



**Collaborate with Local Police** to teach traffic safety and provide critical reporting on collisions involving bicyclists and pedestrians



**Designate a law enforcement** or City liaison for bike and pedestrian concerns.



**Targeted enforcement** at locations with a history of violations or crashes.

### 5.106.3 Encouragement



**Walking School Bus Program:** A walking school bus involves a group of children walking together to school under the supervision of 1-2 adults. This has the potential to improve safety and encourage active transportation.



**Carpooling Program:** Carpooling can significantly reduce the amount of traffic during school drop-off and pick-up hours. This program could include incentives, such as priority parking spaces and drop-off lanes.



**Bus Pass Program:** Free or discounted bus passes for students can promote sustainable transportation in the community.



**Vehicle-Targeted Messaging:** Changeable message signs at targeted locations can be placed to encourage vehicle speed reduction.



**Share the Road Campaign:** Encourage drivers to maintain awareness of bikers and willingly share the road with them.



**Regional Resources:** Participate in and promote regional activities and resources, such as National Bike Month in May, Bike to Work Day, and the iCommute Program.



**Open Street Events:** Open streets events, such as a Ciclovía, close a street to vehicle traffic to encourage walking, biking, and rolling for all ages.



**Farmer's Market Booth:** A farmer's market booth staffed by the City of San Marcos or a local active transportation group can encourage active transportation use.



**Bike Rack Request Program:** Allow community members to request bike parking for locations with high demand. Establish a priority list for when funding can be identified. Construct bike-supportive amenities with private development and Capital Improvement projects.



**Bike Parking Sponsorship Program:** City may consider a policy for authorizing commercial signs in furtherance of its governmental functions to be placed upon bike parking or other select amenities sponsored by a private business



**Artistic Bike Parking:** Combine bike parking with community art installations.

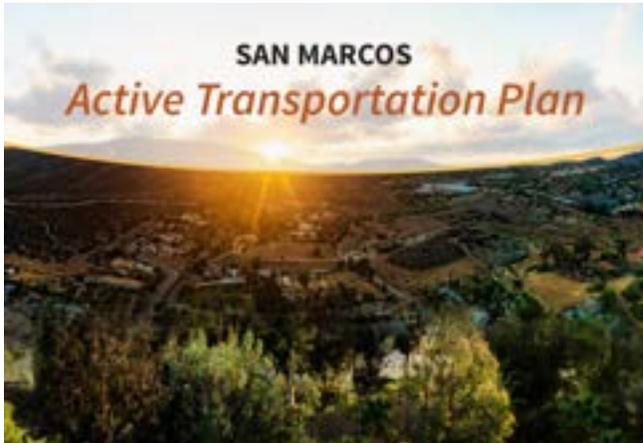
#### 5.106.4 Evaluation



**Framework:** Develop an evaluation framework for the implementation of programs and policies.



**Counts:** Conduct pedestrian and bicycle counts before and after safety and utilization evaluations for active transportation improvements.

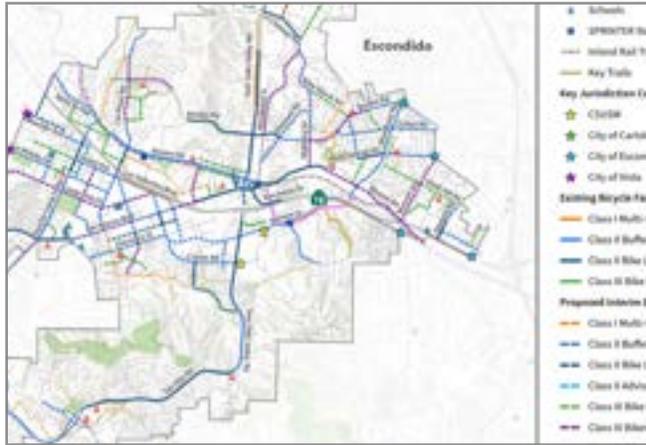


**Report:** Release periodic reports on the state of active transportation to identify which projects from the plan have been implemented and which should be prioritized next.

### 5.106.5 Engineering



**Sidewalk Gap Closure:** Implement a citywide sidewalk gap closure program to create safe pedestrian networks.



**Bike Facilities Map:** Create an existing bicycle facilities map, including trails, to highlight active transportation routes throughout the city.



**Lead Pedestrian Intervals (LPIs):** Install LPIs at primary intersections in front of SMUSD schools to create a safer intersection for students.



**Senior Pedestrian Phasing:** Implement longer pedestrian phasing for primary intersections in front of senior living centers.



**Implement Maintenance Program:** Develop a maintenance program to remove debris in bike lanes.



**Neighborhood Traffic Management Policy (NTMP) Implementation:** Consider active transportation impacts and benefits when evaluating or implementing a project under the NTMP.



**Street Design Manual:** Develop Citywide Street Design Manual to provide consistent guidance for design and implementation of the recommendations included in the ATP.



## 5.107 ANTICIPATED FUTURE DEMAND

### 5.107.1 Methodology

The number of new cyclists and pedestrians was estimated using the National Cooperative Highway Research Program (NCHRP) 552 methodology. The NCHRP 552 report provides national level research that suggests commute mode share can be used to extrapolate a more general mode share for bicyclists and pedestrians using a best fit formula. In subsequent validation, the report suggests that the results of this analysis are typically within the 95% confidence interval, and when they are not, they provide a conservative estimate.

### 5.107.2 Analysis

The NCHRP 552 analysis generates three demand response estimates: low, moderate, and high. In this case, the medium estimate was chosen for the following reasons:

- The assessment does not capture the full extent of active transportation investments or policies that could encourage the use of active transportation.
- Many of the active transportation improvements include new Class I and Class II facilities and additional pedestrian safety enhancements which typically encourage active transportation use.

Applying the NCHRP 552 methodology to the ultimate proposed bicycle and pedestrian network is projected to increase bicycle and pedestrians by 3,971 and 4,814 users respectively.<sup>1</sup>



<sup>1</sup>Projections are based on the mode share and population from the U.S. Census, American Community Survey 5-Year Estimates, 2021, Table B01001 and Table S0801.